MiTek®



STRUCTURAL PRODUCTS CATALOGUE

60TH EDITION - LIMIT STATES DESIGN



Updated 5/12/2025

MiTek®

INTEGRATED BUILDING SOLUTIONS



SERVICES

Scale your business and outputs (take-offs, estimating, job quotes, and more) with the comfort of fixed overhead costs.



AUTOMATED SOLUTIONS

Optimize your entire prefabrication facilities workflow with off-site solutions that enable better on-site building.



SOFTWARE

Enhance your operational performance with software solutions that connect the entire supply chain.



ENGINEERED SYSTEMS & PRODUCTS

Accelerate your building process with a full range of advanced solutions that save on labor and installation costs.

SERVICES



Add or expand your capabilities without direct employment

Our team focuses on helping you grow your business with highly skilled resource options that scale as your requirements change.

DEDICATED DIRECT

Contract a full-time team member dedicated exclusively to your business.

- → Extension of your existing team
- → Dedicated technical staff skilled in all areas of building
- → Dedicated exclusively to your business
- → Trained as your employee
- → Reduces labor costs associated with benefits, office, infrastructure, and HR expenses

DEDICATED MANAGED

Get the dedicated service benefits, plus a dedicated project manager.

- → Liaison between your internal team and MiTek's services team
- → Ensure seamless collaboration and communication
- → Manages deadlines and budgets

PROJECT

Contract a team member to complete project-based work.

- → As-needed support for fluctuating workloads
- → Access to technical staff skilled in all areas of building
- → Eliminates limited local talent challenges
- → Reduces labor costs
- → Reduces training, office, and infrastructure costs

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What's New at MiTek?



BLACKJACK / REDJACK Columns

Type 2 Adjustable Columns (T2JP series) are renamed to BLACKJACK/REDJACK columns – same strong columns with four (4) new plate sizes to fit various beam sizes and load requirements. Plate Kits include a top plate and a bottom plate, replace the former Universal Component Kit.



MiTek® IHFL (18GA) /IHF (16GA) Face Mount I-Joist Hangers

IHFL/IHF hangers feature speed prongs for temporary placement and seat cleats to grab the bottom flange of the supported I-joist. Diamond holes in header and joist allow for optional Max nailing for customized fastening to match allowable load needed, saving you time and money on the jobsite.



UGTQ Universal Girder Tiedown

The universal girder tiedown, UGTQ, is a high capacity tiedown designed to resist uplift loads on multi-ply roof trusses. The UGTQ installs with MiTek's WS structural wood screws and is fastened on one side for single connector installations or opposite sides for two connector installations. The UGTQ is available in left and right models for installation near the end of girders.

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WARRANTY

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About the Reference Numbers

Reference numbers shown throughout the charts in this catalogue are part numbers which may be more familiar to customers in various regions. These are included for the convenience of our new customers who have recently switched from a competitor's product line to MiTek. The reference numbers in this catalogue are for general application comparison only and should not be used as a substitution tool. The user is responsible to compare specific load values, fastener schedules, material specifications, and other factors to determine suitability of use for any particular product.

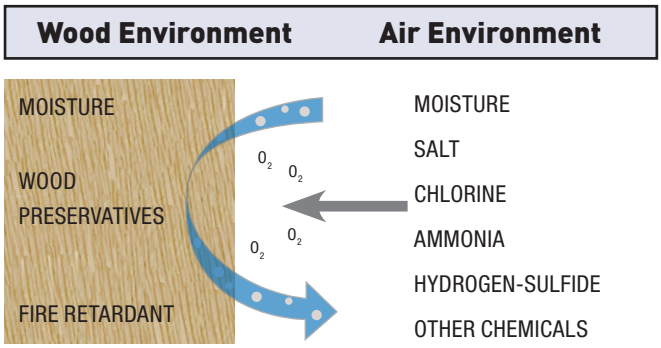
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Corrosion Information

For the majority of applications, metal hangers and connectors are used in interior, above ground, dry service conditions. They are typically not being exposed to corrosive environments which can significantly reduce their strength and longevity.

What is Corrosion?
Corrosion is the destructive degradation of steel due to its interaction with the environment. Here the steel is the connector and the environment is whatever the connector interacts with, namely wood and air. Each environment may contain one or more corrodents (substances that cause corrosion) acting independently or in combination to degrade the strength of the connectors.



Electrochemical oxidation is the most common type of corrosion affecting metal connectors. It is a process in which iron (Fe) reacts with oxygen (O_2) in the presence of an electrolyte such as water (H_2O) to form iron oxide (Fe_2O_3), a brown and flaky by-product commonly known as rust.

$$\text{Iron} + \text{Oxygen} \xrightarrow[\text{(Electrolyte)}]{\text{Water}} \text{Rust}$$

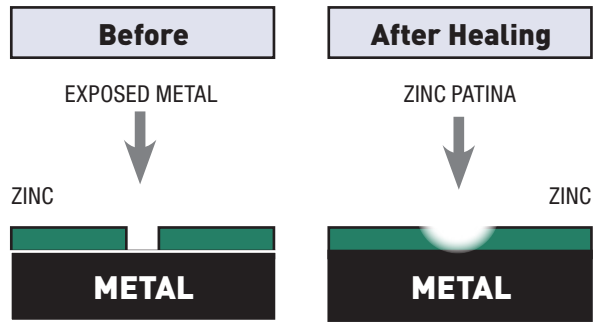
Steel is an iron-based metal alloy which is susceptible to this type of corrosion, even when exposed to normal atmospheric air, since air contains oxygen and water as part of its normal composition. While steel is very strong, rust is not. Over time, the continuous formation of rust eats away the base metal and reduces the strength of the connector. The rate of oxidation generally increases with increasing moisture content, the presence of salt, or when galvanic corrosion is a contributing factor.

Galvanic Series (Abbreviated)
More Active (Anodic-)
Zinc
Aluminum
Steel
Brass
Copper Nickel
Stainless Steel - Type 304
Stainless Steel - Type 316
More Passive (Cathodic +)

Galvanic corrosion occurs when there is an interaction between dissimilar metals that are in contact with one another. The degree of corrosion depends on where the metals reside in the galvanic series, which is a compilation of known metals and their relative reactivity. The more active metal (anode) will corrode preferentially while shielding the more passive metal (cathode) from further degradation. For example, with galvanized steel, zinc is used as a coating on the steel because it sacrificially corrodes to protect the steel substrate underneath. The coupling between zinc and steel is said to have a lower galvanic potential than the coupling between zinc and stainless steel because zinc and steel are closer to each other in the galvanic series. In general, the coupling with a lower galvanic potential would result in a slower corrosion rate.

Corrosion Protection Options

Zinc Galvanizing:
Most connectors are manufactured from pre-galvanized sheet steel or coiled steel, which is typically made by the hot-dip process in accordance with ASTM-A653 and ASTM-A924 standards. Fasteners are galvanized in accordance with ASTM-A153. In the manufacturing of the connectors, the punching and shearing processes create exposed bare metal surfaces. Thankfully, zinc has an incredible ability to 'heal' itself; the zinc around the exposed metal corrodes and deposits a layer of zinc corrosion by-product called zinc patina (white powdery appearance) over the exposed metal to further protect it.



By being more reactive than steel, zinc sacrificially corrodes at a steady rate over time to shield the steel from the effect of corrosion. The protection ability of zinc is proportional to its thickness, which is proportional to the amount of zinc applied. Zinc coating is specified as the total weight on both sides of the sheet steel, measured in ounces per square foot (oz/ft2). For example, G90 means that there are 0.90 oz/ft2; G185 has 1.85 oz/ft2 and would last about two times longer than G90. G90 is the minimum protection for connectors and is standard in MiTek connectors.

Design Guidelines:
Where there are governing national or local building code requirements, they should be used in the selection of the connectors and their protection against corrosion. In the absence of such requirements, the decision rests on the experience and judgment of the building designer/engineer. Design guidelines are presented in this section to aid the building designer/engineer in this selection process, but it is the responsibility of the building designer/engineer to determine the most viable solution based on an evaluation of the connectors to the specific corrosive environment(s). The guidelines consist of best practices, recommended protection levels for the connectors, and strength modification factors for the lumber/connectors.

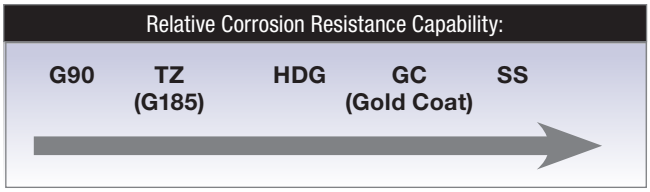
Where there are multiple options suggested, do not automatically default to the lowest protection level. The lower protection level is intended to address less severe conditions while the higher protection level is meant to address more severe conditions. Select the option that eliminates or adequately reduces the vulnerability of the connectors to the corrodents. When in doubt, use a higher level of protection than anticipated or seek professional consultation.

Continued on next page

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Corrosion Information

Relative Corrosion Resistance Capability:
The chart below ranks the available options in terms of their relative effectiveness against corrosion. As expected, the ability to resist corrosion increases with increasing zinc thickness, so G185 is the most durable pre-galvanized product available. Gold Coat offers enhanced protection compared to G185 while stainless steel offers the best protection for most applications.



Galvanic Corrosion:
The simplest and most practical solution to minimize galvanic corrosion is to make sure that the components that are in direct contact with each other are made of the same material or coating. Once this is achieved, there is no net galvanic potential between the components and galvanic corrosion is eliminated or significantly reduced. For example, use galvanized nails for galvanized connectors and stainless steel nails for stainless steel connectors.

Wet Service Condition:
For lumber, this refers to any service condition in which the average equilibrium moisture content is 15% or more over a year or may exceed 19% at any time. For lumber to get above 19% moisture, the relative humidity in the air needs to reach above 80%. Unfortunately, this is above the critical humidity level for the electrochemical oxidation of steel, which is around 70%. Beyond 70%, the rate of corrosion in the connectors increases rapidly due to the abundant availability of moisture.

G90 may not be suitable for use in wet service condition.

Preservative (Pressure) Treated Wood:
There are many preservative wood treatment formulations available on the market today. The element that is common to most of them is the presence of copper in the formulation which can contribute to the corrosion of steel connectors and fasteners.

Of the copper based preservatives, the two types are micronized copper and soluble copper. Micronized copper formulations MCA (micronized copper azole) and MCQ (micronized copper quat) are sold under different brand names and are the most predominant formulation in today's preservative treated wood industry. Soluble copper formulations CA (copper azole) and ACQ (alkaline copper quat) have also been very popular since they replaced CCA (chromated copper arsenate) which was phased out in 2004. Some "metal free" preservatives are still used for above ground and sill plate applications, but are not as common. One of the main criterion affecting the selection of one preservative treatment over another is the type of wood being treated and how well it can be penetrated by the treatment.

While many of the advanced wood treatment formulations containing copper used today have proven to be less corrosive to steel, especially micronized copper, MiTek recommends a higher level of corrosion protection for connectors in contact with copper based wood treatments.

Connectors and fasteners in contact with metal free wood preservatives do not require additional corrosion protection due to the preservative itself, however all factors that can create the corrosive environment should be considered when selecting the appropriate finish. If unsure as to whether a particular treatment is corrosive to steel fasteners, check with the supplier of the preservative treated wood product for their recommendation.

Fire Retardant Treated (FRT) Wood:
Although most common FRT products are not corrosive to metal connectors, not all products are non-corrosive. Additionally, they typically require proprietary strength reductions applied to the lumber in accordance with the manufacturer's specifications. Since the lumber strength is lower, the lateral and withdrawal resistance of nails must also be reduced accordingly. It is important to note that some fire retardants cause the wood to absorb more moisture from the air than untreated lumber. Consequently, the connector may be exposed to a higher level of moisture, resulting in more corrosion.

Swimming Pools:
This is one of the most hazardous environments for steel connectors due to continuous exposure to high temperature, high moisture content, and corrosive chemicals such as chlorine, bromine, and other disinfectants. The combination of all these factors can lead to accelerated corrosion and premature structural failure. This environment is so corrosive that all possible preventive measures should be employed to prevent the hanger from being exposed to the pool water. These include the use of a vapor barrier and a ventilation system that does not take the air from the pool environment.

Additionally, it has been known that certain grades of stainless steel (304, 316, and others) are susceptible to a mode of structural failure known as stress corrosion cracking (SCC) when exposed to a swimming pool environment. SCC is usually localized near areas of high residual stress and small cracks can rapidly propagate and cause catastrophic failures. See warning below.

⚠ WARNING

Stainless steel connectors and fasteners shall not be used for metal hangers over swimming pools due to stress corrosion cracking. SCC has been known to occur under the following conditions:

- Use of certain grades of stainless steel (grades 304, 316 and others).
- Structural members subjected to high tensile stress.
- Presence of certain chemicals, including chlorine and bromine.

Gold Coat may be the best choice in this environment.

Continued on next page

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Corrosion Information

The **Structural Connectors Coating Recommendations** chart below was developed by reviewing field service performance and accelerated corrosion test results. They are offered as general guidelines and are not intended to cover all possible service conditions. Additional consideration may also be needed for:

wet service conditions
preservation treated lumber
fire retardant treated lumber
strength reducing chemicals
building near salt water coastal areas.

Additionally, the **Corrosion Protection Guidelines** to the right may also be used to assist in making the proper choice of corrosion protection.

The building designer/engineer has the ultimate responsibility of selecting the most viable protective coating based on knowledge of project specific corrosive environments and local building code requirements.

Corrosion Protection Guidelines:

- MiTek recommends stainless steel connectors for the highest level of corrosion protection. As an economical alternative to stainless steel our new Gold Coat connectors are specifically designed for exterior application when in contact with preservative treated wood.
- For connectors in contact with preservative treated wood, the Triple Zinc option provides the minimum G-185 coating thickness required by code and is an economical alternative for exterior applications.
- The use of correct fastener with the connector is critical. Stainless steel connectors require stainless steel fasteners. For exterior applications, hot-dip galvanized fasteners (HDG) or exterior coat (EXT) must be used with both Triple Zinc and hot-dip galvanized finishes. Gold Coat connectors require gold coat or hot-dip galvanized fasteners.
- MiTek's zinc dichromate WS Wood Screws are not recommended for use with preservative or fire-retardant treated wood. Some wood screws are available in Gold Coat or exterior coat.
- MiTek clearly differentiates standard interior G90 connectors from the corrosion resistant connectors. Gold Coat connectors are distinguishable from other connectors due to their gold color.

Structural Connectors Coating Recommendations

Use Category (CSA 080-08)	Service Conditions	Use Environment	Example Applications	Preservatives and Retentions[6,7,9]	Minimum Coating Requirements[1,2,3,4]
UC1 Interior/Dry	Interior construction, Above ground, Dry	Continuously protected from weather or other sources of moisture	General framing, interior construction	Untreated	G90
UC2 Interior/Damp	Interior construction, Above ground, Damp	Protected from weather, but may be subject to sources of moisture	Sill plates	SBX-DOT, Organic	G90
				ACQ-D (0.15), CA-B (0.10), CA-C (0.06), MCQ (0.06), µCA-C (0.05)	Triple Zinc (G-185)[8], HDG (post hot dipped), Exterior Coat[11]
UC3.1 Above Ground Protected	Exterior construction, Above ground, Rapid water runoff	Exposed to all weather cycles, not exposed to prolonged wetting	Exposed exterior beams or columns in an open, covered structure	ACQ-D (0.25), MCQ (0.15), CA-B (0.10), CA-C (0.06), µCA-C (0.05), Organic	Triple Zinc (G-185), HDG (post hot dipped), Exterior Coat[11] or MiTek Gold Coat
UC3.2 Above Ground Exposed	Exterior construction, Above ground, Poor water runoff	Exposed to all weather cycles, including prolonged wetting	Deck beams and joists	ACQ-D (0.25), MCQ (0.15), CA-B (0.10), CA-C (0.06), µCA-C (0.05), Organic	Triple Zinc (G-185), HDG (post hot dipped), or MiTek Gold Coat
UC4.1 Ground Contact General Use	Ground contact, Fresh water; includes above ground applications	Ground contact or fresh water exposed to all weather cycles, Normal exposure	Deck posts, beams and joists. Fresh water docks[10]	ACQ-D (0.40), MCQ (0.23), CA-B (0.21), CA-C (0.15), µCA-C (0.14)	Triple Zinc (G-185), HDG (post hot dipped), or MiTek Gold Coat[5]
UC4.2 Ground Contact Heavy Duty	Exterior construction, Ground contact, Critical components	Ground contact, fresh/salt water water splash exposed to all weather cycles	Permanent wood foundations, critical structural members	ACQ-D (0.60), MCQ (0.23), CA-B (0.31), CA-C (0.25), µCA-C (0.23)	Stainless Steel

1) G90 and G-185 refer to galvanization requirements for ASTM A653 material.
2) Connectors galvanized to ASTM A123 may be used in place of either G90 or G185 coatings.
3) Other coating may be suitable for a given environment if the conditions are known and predictable.
4) For G185 connectors use fasteners galvanized per ASTM A153. For Gold Coat connectors, use Gold Coat fasteners and for stainless steel connectors, use stainless steel fasteners.
5) If the enviroment has the potential to contain elements which may make it more corrosive, the use of stainless steel is recommended.
6) MCQ is a micronized copper treatment such as *Micro Pro* by Koppers. µCA-C is a dispersed copper treatment manufactured by Arch Treatment Technologies. Organic preservatives include L^3 from Arch Treatment Technologies and EcoLife II from Viance, LLC.
7) For wood treatments not shown, contact MiTek or the wood preservative manufacturer for recommended coatings.
8) Testing by MiTek has found that in interior applications where the treated wood will remain relatively dry during its service life the use of G90 connectors with MCQ or µCA-C treated wood is appropriate.
9) SBX/DOT= Sodium Borate; ACQ-D = Alkaline Copper Quat Type D; CA-B = Copper Azole Type B; CA-C = Copper Azole Type C; MCQ = Micronized Copper Quat; µCA-C = Dispersed Copper Azole Type C. The number listed in the parenthesis is the required retention level in pounds per cubic foot, or PCF.
10) Deck joists and beams must be treated to Use Category UC4.1 when they are difficult to maintain, repair or replace and are critical to the performance and safety of the deck.
11) Users must perform periodic inspection and provide regular maintenance to ensure the satisfactory performance of the structure.

Continued on next page

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Corrosion Information

MiTek offers several corrosion resistant finishes to cover a range of corrosion performance. For products available in corrosion resistant finishes, reference the "Corrosion Finish" column in the charts and Corrosion Key located by the chart footnotes or pages 13-14 for a complete listing of corrosion resistant products.

Corrosion Protection Level	Finish / Material	Description	Required Fastener	Ordering
CONNECTORS				
	Primer	Primer paint is used to protect steel during shipping and installation but is not considered a corrosion protection method when installed in corrosive environments	Bright fasteners	Stock number as listed in the chart
	G90 Galvanizing	Galvanizing provides a prefabrication coating of 0.90 ounces of zinc per square foot of surface area (both sides) measured in accordance with ASTM A 653	Bright fasteners	Stock number as listed in the chart
	Triple Zinc (TZ) (G-185 Galvanizing)	TZ galvanizing provides a prefabrication coating of 1.85 (G-185) ounces of zinc per square foot of surface area (both sides) measured in accordance with ASTM A 653	Hot-dip galvanized or Exterior Coat fasteners	To order, add TZ to stock number, as in C44-TZ
	Hot-Dip Galvanized (HDG)	HDG coating provides an after-fabrication hot-dipped zinc coating. The coating thickness is dependent on the connector material, but generally ranges from 1.2 to 2.3 ounces of zinc per square foot of surface area (both sides). Hot-dip products meet requirements set forth in ASTM A 123	Hot-dip galvanized or Exterior Coat fasteners	To order, add HDG to stock number, as in KCCQ44-HDG
	Stainless Steel (SS)	Best option for corrosion protection. Quality stainless steel (316SS grade steel) is used to fabricate connectors. Although costs are higher, some applications may need the virtual corrosion proof quality of stainless steel	Stainless Steel fasteners	To order, add SS to stock number, as in PBES44-SS
FASTENERS				
	Yellow Zinc	Zinc yellow chromate finish		Stock number as listed in the chart
	Hot-Dip Galvanized (HDG)	HDG coating provides an after-fabrication hot-dipped zinc coating. The coating thickness is dependent on the connector material, but generally ranges from 1.2 to 2.3 ounces of zinc per square foot of surface area (both sides). Hot-dip products meet requirements set forth in ASTM A 153		Stock number as listed in the chart
	Exterior Coat (EXT)	EXT finish is a double barrier coating over zinc		Stock number as listed in the chart
	Stainless Steel (SS)	Best option for corrosion protection		Stock number as listed in the chart

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DISCLAIMER - The general information and guidelines provided in this MiTek Product Catalogue shall not be used as a substitute for competent professional examination and verification. It is the responsibility of the building designer/engineer to determine the applicability and suitability of the information provided. Anyone making use of this information assumes all responsibility and liability arising from such use.

Corrosion Information

Corrosion Resistant Product Offering

MiTek Stock No.	Triple Zinc G-185 (TZ)	Hot-Dip Galv. (HDG)	Exterior Coat (EXT)	Stain-less Steel (SS)
Fasteners / Anchors				
AB1212-HDG				
AB126-HDG				
AB128-HDG				
AB5812-HDG				
BP12				
BP583				
HBPS12				
HBPS58				
LBP12-TZ				
LBP58-TZ				
LBPS12-TZ				
LBPS58-TZ				
N10C				
N16C				
NA11				
NA16D				
NA20D				
NA9D				
SSN10C				
SSN16C				
SSN8C				
SSNA10D				
SSNA8D				
THR1218-HDG				
THR1224-HDG				
THR1236-HDG				
THR125-HDG				
THR126-HDG				
THR128-HDG				
THR5812-HDG				
THR5816-HDG				
THR588-HDG				
WS15				
WS3				
WS45				
WS5				
WS6				
WS8				
Holdowns / Foundation Anchors				
FA3				
FA4				
FWAN-TZ				
LTS19-TZ				
RP6				
ST1-TZ				
ST2-TZ				
STB16				
STB20				
STB24				
STB28				
STB34				
STBL24				
TDL5				
TDX2-TZ				
Column / Post Caps				
BC400-TZ				
BCS22-4				
BCS23-6				
C44				

MiTek Stock No.	Triple Zinc G-185 (TZ)	Hot-Dip Galv. (HDG)	Stain-less Steel (SS)
Column / Post Caps			
C46			
C46R			
C66			
C66R			
EPCM4416			
EPCM4616			
EPCM6616			
EPCM66			
KCCQ325-4			
KCCQ325-6			
KCCQ44			
KCCQ46			
KCCQ525-4			
KCCQ525-6			
KCCQ64			
KCCQ66			
KECCQ325-4			
KECCQ325-6			
KECCQ44			
KECCQ46			
KECCQ525-6			
KECCQ64			
KECCQ66			
PB44-6TZ			
PB66-6TZ			
PBC44-TZ			
PBC66-TZ			
PBES44			
PBES66			
PBS44			
PBS66			
PBS66R			
PCM44			
PCM4416			
PCM46			
PCM4616			
PCM4816			
PCM66			
PCM6616			
Column / Post Bases			
APB44			
APB66			
CBSQ44-TZ			
CBSQ46-TZ			
CBSQ66-TZ			
D44-TZ			
D46			
D46R-TZ			
D66			
D66R			
EBG44-TZ			
EPB4408			
EPB4608			
EPB6608			
EPBH44			
EPBH46R			
EPBH66			
EPBH66R			
EPBH88			

MiTek Stock No.	Triple Zinc G-185 (TZ)	Hot-Dip Galv. (HDG)	Stain-less Steel (SS)
Column / Post Bases			
KCB44			
KCB46			
KCB48			
KCB66			
KCB68			
KCB88			
KCB1010			
KCB1212			
KCBQ44			
KCBQ46			
KCBQ66			
KCBQ88			
PA44E			
PA44			
PA46E			
PA46			
PA66E			
PA66ER-TZ			
PA66R			
PA66			
PAU44			
PAU46			
PAU66			
PAU88			
PAU1010			
PAU1010R			
PAU1212			
PAU1212R			
RPB-TZ			
RSCH44			
RSCH46			
WAS44			
WAS46			
WAS66			
WE44			
WE46			
WE66			
Framing Plates & Angles			
A3			
AC5			
AC7			
AC9			
ANJ44S-HDG			
JA1			
KHL33			
KHL35			
KHL37			
KHL43			
KHL46			
KHL55			
KHL57			
KHL76			
ML24-TZ			
ML26-TZ			
MP3			
MP34			
MP4F			
MP5			
MP6F			

Corrosion Finish Key Stainless Steel Exterior Coat HDG Triple Zinc

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Corrosion Information

Corrosion Resistant Product Offering

MiTek Stock No.	Triple Zinc G-185 (TZ)	Hot-Dip Galv. (HDG)	Stain-less Steel (SS)
Framing Plates & Angles			
MP7			
MP9			
MPA1			
Stud Plate Ties			
RSPT6			
RSPT6-2			
SPT22			
SPT24			
SPT4			
SPT6			
SPT8			
SPTH4			
SPTH6			
SPTH8			
Lateral Joist Connectors			
LJC-TZ			
LJQ35-TZ			
Twist Straps			
HTW20			
LTW12			
LTW18			
MTW12			
MTW16			
MTW20			
MTW30			
Straps			
HRS416-TZ			
HTP37-TZ			
KRPS22			
KRPS28			
KST227			
KST237			
KST248			
KST260			
L6			
LH12			
LSTA36			
MSTA12			
MSTA15			
MSTA18			
MSTA21			
MSTA24			
MSTA30			
MSTA36			
MSTA9			
MSTAM24			
MSTAM36			
RS150			
T6			
TH12-HDG			
Hangers			
HD210-2IF			
HD210-3IF			
HD28-2IF			
HD410			
HD410IF			
HD412			
HD412IF			

MiTek Stock No.	Triple Zinc G-185 (TZ)	Hot-Dip Galv. (HDG)	Stain-less Steel (SS)
Hangers			
HD44IF			
HD46			
HD46IF			
HD48			
HD48IF			
HD610			
HD610IF			
HD612			
HD612IF			
HD68			
HD68IF			
HDQ610IF			
HDQ612IF			
HUS210			
HUS210-2IF			
HUS212-2			
HUS26			
HUS28			
HUS28-2IF			
JL210IF-TZ			
JL24IF-TZ			
JL26IF-TZ			
JL28IF-TZ			
JPF24			
JUS210			
JUS210-2			
JUS210-3			
JUS24			
JUS24-2			
JUS26			
JUS26-2			
JUS28			
JUS28-2			
JUS28-3			
JUS36			
JUS410			
JUS44			
JUS46			
JUS48			
LSSH15-TZ			
LSSH210			
LSSH31			
MSH422			
SKH210L			
SKH210L-2			
SKH210R			
SKH210R-2			
SKH26L			
SKH26R			
SKH28L			
SKH28R			
SKHH210L-2			
SKHH210L-2IF			
SKHH210R-2			
SKHH210R-2IF			
SKHH410L			
SKHH410LIF			
SKHH410R			

MiTek Stock No.	Triple Zinc G-185 (TZ)	Hot-Dip Galv. (HDG)	Stain-less Steel (SS)
Hangers			
SKHH410RIF			
SKHH414LIF			
SKHH414RIF			
SKHH46L			
SKHH46LIF			
SKHH46R			
SKHH46RIF			
THD28-2			
THD410			
THD46			
THD48			
THDH412			
Hurricane Ties			
HHCP2			
HHCP4-TZ			
LFTA6			
RT10			
RT15			
RT16-2			
RT16A			
RT20			
RT3A			
RT4			
RT5			
RT7			
RT7A			
RT8A			
Deck & Fences			
ADTT-TZ			
CSH-TZ			
DTB-TZ			
ERB24-TZ			
FB14-TZ			
FB23-TZ			
FB24-TZ			
FB26-TZ			
FPH24-TZ			
FRB24-TZ			
PRT15-TZ			
PRT2H-TZ			
PRTIC2-TZ			
SCA10-TZ			
SCA9-TZ			
SDJT14-TZ			
SDPT5-TZ			
SDPT7-TZ			
General Hardware			
ICPL516-TZ			
ICPL58			
TTA12-TZ			
TTA2-TZ			
TTC42-TZ			
TTF22-TZ			
TTR-TZ			
TTU2-TZ			
WT22			
WT22B-HDG			

Corrosion Finish Key Stainless Steel HDG Triple Zinc

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U.S. Standard Steel Gauge Equivalents in Nominal Dimensions

Gauge	Approximate Dimensions		Decimals (inches)		
	Inches	Millimeters	Uncoated Steel	Galvanized Steel (G90)	Triple Zinc (G-185)
3	1/4	6.0	0.238	-- --	-- --
7	3/16	4.5	0.171	0.186	-- --
10	9/64	3.4	0.129	0.138	0.140
11	1/8	3.0	0.114	0.123	0.125
12	7/64	2.7	0.099	0.108	0.110
14	5/64	2.0	0.070	0.078	0.080
16	1/16	1.5	0.055	0.063	0.065
18	3/64	1.2	0.044	0.052	0.054
20	1/32	1.0	0.033	0.040	0.042
22	1/32	0.8	0.029	0.033	0.036

*Actual steel dimensions will vary from nominal dimensions according to industry tolerances.

Maximum Shear Capacity of Joist or Rafter

The table below indicates the calculated shear capacity of different dimensional lumber sizes for various wood species.

Nom Dim	DF Factored Shear Resistance[1,2,4]				S-P-F Factored Shear Resistance[1,2,4]			
	Lbs		kN		Lbs		kN	
	100%	115%[3]	100%	115%[3]	100%	115%[3]	100%	115%[3]
2 x 4	1476	1697	6.57	7.55	1165	1340	5.18	5.96
2 x 6	1910	2197	8.50	9.77	1508	1734	6.71	7.71
2 x 8	2158	2482	9.60	11.04	1703	1958	7.58	8.71
2 x 10	2524	2903	11.23	12.91	1992	2291	8.86	10.19

1) Applies to nominally dimensioned joist as listed in dry service conditions and temperatures less than 38º C.
2) Loads apply to: DF: Douglas Fir-Larch (G=0.49), fv=1.9 Mpa; S-P-F: Spruce-Pine-Fir (G=0.42), fv=1.5 Mpa
3) 115% loads are increased for short term loading in accordance with the code. K_D = 1.15.
4) Assumes system factor K_H = 1.00.

Roof Pitch

If common Rafter Roof Pitch is . . .

Rise / Run (inches)	Slope (degrees)
1/12	5
2/12	10
3/12	14
4/12	18
5/12	23
6/12	27
7/12	30
8/12	34
9/12	37
10/12	40
11/12	42
12/12	45

Then Hip/Valley Rafter Roof Pitch becomes . . .

Rise / Run (inches)	Slope (degrees)
1/17	3
2/17	7
3/17	10
4/17	13
5/17	16
6/17	19
7/17	22
8/17	25
9/17	28
10/17	30
11/17	33
12/17	35

Slope Conversion Table

Rise / Run (inches)	Slope (degrees)
0/12	Flat
1/12	5
2/12	10
3/12	14
4/12	18
5/12	23
6/12	27
7/12	30
8/12	34
9/12	37
10/12	40
11/12	42
12/12	45

1) Use this conversion table only for hip/valley rafters that are skewed 45° right or left. All other skews or dual pitch roofs will cause the slope to change from that listed above.

Special & Custom Connectors

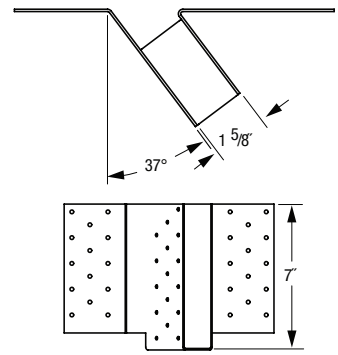
MiTek is committed to meeting every need you have and we understand that stock connectors will not meet all application or design requirements. Our Technical Assistance Representatives will work with you to develop and fabricate the Special or Custom connector you need.

What is the difference between a "Special" and a "Custom" connector?

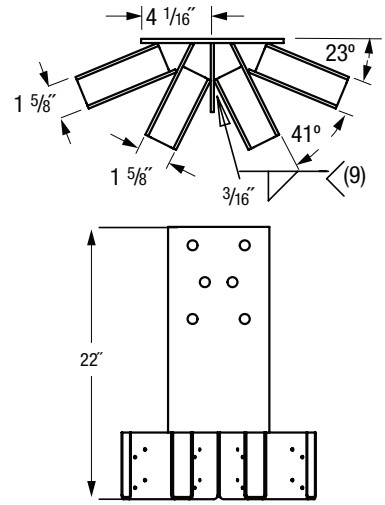
A "Special" is a stock MiTek connector that is modified within the limits listed in the Specialty Options chart for that connector. A summary of Specialty Options can be found on page 294 of this catalog.

A "Custom" is a connector that does not closely resemble a stock or special part offered in our catalog. Also, a "Custom" connector may be a stock connector that is modified outside of the limits listed in the Specialty Options charts or is not listed in the catalogue as having a specialty option available. Product drawings must be provided by the customer and will be manufactured by MiTek in accordance to customer specifications.

See pages 294-297 for additional information.



Special Order EXAMPLE: Skewed HD < 45°



Custom Order EXAMPLE: 4-Pocket Girder Truss Hanger

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Product Notes

1) This catalogue reflects the most current information available at the time of printing. However, we are continually improving our products through better engineering design and development and **recommend visiting our website for the latest on-line version of the catalog.** MiTek reserves the right to change specifications, designs, and models at any time without notice and liability for such changes. This catalogue may not be reproduced in whole or in part without the prior written approval of MiTek.

2) This catalogue reflects changes to product design and factored resistance to some MiTek products. The information presented in this publication supersedes all previously published Product Catalogues. New products or updated product information are designated in blue.

3) This Product Catalogue serves as a general reference for MiTek structural connectors. Various specialized publications have also been developed for design professionals, truss manufacturers, contractors, and building material distributors. Consequently, product information may vary from one publication to another due to testing or evaluations for specific conditions. We recommend visiting our website for the latest on-line version of these specialized publications.

4) Throughout this catalog, dimensions are expressed in inches and factored resistances in pounds unless noted otherwise.

5) The type and quantity of fasteners used to install MiTek products is critical to connector performance. To achieve the factored resistance presented in this catalog, all specified fasteners must be used and proper installation procedures observed. Verify that the dimensions of the supporting members are sufficient to receive the specified fasteners.

6) 8d, 10d, 16d, and 20d designations in the fastener schedules throughout this catalogue refer to common wire nails unless noted otherwise. Nails shall conform to CSA B111 or ASTM F1667.

7) Diamond holes are for optional nailing for maximum listed capacity or for temporary hanger fastening during installation.

8) Some MiTek products show both nail fastening and bolt schedules. In those cases, specific loads for each has been identified. Nail and bolt values cannot be combined unless noted otherwise.

9) Bolts specified in this catalogue are through-bolts and must conform to requirements of ASTM A 307 Grade A, or ASME SAE Grade 2, or better unless noted otherwise.

10) Anchor Bolts must conform to ASTM F 1554.

11) MiTek connectors listed in this catalogue are manufactured for specific sizes of standard dimensional lumber, plated trusses, or structural composite lumber. For applications involving unusual supporting conditions or environments, contact MiTek. Wood shrinkage or expansion, caused by lack of moisture or excessive moisture, may adversely affect connector installation. Evaluate potential shrinkage or expansion to ensure proper connector installation and performance.

12) The factored resistances listed in this catalogue are based on installation to wood with a moisture content of less than 19%, and used in dry service conditions. Load reductions, in accordance with the applicable local Building Code, shall be taken where wood moisture content is greater than 19% at the time of installation or where used in wet service conditions.

13) Multiple-ply members must be fastened together to act as a single unit. Fastening must be sufficient to ensure equal load distribution to all plies. Fastening detail shall be addressed by the building designer.

14) Field alteration may significantly reduce the established factored resistance published in this catalog. Unless otherwise noted, MiTek products may not be bent or cut for any reason unless approved by MiTek Engineering. All product modifications will void the warranty unless prior written consent from MiTek has been obtained.

Design Notes

1) Some products have Factored Resistance that can be applied in several directions (F1, F2, and uplift is a common example). When these products have F1, F2 and/or uplift loads applied simultaneously, it is necessary to make the following check:

$$\frac{\text{F1 Factored Load}}{\text{F1 Factored Resistance}} + \frac{\text{F2 Factored Load}}{\text{F2 Factored Resistance}} + \frac{\text{Uplift Factored Load}}{\text{Uplift Factored Resistance}} \leq 1.0$$

2) Factored resistances of different connector models are not additive to resist loads at a single connection location. For special considerations, consult MiTek Engineering Services.

3) Connector ratings may exceed the tensile strength or other aspects of the wood members involved in the connection. A qualified designer should verify wood member capacities when specifying connectors.

4) Verify that the size of the supporting member can accommodate the connector's specified fasteners.

5) Some illustrations in this catalogue may not reflect additional mechanical reinforcements which may be required to reduce cross grain tension or wood member bending under loading. The design professional is responsible for determining if additional mechanical reinforcement is required.

6) MiTek recommends the hanger height be a minimum of 60% of the joist height for stability.

7) Connectors in this catalogue are for member to member connection at a single connection location. It is the building designer's responsibility to ensure a continuous load path throughout the building structure.

Continued on next page

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Material
MiTek selects steel for its various products in accordance with application needs and steel properties, including tensile strength, ductility, corrosion resistance, gauge, and weldability. Consult MiTek for steel information on specific products. MiTek® products are manufactured from steel which meets ASTM A 653, ASTM A 1011, ASTM A 36, ASTM A1018 or ASTM A6666 standards.

Testing and Product Factored Resistances
All structurally-rated products are designed and tested in accordance with applicable industry criteria such as CSA standards, ASTM standards, ICC-ES Acceptance Criteria. All testing is conducted or verified by an approved IAS accredited third-party testing laboratory which generates an independent test report.

Connectors are typically evaluated in accordance with CSA O86 *Engineering Design in Wood*. The published factored resistance is established based on the minimum of:

- Corrected ultimate load multiplied by 0.91 and a resistance factor of 0.6
- The average load at 1/8" deflection multiplied by 2.42 and a resistance factor of 0.6.

Factored resistance values in this catalogue are given for standard term loading and/or short term loading as described below:

(a) Standard term loading
Typically applies to roof and floor structural elements that support primarily snow loads and live loads due to occupancy. In many tables this is designated as “vertical (100%)” or “bearing (100%)”. The 100% indicates that no increase for duration of load is included.

(b) Short term loading
This case refers to loading that will not exceed 7 days throughout the life of the structure such as wind and earthquake loads. Short term loading has a duration of load factor (K_D) of 1.15. In the tables short term loading resistance is designated as “uplift (115%)”, or “F1 (115%)” for lateral load. In some cases the strength of the steel governs the resistance capacity and therefore no increase for short term loading is included.

Refer to CSA O86 for detailed guidelines to determine the appropriate Load-duration Factor K_D and apply as appropriate. Additional adjustment factors may be required and shall be addressed by the building designer.

Installation Notes

1) Use proper safety equipment during connector installations. Always wear gloves when handling connectors.

2) All field welding should be done in accordance with CSA W59 by a certified welder. Caution: Welding galvanized steel may produce harmful fumes and should only be performed in well-ventilated environments.

3) The type and quantity of fasteners used to install MiTek products is critical to connector performance. To achieve the factored resistance shown in this catalogue, install with the fasteners specified for that particular product. Refer to page 22 for fastener installation guides. Some products allow for alternate nail installations, refer to the “Nail Shear Resistance Adjustment Factors” chart on page 20 for resistance adjustments when using alternate nailing. All specified fasteners must be properly installed prior to applying load of any kind to the connection.

4) Fastener installation may cause wood to split and reduce a fastener’s ability to transfer loads into the supporting member. If wood splitting occurs, consider pre-drilling holes not exceeding 75% of nail diameter.

5) It is permissible to use nail guns to install connectors as long as the specified nails are installed through pre-punched nail holes and all specified nail holes are filled. MiTek recommends the use of nail guns featuring hole-locating mechanisms. Please note that many nail guns use fasteners smaller than the common nail size and load reductions will result. Contact MiTek or visit our Web Site for additional information. Caution: Always follow nail gun manufacturer’s safety guidelines.

6) Drill bolt holes a minimum of 1⁄32" (1mm) and a maximum of 1⁄16" (2mm) larger than the diameter of the bolt to be installed, per CSA O86:19 Clause 12.2.2.2.1.

7) Washers should always be used under the head or nut of a bolt when not in contact with the connector unless noted otherwise.

8) Joists installed in hangers should bear fully on the connector seat and shall be cut to fit against the header with a gap no greater than 1⁄8" between the joist end and header face.

9) Top mount hangers shall be installed with the face of the hanger tight to the face of the header.

10) Top mount hangers installed in floor systems may produce unevenness. This may vary by the thickness of the hanger top flange steel and the nail heads. If a problem is anticipated, the effects can be mitigated by dapping the beam or cutting the subfloor at hanger locations. The use of face mount hangers will eliminate this problem.

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FASTENERS



MiTek®

FASTENERS 18-33

Fastening Identification / Features	22
Nails	20-21
Screws	23-33



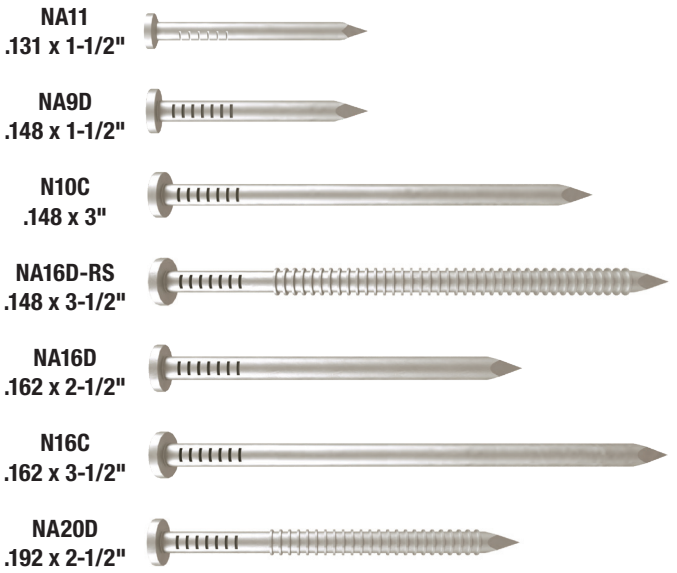
Proper fasteners are a critical component in a sound wood frame structure. To ensure successful installations of its connectors, MiTek offers a full range of structurally-rated nails. All galvanized nails supplied by MiTek are Hot-dipped for greater corrosion resistance. Any MiTek connector requiring a NA16D-RS or NA20D nail is shipped with the nails attached to the connector in convenient poly bags.

Gun-Nails:

It is permissible to use nail guns to install connectors.

Note:

1. Many nail guns use fasteners smaller than the common nail size specified with MiTek product, factored resistance must be reduced accordingly.
2. Drive through pre-punched nail holes only.
3. Do not over drive.
4. Recommend the use of guns featuring hole-locating mechanisms.



Optional Nails for Face Mount Hangers and Straight Straps

Applicable to Straight Straps		
Specified Nail	**Replacement Fastener**	**Shear Resistance Adjustment Factor**
8d common (0.131" x 2-1/2")	8d spiral (0.110" x 2-1/2")	0.72
	8d x 1-1/2 (0.131" x 1-1/2")	0.97
10d x 1-1/2 (0.148" x 1-1/2")	8d x 1-1/2 (0.131" x 1-1/2")	0.80
10d common (0.148" x 3") 12d common (0.148" x 3-1/4")	8d x 1-1/2 (0.131" x 1-1/2")	0.80
	8d common (0.131" x 2-1/2")	0.80
	10d spiral (0.122" x 3")	0.70
	10d x 1-1/2 (0.148" x 1-1/2")	0.90
16d common (0.162" x 3-1/2")	8d common (0.131" x 2-1/2")	0.67
	10d common (0.148" x 3")	0.85
	12d common (0.148" x 3-1/4")	0.85
	10d spiral (0.122" x 3")	0.59
	12d spiral (0.122" x 3-1/4")	0.59
	16d spiral (0.152" x 3-1/2")	0.89
	10d x 1-1/2 (0.148" x 1-1/2")	0.78
	16d x 2-1/2 (0.162" x 2-1/2")	1.00

Face Mount Slant Nailing Hangers			
Specified Nail	**Replacement Fastener**		**Factored Resistance Adjustment Factor**
	Header	**Joist (Slant)**	
10d common (0.148" x 3")	10d x 1-1/2 (0.148" x 1-1/2")	10d common (0.148" x 3")	0.72
16d common (0.162" x 3-1/2")	10d x 1-1/2 (0.148" x 1-1/2")	10d common (0.148" x 3")	0.65
		16d common (0.162" x 3-1/2")	
16d common (0.162" x 3-1/2")	10d common (0.148" x 3")	10d common (0.148" x 3")	0.77
		16d common (0.162" x 3-1/2")	0.85
16d common (0.162" x 3-1/2")	16d x 2-1/2 (0.162" x 2-1/2")	16d common (0.162" x 3-1/2")	1.00

Face Mount Straight Nailing Hangers		
Specified Nail	**Replacement Fastener**	**Factored Resistance Adjustment Factor**
10d common (0.148" x 3")	8d x 1-1/2 (0.131" x 1-1/2")	0.68
	8d common (0.131" x 2-1/2")	0.80
	10d spiral (0.122" x 3")	0.70
	10d x 1-1/2 (0.148" x 1-1/2")	0.77
16d common (0.162" x 3-1/2")	10d spiral (0.122" x 3")	0.59
	10d x 1-1/2 (0.148" x 1-1/2")	0.66
	10d common (0.148" x 3")	0.81
	16d x 2-1/2 (0.162" x 2-1/2")	1.00

1. Adjustment factor is the multiplier to the published factored resistance when a nail of different size and/or type is used in lieu of a Specified Nail.
2. Adjustment factors may vary with some custom hangers or steel thicker than 10 gauge. Contact MiTek for exceptions.
3. Roofing nails shall not be substituted for any nail size or type.

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Nail Specification Table

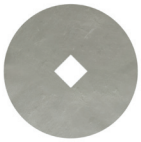
Finish	Size (in)	MiTek Stock No.	Ref. No.	Metric (mm)		Unit	D Fir-L Factored Shear Resistance per Nail (K_D = 1.00)						S-P-F Factored Shear Resistance per Nail (K_D = 1.00)					
							Steel Side Plate						Steel Side Plate					
				Dia	Length		10 Ga	12 Ga	14 Ga	16 Ga	18 Ga	20 Ga	10 Ga	12 Ga	14 Ga	16 Ga	18 Ga	20 Ga
HDG	8d (0.131) x 1-1/2	NA11	N8	3.33	38.1	Lbs	215	215	197	178	163	150	188	188	182	163	148	135
						kN	0.96	0.96	0.88	0.79	0.73	0.67	0.84	0.84	0.81	0.73	0.66	0.60
	10d (0.148) x 1-1/2	NA9D	N10	3.76	38.1	Lbs	269	263	222	200	184	169	236	236	205	183	167	152
						kN	1.20	1.17	0.99	0.89	0.82	0.75	1.05	1.05	0.91	0.81	0.74	0.68
	10d (0.148) x 3	N10C	10DHDG	3.76	76.2	Lbs	269	269	241	218	201	185	236	236	224	201	184	168
						kN	1.20	1.20	1.07	0.97	0.89	0.82	1.05	1.05	1.00	0.89	0.82	0.75
	16d (0.162) x 2-1/2	NA16D	N16, N16EG	4.11	63.5	Lbs	317	317	275	250	231	214	278	278	255	230	211	194
						kN	1.41	1.41	1.22	1.11	1.03	0.95	1.24	1.24	1.13	1.02	0.94	0.86
	16d (0.162) x 3-1/2	N16C	16DHDG	4.11	88.9	Lbs	317	317	275	250	231	214	278	278	255	230	211	194
						kN	1.41	1.41	1.22	1.11	1.03	0.95	1.24	1.24	1.13	1.02	0.94	0.86
	20d (0.192) x 2-1/2	NA20D	--	4.88	63.5	Lbs	429	408	353	323	300	280	376	376	326	296	274	253
						kN	1.91	1.81	1.57	1.44	1.33	1.25	1.67	1.67	1.45	1.32	1.22	1.13
SS[6]	8d (0.131) x 1-1/2	SSNA8D	SSN8	3.33	38.1	Lbs	215	215	197	178	163	150	188	188	182	163	148	135
						kN	0.96	0.96	0.88	0.79	0.73	0.67	0.84	0.84	0.81	0.73	0.66	0.60
	10d (0.148) x 1-1/2	SSNA10D	SSN10	3.76	38.1	Lbs	269	263	222	200	184	169	236	236	205	183	167	152
						kN	1.20	1.17	0.99	0.89	0.82	0.75	1.05	1.05	0.91	0.81	0.74	0.68
	8d (0.131) x 2-1/2	SSN8C	SS8D	3.33	63.5	Lbs	215	215	202	181	166	152	188	188	188	168	153	139
						kN	0.96	0.96	0.90	0.81	0.74	0.68	0.84	0.84	0.84	0.75	0.68	0.62
	10d (0.148) x 3	SSN10C	SS10D	3.76	76.2	Lbs	269	269	241	218	201	185	236	236	224	201	184	168
						kN	1.20	1.20	1.07	0.97	0.89	0.82	1.05	1.05	1.00	0.89	0.82	0.75
	16d (0.162) x 3-1/2	SSN16C	SS16D	3.76	82.6	Lbs	317	317	275	250	231	214	278	278	255	230	211	194
						kN	1.41	1.41	1.22	1.11	1.03	0.95	1.24	1.24	1.13	1.02	0.94	0.86
Bright	8d (0.131) x 2-1/2	8d Common	--	3.33	63.5	Lbs	215	215	202	181	166	152	188	188	188	168	153	139
						kN	0.96	0.96	0.90	0.81	0.74	0.68	0.84	0.84	0.84	0.75	0.68	0.62
	10d (0.148) x 3	10d Common	--	3.76	76.2	Lbs	269	269	241	218	201	185	236	236	224	201	184	168
						kN	1.20	1.20	1.07	0.97	0.89	0.82	1.05	1.05	1.00	0.89	0.82	0.75
	16d (0.148) x 3-1/4	16d Sinker	--	3.76	82.6	Lbs	269	269	241	218	201	185	236	236	224	201	184	168
						kN	1.20	1.20	1.07	0.97	0.89	0.82	1.05	1.05	1.00	0.89	0.82	0.75
	16d (0.148) x 3-1/2 Ring Shank	NA16D-RS	--	3.76	88.9	Lbs	269	269	241	218	201	185	236	236	224	201	184	168
						kN	1.20	1.20	1.07	0.97	0.89	0.82	1.05	1.05	1.00	0.89	0.82	0.75
	16d (0.162) x 3-1/2	16d Common	--	4.11	88.9	Lbs	317	317	275	250	231	214	278	278	255	230	211	194
						kN	1.41	1.41	1.22	1.11	1.03	0.95	1.24	1.24	1.13	1.02	0.94	0.86
	20d (0.192) x 4	20d Common	--	4.88	101.6	Lbs	429	408	353	323	300	280	376	376	326	296	274	253
						kN	1.91	1.81	1.57	1.44	1.33	1.25	1.67	1.67	1.45	1.32	1.22	1.13
	8d (0.110) x 2-1/2 Spiral Shank	2-1/2" Common Spiral	--	2.77	63.5	Lbs	155	155	155	139	127	115	136	136	136	130	117	105
						kN	0.69	0.69	0.69	0.62	0.56	0.51	0.60	0.60	0.60	0.58	0.52	0.47
	10d (0.122) x 3 Spiral Shank	3" Common Spiral	--	3.1	76.2	Lbs	188	188	182	163	149	136	165	165	165	151	137	124
						kN	0.84	0.84	0.81	0.73	0.66	0.60	0.73	0.73	0.73	0.67	0.61	0.55
	12d (0.122) x 3-1/4 Spiral Shank	3-1/4" Common Spiral	--	3.1	82.6	Lbs	188	188	182	163	149	136	165	165	165	151	137	124
						kN	0.84	0.84	0.81	0.73	0.66	0.60	0.73	0.73	0.73	0.67	0.61	0.55
	16d (0.152) x 3-1/2 Spiral Shank	3-1/2" Common Spiral	--	3.86	88.9	Lbs	282	282	250	227	209	193	248	248	233	209	192	175
						kN	1.25	1.25	1.11	1.01	0.93	0.86	1.10	1.10	1.04	0.93	0.85	0.78

1) Factored shear resistance values determined in accordance with CSA O86:19 Clause 12.9; apply modification factors K_D, K_{SF} and K_T where applicable.
2) Factored shear resistances assume full nail penetration into the main member.
3) Tabulated factored shear resistances assume a side plate tensile strength of 45 ksi (310 MPa).
4) HDG = Hot-Dip Galvanized; SS = Stainless Steel; Bright = No Finish.
5) Bright finish common, sinker, and spiral nails are listed for reference only. MiTek does not stock these type nails.
6) Stainless steel 8d x 1-1/2 nails are ring shank. Other stainless steel nail sizes in table are smooth shank.

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Round Holes:
Always fill all (normal-size) round nail holes, unless otherwise noted.



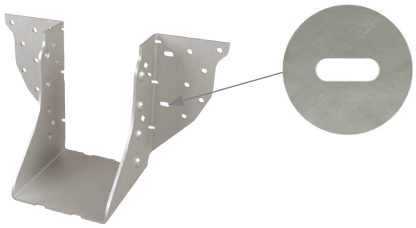
Diamond Holes:
Optional nailing for maximum listed capacity or for temporary hanger fastening during installation.

When there are **MIN** and **MAX** values:
MIN: fill all round nail holes
MAX: fill all round and diamond holes

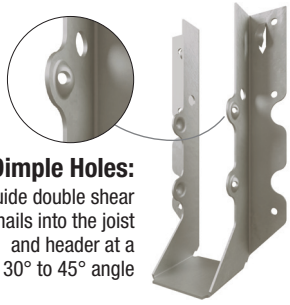


Large Round Holes:
For concrete/masonry installation; no need to be filled when connected to wood.

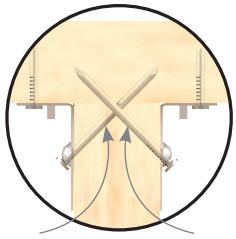
Obround Holes:
For ease of nailing at a tight location; always fill.





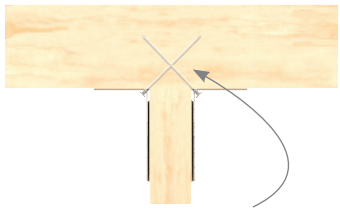


Dimple Holes:
Guide double shear nails into the joist and header at a 30° to 45° angle



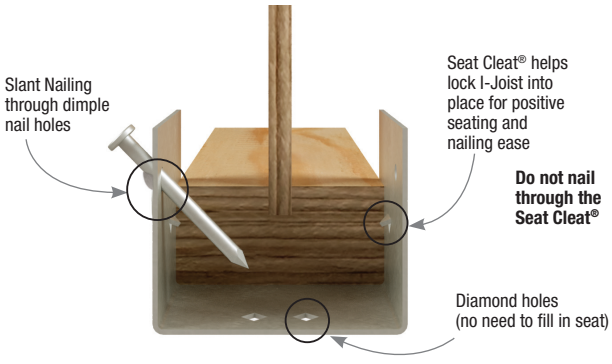
Use specified standard length common nails. 16d common and 10d common nails are 3-1/2" and 3" long respectively.





Drive bend line nails into header at 45º to achieve listed loads

Typical I-Joist Nailing



Common Nailing Errors



Wrong Angle
When a nail is driven into the bottom flange of the wood I-Joist parallel to the glue lines, separation of veneers can occur which substantially reduces the design loads of the connection.



Nail Too Long
When using nails longer than MiTek's recommended nails, bottom flange splitting may occur. Also, this can raise the wood I-Joist off the seat, resulting in uneven surfaces and squeaky floors along with reduced factored resistance.

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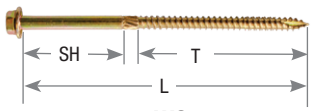
The WS Wood Screw is a self-drilling screw used for numerous interior framing applications. For use in wood-to-wood and steel-to-wood applications. Head stamped to indicate length for easy inspection.



Features and Benefits:
- 1/4" diameter
- No predrilling
- Type 17 point reduces installation torque and splitting
- 3/8" Hex Drive
- Length identification stamps on all WS heads

Materials: 1/4" diameter Grade 5 steel
Finish: Yellow Zinc

Installation:
- Screws are self-drilling.
- Install using a low speed clutch drill with 3/8" hex head driver. The washer head should be flat to the surface and the serrations will oppose turning and release the clutch. Do not over-tighten the screws.
- Care should be given to ensure the fastener is installed perpendicular to the plane of the side plate.
- For attaching multi-ply wood trusses or LVL or PSL members, or floor trusses, refer to Technical Bulletins MiTek.ca



WS
(Yellow Zinc finish)



Size				Dimensions (in)					D Fir-L Factored Resistance[2,3]							S-P-F Factored Resistance[2,3]						
									Shear 100%							Shear 100%						
									Wood-to-Wood[5,7]		Steel to Wood[4] Gauge					Wood-to-Wood[5,7]		Steel to Wood[4] Gauge				
in	mm	MiTek Stock No.	Ref. No.	L	SH	T	Finish[1]	Unit	1-1/2" Side	1-3/4" Side	14	10	7	3	With-drawal[5,6]	1-1/2" Side	1-3/4" Side	14	10	7	3	With-drawal[5,6]
1/4 x 1-1/2	6.1 x 38	WS15	SDS1/4X1.5, SDS1/4X11/2	1-1/2	1/4	1-1/4	Zinc	Lbs	--	--	358	496	660	807	326	--	--	332	471	635	692	248
								kN	--	--	1.59	2.21	2.93	3.59	1.45	--	--	1.48	2.09	2.83	3.08	1.10
1/4 x 2	6.1 x 50.8	WS2	SDS1/4X2	2	1/4	1-3/4	Zinc	Lbs	--	--	423	561	724	1033	456	--	--	387	526	691	900	347
								kN	--	--	1.88	2.49	3.22	4.60	2.03	--	--	1.72	2.34	3.07	4.00	1.54
1/4 x 2-1/2	6.1 x 63.5	WS25	SDS1/4X2.5	2-1/2	1/4	2	Zinc	Lbs	--	--	487	625	789	1033	521	--	--	443	582	746	900	396
								kN	--	--	2.17	2.78	3.51	4.60	2.32	--	--	1.97	2.59	3.32	4.00	1.76
1/4 x 3	6.1 x 76.2	WS3	SDS1/4X3	3	3/4	2	Zinc	Lbs	387	387	552	690	853	1033	521	332	332	498	637	801	900	396
								kN	1.72	1.72	2.46	3.07	3.80	4.60	2.32	1.48	1.48	2.21	2.83	3.56	4.00	1.76
1/4 x 3-1/2	6.1 x 88.9	WS35	SDS1/4X3.5, SDS1/4X31/2	3-1/2	3/4	2-1/2	Zinc	Lbs	452	452	616	754	918	1033	651	387	387	553	692	857	900	495
								kN	2.01	2.01	2.74	3.36	4.08	4.60	2.90	1.72	1.72	2.46	3.08	3.81	4.00	2.20
1/4 x 4-1/2	6.1 x 114.3	WS45	SDS1/4X4.5, SDS1/4X41/2	4-1/2	1-1/4	3	Zinc	Lbs	542	575	680	825	997	1033	781	480	498	618	763	890	900	595
								kN	2.41	2.56	3.02	3.67	4.44	4.60	3.47	2.14	2.22	2.75	3.40	3.96	4.00	2.65
1/4 x 5	6.1 x 127	WS5	--	5	1-3/4	3	Zinc	Lbs	542	575	680	825	997	1033	781	480	508	618	763	890	900	595
								kN	2.41	2.56	3.02	3.67	4.44	4.60	3.47	2.14	2.26	2.75	3.40	3.96	4.00	2.65
1/4 x 6	6.1 x 152.4	WS6	SDS1/4X6	6	1-3/4	4	Zinc	Lbs	542	575	680	825	997	1033	1042	480	508	618	763	890	900	793
								kN	2.41	2.56	3.02	3.67	4.44	4.60	4.64	2.14	2.26	2.75	3.40	3.96	4.00	3.53
1/4 x 8	6.1 x 203.2	WS8	--	8	4-3/4	3	Zinc	Lbs	542	575	680	825	997	1033	781	480	508	618	763	890	900	595
								kN	2.41	2.56	3.02	3.67	4.44	4.60	3.47	2.14	2.26	2.75	3.40	3.96	4.00	2.65

1) Zinc = Yellow Zinc Dichromate.
2) Factored Resistance values determined in accordance with CSA O86:19 Clause 12.11; apply modification factors K_D, K_{SF} and K_T where applicable.
3) Factored resistances assume full screw penetration into the main member.
4) Factored shear resistances for steel-to-wood connections assume a side plate tensile strength of 45 ksi (310 MPa) for 14 gauge and 10 gauge, 52 ksi (359 MPa) for 7 gauge, and 58 ksi (400 MPa) for 3 gauge.
5) Factored basic withdrawal resistance is 260-lb per inch (45.6 N/mm) of the threaded shank penetrated into a D Fir-L main member, and 198-lb per inch (34.7 N/mm) into a S-P-F main member.
6) Factored withdrawal resistances for steel-to-wood connections assume a side plate thickness of 1/4" or less. Tabulated values assume full thread penetration into the main member.
7) Factored withdrawal resistances for wood-to-wood connections may be limited by the factored head pull-through resistance of 223-lb (991 N) for 1-1/2" thick wood side members, or 260-lb (1156 N) for 1-3/4" thick wood side members.

Packaging Table

Use	Size (in)	Mini Bulk Offering		Bulk Offering	
		MiTek Stock No.	Box/Ctn Qty	MiTek Stock No.	Box Qty
Interior for wood-to-wood connections	1/4 x 1-1/2	WS15-MB	3-box/300-ea	WS15-BP	1500-ea
	1/4 x 2	WS2-MB	3-box/250-ea	WS2-BP	1300-ea
	1/4 x 2-1/2	WS25-MB	3-box/200-ea	WS25-BP	1100-ea
	1/4 x 3	WS3-MB	3-box/150-ea	WS3-BP	950-ea
	1/4 x 3-1/2	WS35-MB	3-box/125-ea	WS35-BP	900-ea
	1/4 x 4-1/2	WS45-MB	3-box/100-ea	WS45-BP	800-ea
	1/4 x 5	WS5-MB	3-box/100-ea	WS5-BP	500-ea
	1/4 x 6	WS6-MB	3-box/100-ea	WS6-BP	600-ea
	1/4 x 8	--	--	WS8-BP	400-ea

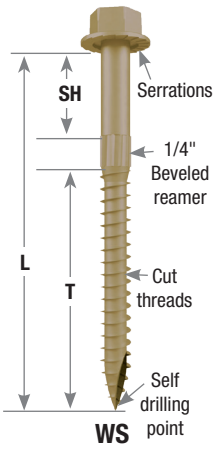
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Joining Multi-Ply Engineered Wood (EWP) Beam Application

Installation Notes:

- For 2 ply members, wood screws shall be installed with the screw heads in the loaded ply.
- For 3 or 4 ply members, wood screws shall be installed in both outer plies.
- Designer shall specify all wood screws locations.
- Increase edge and end distances if wood splitting occurs.
- Stagger all screws installed into the opposite face.
- A minimum of 2 rows of screws shall be used for all members with H = 5-1/2" and larger.



Size (in)	MiTek Stock No.	Dimensions (in) L	SH	T	Multiple Members Installation Figure[3,7,9,10]	Maximum Factored Uniform Loads that can be applied to either outside member[1,2,3,4,5,6] Wood Screw Spacing 12-in O.C. 2 Rows Lbs/ft	kN/m	3 Rows Lbs/ft	kN/m	18-in O.C. 2 Rows Lbs/ft	kN/m	3 Rows Lbs/ft	kN/m	24-in O.C. 2 Rows Lbs/ft	kN/m	3 Rows Lbs/ft	kN/m
1/4 x 3-1/2	WS35	3-1/2	3/4	2-1/2	1	1845	26.93	2765	40.35	1230	17.95	1845	26.93	920	13.43	1385	20.21
					2	1385	20.21	2075	30.28	920	13.43	1385	20.21	690	10.07	1035	15.11
					4	1385	20.21	2075	30.28	920	13.43	1385	20.21	690	10.07	1035	15.11
					5	1230	17.95	1845	26.93	820	11.97	1230	17.95	615	8.98	920	13.43
1/4 x 6	WS6 [8]	6	1-3/4	4	3	1560	22.77	2340	34.15	1040	15.18	1560	22.77	780	11.38	1170	17.08
					6	5470	79.83	8210	119.82	3650	53.27	5470	79.83	2735	39.92	4105	59.91

1) Factored Resistance values determined in accordance with CSA O86:19 Clause 12.11.
2) Loads are based on SCL with an equivalent S.G. = 0.50 and a side member thickness of 1-3/4", except for Figure 6 installation with a side member thickness of 3-1/2".
3) Load values depicted assume that the uniform load is applied to the most narrow outside ply only.
4) Except for Figure 6 installation, load values neglect any contribution of screws installed to opposite side, even if they extend significantly into the loaded ply.
5) Loads are for normal (100%) duration of load, and may be increased in accordance with the code.
6) Uniform loads in table represent the capacity of the fasteners. The capacity of the LVL or PSL beam may be less and should be checked by a qualified designer or with the manufacturer's literature.
7) A qualified designer shall ensure the adequacy of a 7" wide beam to resist the applied load on one edge; otherwise, the loads shall be uniformly distributed across the width or applied equally on both sides.
8) Wood screws longer than 3-1/2" are not recommended for use with Parallam® PSL or TimberStrand® LSL.
9) For Figure 1: The head of the wood screw is on the same side as the loaded ply.
10) For Figures 2, 3, 5, and 6: Stagger the screws on opposite face by half minimum

Figure 1



WS35 installed in (2) 1-3/4" Ply

Figure 2



WS35 installed in (3) 1-3/4" Ply

Figure 3



WS6 installed in (4) 1-3/4" Ply

Figure 4



WS35 installed in (1) 1-3/4", (1) 3-1/2" Ply

Figure 5



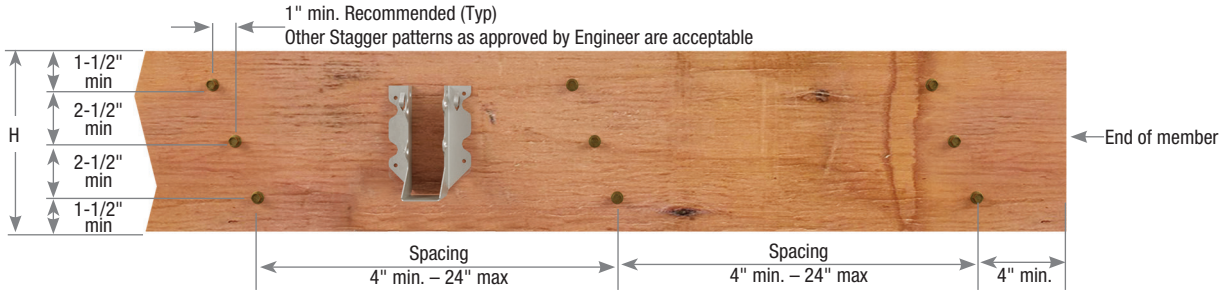
WS35 installed in (2) 1-3/4", (1) 3-1/2" Ply

Figure 6



WS6 installed in (2) 3-1/2" Ply

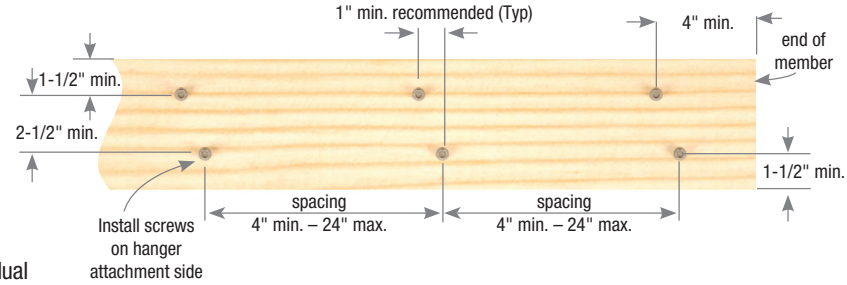
Recommended Row Guidelines



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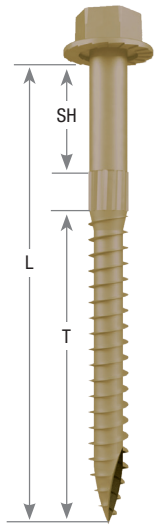
Joining Multi-Ply Wood Truss Application

The installation instructions and design example shown below are intended for a design professional who will be responsible for determining the location and number of wood screws to adequately transfer all loads on the truss.



Installation:

- Screw spacing shall not be greater than 24"on center and less than 4" on center. However, the location of any individual screw may be adjusted up to one-half the required screw spacing to avoid lumber defects or interference with other hardware.
- Load or hanger spacing shall not be greater than 24" center-to-center.
- The last truss ply must have a minimum of 1-1/4" of screw penetration and no more than 1/8" gap between each ply.
- Screws cannot be installed through metal truss plates unless the Truss Engineer approves pre-drilling.
- On 2x4 members, use one row of wood screws. On 2x6 and 2x8 use two rows, and on 2x10 use three rows. Stagger all rows.
- The truss bottom chord shall have lateral bracing installed as called out by the Truss Engineer to prevent any displacement from torsional forces.
- Install screws from one side without flipping the truss.
- Top and bottom chords require screws and in some cases the webs may require screws.
- All lateral bracing should be attached to each truss ply.
- Increase edge and end distance if wood splitting occurs.



WS

Size		MiTek Stock No.	Dimensions (in)			Finish	Shear Plane Location	D Fir-L Factored Resistance		S-P-F Factored Resistance	
								Shear 100%[1,2,3,4]		Shear 100%[1,2,3,4]	
in	mm		L	SH	T			Lbs	kN	Lbs	kN
1/4 x 3	6.1 x 76.2	WS3	3	3/4	2	Zinc	SH, T	387	1.72	332	1.48
1/4 x 4-1/2	6.1 x 114.3	WS45	4-1/2	1-1/4	3	Zinc	SH, T	543	2.42	480	2.14
1/4 x 6	6.1 x 152.4	WS6	6	1-3/4	4	Zinc	SH, T	543	2.42	480	2.14

1) Factored Resistance values determined in accordance with CSA O86:19 Clause 12.11.
2) The Truss Engineer shall apply all applicable adjustment factors.
3) Table values are based on 1-1/2" thick wood side members. Where the side and main members are of different specific gravities, use the lower of the two.
4) Table values depicted assume the wood screws installed with the screw heads in the loaded ply.

Design Example

3 Ply with Mixed Wood Species:
Bottom Chord: 2x6 Douglas Fir-Larch
Top Chord: 2x4 Spruce-Pine-Fir

WS45 Wood Screw Factored Resistance:
Douglas Fir-Larch: 543 lbs. each at 100%
Spruce-Pine-Fir: 480 lbs. each at 100%

Bottom Chord Wood Screw Spacing:
Using 2 rows of WS45 Wood Screws in 2x6

$$2 \times 543/1000 \times \frac{\text{\# Plies}}{\text{\# Plies - 1}} = 1.63 \text{ ft.}$$

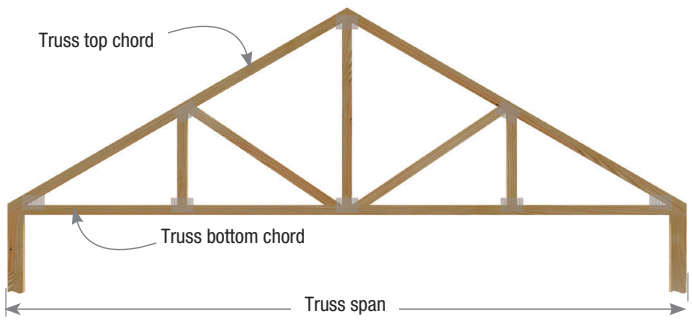
Use maximum spacing of 19"

Top Chord Wood Screw Spacing:
Only 1 row of WS45 Wood Screws in 2x4 member

$$1 \times 480/120 \times \frac{\text{\# Plies}}{\text{\# Plies - 1}} = 6 \text{ ft.}$$

Use maximum spacing of 24"

Required Loads:
Bottom Chord Factored Load: 1,000 plf
Top Chord Factored Load: 120 plf



Typical Truss Profile (profile may vary)

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WS Hex Head Exterior Structural Wood Screws

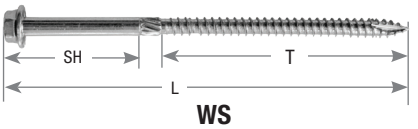
The MiTek Hex Head is the ideal screw for numerous framing applications. It can be used in wood-to-wood and steel-to-wood applications.



Features and Benefits:
- 1/4" diameter
- No predrilling
- Type 17 point reduces installation torque and splitting
- 3/8" hex drive
- Length identification stamps on all WS heads

Materials: 1/4" diameter Grade 5 steel
Finish: Exterior Coat

Installation:
- Screws are self-drilling.
- Install using a low speed clutch drill with 3/8" hex head driver. The washer head should be flat to the surface and the serrations will oppose turning and release the clutch. Do not over-tighten the screws.
- Care should be given to ensure the fastener is installed perpendicular to the plane of the side plate.
- Refer to page 27 for Attaching Deck Ledger to Rim Board Application.



WS
(Exterior Coat finish)



Specification Table

Size				Dimensions (in)					D Fir-L Factored Resistance[2,3]							S-P-F Factored Resistance[2,3]						
									Shear 100%							Shear 100%						
									Wood-to-Wood[5,7]		Steel to Wood[4]					Wood-to-Wood[5,7]		Steel to Wood[4]				
											Gauge							Gauge				
in	mm	MiTek Stock No.	Ref. No.	L	SH	T	Finish[1]	Unit	1-1/2" Side	1-3/4" Side	14	10	7	3	With-drawal[5,6]	1-1/2" Side	1-3/4" Side	14	10	7	3	With-drawal[5,6]
1/4 x 1-1/2	6.1 x 38	WS15-EXT	SDS25112	1-1/2	1/4	1-1/4	EXT	Lbs	--	--	358	496	660	807	326	--	--	332	471	635	692	248
								kN	--	--	1.59	2.21	2.93	3.59	1.45	--	--	1.48	2.09	2.83	3.08	1.10
1/4 x 3	6.1 x 76.2	WS3-EXT	SDS25300	3	3/4	2	EXT	Lbs	387	387	552	690	853	1033	521	332	332	498	637	801	900	396
								kN	1.72	1.72	2.46	3.07	3.80	4.60	2.32	1.48	1.48	2.21	2.83	3.56	4.00	1.76
1/4 x 4-1/2	6.1 x 114.3	WS45-EXT	SDS25412	4-1/2	1-1/4	3	EXT	Lbs	542	575	680	825	997	1033	781	480	498	618	763	890	900	595
								kN	2.41	2.56	3.02	3.67	4.44	4.60	3.47	2.14	2.22	2.75	3.40	3.96	4.00	2.65
1/4 x 5	6.1 x 127	WS5-EXT	SDS25500	5	1-3/4	3	EXT	Lbs	542	575	680	825	997	1033	781	480	508	618	763	890	900	595
								kN	2.41	2.56	3.02	3.67	4.44	4.60	3.47	2.14	2.26	2.75	3.40	3.96	4.00	2.65
1/4 x 6	6.1 x 152.4	WS6-EXT	SDS25600	6	1-3/4	4	EXT	Lbs	542	575	680	825	997	1033	1042	480	508	618	763	890	900	793
								kN	2.41	2.56	3.02	3.67	4.44	4.60	4.64	2.14	2.26	2.75	3.40	3.96	4.00	3.53
1/4 x 8	6.1 x 203.2	WS8-EXT	SDS25800	8	4-3/4	3	EXT	Lbs	542	575	680	825	997	1033	781	480	508	618	763	890	900	595
								kN	2.41	2.56	3.02	3.67	4.44	4.60	3.47	2.14	2.26	2.75	3.40	3.96	4.00	2.65

1) EXT = Exterior Coat.
2) Factored Resistance values determined in accordance with CSA 086:19 Clause 12.11; apply modification factors K_D, K_{SF} and K_T where applicable.
3) Factored resistances assume full screw penetration into the main member.
4) Factored shear resistances for steel-to-wood connections assume a side plate tensile strength of 45 ksi (310 MPa) for 14 gauge and 10 gauge, 52 ksi (359 MPa) for 7 gauge, and 58 ksi (400 MPa) for 3 gauge.
5) Factored basic withdrawal resistance is 260-lb per inch (45.6 N/mm) of the threaded shank penetrated into a D Fir-L main member, and 198-lb per inch (34.7 N/mm) into a S-P-F main member.
6) Factored withdrawal resistances for steel-to-wood connections assume a side plate thickness of 1/4" or less. Tabulated values assume full thread penetration into the main member.
7) Factored withdrawal resistances for wood-to-wood connections may be limited by the factored head pull-through resistance of 223-lb (991 N) for 1-1/2" thick wood side members, or 260-lb (1156 N) for 1-3/4" thick wood side members.

Packaging Table

Use	Size (in)	Retail Box Offering		Mini Bulk Offering	
		MiTek Stock No.	Box/Ctn Qty	MiTek Stock No.	Box/Ctn Qty
Exterior for Deck Ledgers & other wood-to-wood connections	1/4 x 1-1/2	WS15-EXTR25CAN	10-pack/25-ea	--	--
	1/4 x 3	WS3-EXTR25CAN	10-pack/25-ea	WS3-EXTMBCAN	200-ea
	1/4 x 4-1/2	WS45-EXTR12CAN	10-pack/12-ea	WS45-EXTMBCAN	200-ea
	1/4 x 5	WS5-EXTR12CAN	10-pack/12-ea	WS5-EXTMBCAN	200-ea
	1/4 x 6	WS6-EXTR12CAN	10-pack/12-ea	WS6-EXTMBCAN	200-ea
	1/4 x 8	WS8-EXTR12CAN	10-pack/12-ea	WS8-EXTMBCAN	200-ea

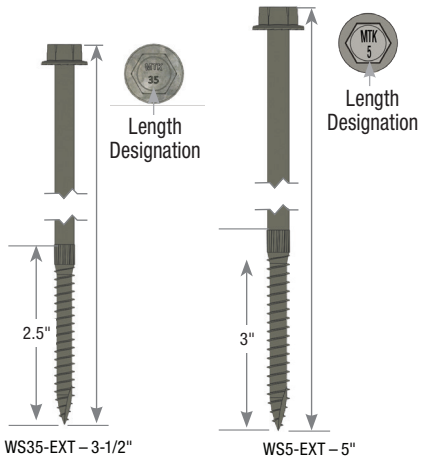
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Attaching Deck Ledger to Rim Board Application

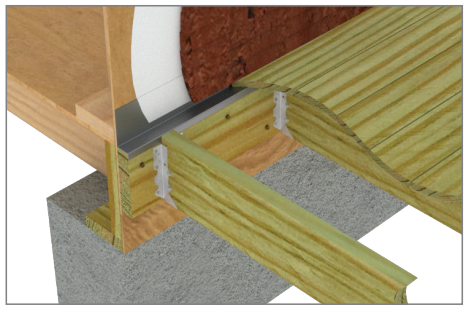
The MiTek WS series wood screws can be used to fasten deck ledgers to the rim board (AKA band / rim joist) of structures in residential constructions. The most common lengths for the deck ledger application are the WS35-EXT and the WS5-EXT which are 3.5" and 5" long, respectively. Order WS screws with the "-EXT" suffix to ensure you are receiving screws with the Exterior Coat Finish.

Installation:

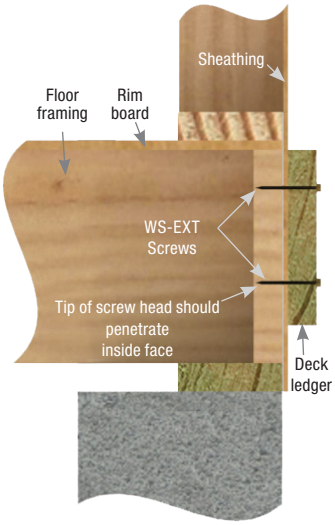
- Select the proper WS-EXT screw length. The threads should have full engagement with the rim board and the tip of the screw should be protruding and visible beyond the inside face of the rim board member.
- With appropriate screw length selected, drive the screw through the ledger, sheathing, and rim board joist with a high torque variable speed drill.
- Drive screw so head is firm and flush with surface of deck ledger, but do not overdrive.
- Repeat these steps and install the appropriate number of screws at the prescribed edge, end distances, and spacing as called out in Figure 1.



Head markings for identification



Perspective view



Section view

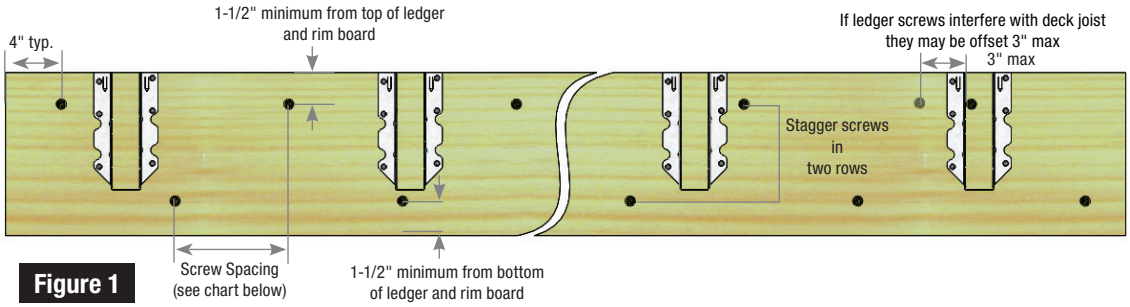


Figure 1

MiTek Stock No.	Live Load	Ledger	Rim Board	Spacing between WS-EXT Screws based on Joist Span (in)						
				≤ 6-ft	≤ 8-ft	≤ 10-ft	≤ 12-ft	≤ 14-ft	≤ 16-ft	≤ 18-ft
WS35-EXT WS5-EXT	40 psf	2x Solid Sawn	2x Solid Sawn	21	16	12	10	9	8	7
			1" Min EWP	23	17	14	11	10	8	7
	60 psf	2x Solid Sawn	2x Solid Sawn	15	11	9	7	6	5	5
			1" Min EWP	16	12	10	8	7	6	5

1) Screw spacing based on Deck Dead Load = 10 psf.
2) Screw spacing based on WS35-EXT or WS5-EXT screws. WS6-EXT screws may be used with no adjustment to the spacing depicted.
3) Multiple ledger plies should be fastened together to act as one unit independent of the WS ledger attachment screws.
4) Solid sawn ledger and rim board shall be Spruce-Pine-Fir (S-P-F) or other wood species with a specific gravity of 0.42 or greater.
5) EWP rim board shall be minimum 1" thick with a minimum specific gravity of 0.50.

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MIFLK Exterior Structural Wood Screws

MIFLK FlatLOK is a multi-purpose structural wood screw that can be used for fastening multi-ply SCL, dimensional beams and girder trusses. The low-profile flat head allows for easy attachment of finishing materials such as drywall.

The FlatLOK screw has a shank diameter of 0.227" and is stamped with head mark for easy length identification. The proprietary coating provides protection that exceeds the protection provided by HDG coatings conforming to ASTM A153. FlatLOK may be used for interior and exterior applications and in pressure treated (ACQ) wood.

The FlatLOK wood screw features a ttap®* drive system that maximizes bit fit, reducing the potential for stripping. The stability button allows for maximum penetration into the fastener and a wobble-free drive. A free ttap®* bit is included in every box.



Materials: Heat-treated carbon steel
Finish: Proprietary coating

Installation:

- Using an impact driver or high torque 1/2" variable speed drill, bring fastener flush with wood surface. Do not overdrive. No pre-drilling required when properly installed.
- Screws may be installed through metal truss connector plates as approved by the Truss Designer. (Pre-drilling required through the plate using a maximum 5/32" bit.)
- For attaching Multi-Ply Truss Girders or Engineered Wood Beams, refer to pages 29-30.

Typical Application	Product Code	Ref. No.	Screw Length (in)	Thread Length (in)	SCL Factored Shear Resistance[1,2,3,4] Wood-to-Wood		D Fir-L Factored Shear Resistance[1,2,3,4] Wood-to-Wood		S-P-F Factored Shear Resistance[1,2,3,4] Wood-to-Wood	
					Lbs	kN	Lbs	kN	Lbs	kN
1-3/4" SCL Ply-to-Ply Connection[5]										
2-Ply SCL beams	MIFLK312	SDW22338	3-1/2	2	385	1.71	--	--	--	--
3-Ply SCL beams	MIFLK005	SDW22500	5	2	520	2.31	--	--	--	--
4-Ply SCL beams	MIFLK634	SDW22634	6-3/4	2	520	2.31	--	--	--	--
2x_ Truss Ply-to-Ply Connection[6]										
2-Ply Dimensional Lumber	MIFLK278	SDW22300	2-7/8	1-3/4	--	--	295	1.31	255	1.13
3-Ply Dimensional Lumber	MIFLK412	SDW22458	4-1/2	2	--	--	485	2.16	425	1.89
4-Ply Dimensional Lumber	MIFLK006	SDW22600	6	2	--	--	485	2.16	425	1.89
Ledger to Wall Stud[7]										
Interior Corridor Ledgers	MIFLK004	--	4	2	--	--	--	--	415	1.85

1) Factored shear resistances determined in accordance with CSA O86:19 Clause 12.11.
2) Factored shear resistances apply to two-member single shear connections where both members are of the same specific gravity. Where the members are of different specific gravities, use the lower of the two.
3) Table values are for standard-term load duration, dry service condition, dry and untreated lumber. Apply K_D, K_{SF} and K_T modification factors where applicable, per CSA O86:19 Clause 12.2.1.7.
4) Table values depicted assume the wood screws installed with the screw heads in the loaded ply and driven perpendicular to grain.
5) Table values are based on SCL with Specific Gravity of 0.50 and member thickness of 1-3/4".
6) Table values are based on member thickness of 1-1/2".
7) Table values are based on side member thickness of 1-1/2" and main member thickness of 2-1/2" or 3-1/2" .

Spacing Requirement Table

Minimum Screw Spacing Requirements	SCL (in)	D Fir-L Dimensional Lumber (in)	S-P-F Dimensional Lumber (in)
Spacing parallel to grain	6	6	5
End distance parallel to grain	6	5	4
Spacing perpendicular to grain	3-1/2	3-1/4	2-1/2
Edge distance perpendicular to grain	1-3/4	1-3/4	1-1/4

1) When fastening is done in multiple rows, the rows must be staggered from each other by 1".
2) Screws installed into the narrow face (edge-wise) of the 2x_ dimensional lumber must be installed along the center line of the member in one (1) row only.

New products or updated product information are designated in blue font.

Packaging Table

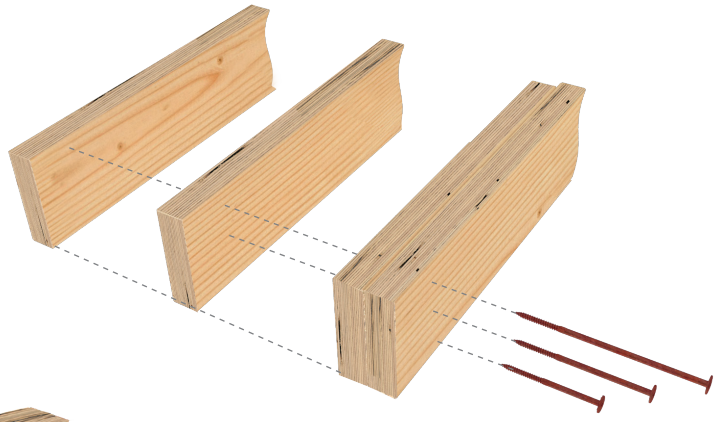
Product Code	Head Marking	Screw Length (in)	Thread Length (in)	Retail Box Offering Order No.	Retail Box Offering Box/Ctn Qty	Mini Bulk Offering Order No.	Mini Bulk Offering Box Qty
MIFLK278	F2.9FL	2-7/8	1-3/4	MIFLK278-B	6 Boxes/40 EA	MIFLK278-C	500
MIFLK312	F3.5FL	3-1/2	2	MIFLK312-B	6 Boxes/40 EA	MIFLK312-C	300
MIFLK004	F4.0FL	4	2	MIFLK004-B	6 Boxes/40 EA	MIFLK004-C	300
MIFLK412	F4.5FL	4-1/2	2	MIFLK412-B	6 Boxes/40 EA	MIFLK412-C	300
MIFLK005	F5.0FL	5	2	MIFLK005-B	6 Boxes/40 EA	MIFLK005-C	300
MIFLK006	F6.09FL	6	2	MIFLK006-B	6 Boxes/40 EA	MIFLK006-C	300
MIFLK634	F6.75FL	6-3/4	2	MIFLK634-B	6 Boxes/40 EA	MIFLK634-C	300

*ttap® is a registered trademark of Infast AS

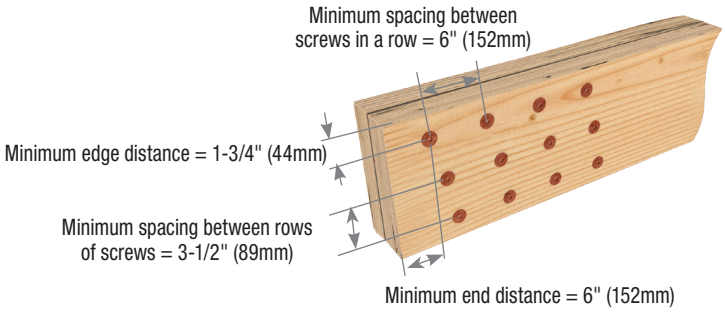
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MIFLK Exterior Structural Wood Screw Application – Joining 2, 3, or 4 Ply LVL members

The MIFLK FlatLOK structural wood screw has been designed for use in joining multiple-ply structural wood beams. Using an impact driver, standard corded or cordless 1/2" low speed /high torque drill, install screws into the side of the outermost ply. As the thread fully engages the final ply, allow the underside of the washer head to pull the plies firmly together.



Minimum Spacing Requirements:

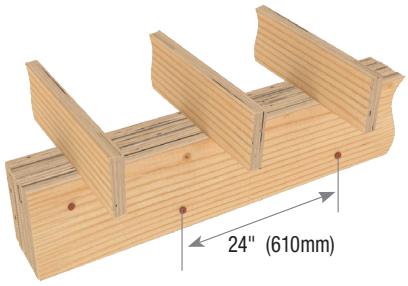




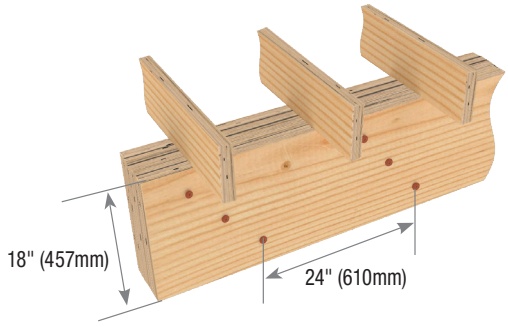
MIFLK

Top Loaded Beams

Where floor joists rest on all plies of the beam measuring less than 18" (457mm), MIFLK screws should be installed in two staggered rows at 24" (610mm) O.C. spacing.



For beam depths of 18" or more, this pattern should be increased to three staggered rows of MIFLK screws every 24" on center.



General Guidelines:

- Beams wider than 7" require special consideration by the design professional. The values on the next page do not apply.
- Excessively warped or curved LVL should never be forced into alignment by use of clamps, screws or bolts as splitting may occur, potentially decreasing the carrying capacity of the beam.
- To avoid damaging the beam, fastener heads must not be countersunk.
- The MIFLK312, MIFLK005, and MIFLK634 are not designed for use with dimensional lumber. Refer to MiTek's Joining Multi-Ply Dimensional Lumber Beams Application information on page 28.
- A qualified designer or engineer should always be consulted for critical assemblies and fastening requirements.

Continued on next page

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MIFLK Exterior Structural Wood Screw Application – Joining 2, 3, or 4 Ply LVL members

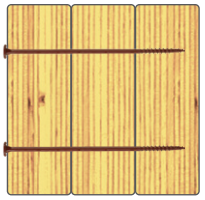
Fastener Size Selection by Assembly Type (2 rows shown)

A



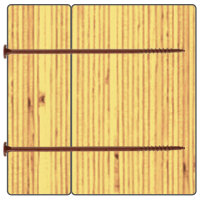
FlatLOK 3-1/2" (89mm)

B



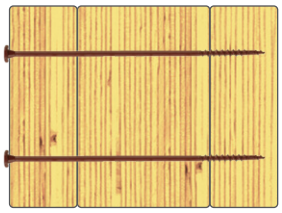
FlatLOK 5" (127mm)

C



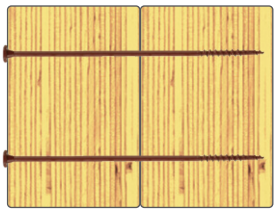
FlatLOK 5" (127mm)

D



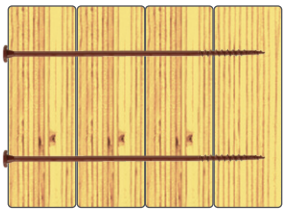
FlatLOK 6-3/4" (171mm)

E



FlatLOK 6-3/4" (171mm)

F



FlatLOK 6-3/4" (171mm)

Side Loaded Beams

Where floor joists are joined to the side of the beam (typically using a joist hanger), this load chart must be used to establish the proper pattern based on the design load as determined by the engineer and noted on the plans.

Length	Product Code	Head Marking	No. of Screws Vertical Column	Spacing between screws in a row		Factored Uniform Load Capacities by Assembly Type (lb/ft)[1,2,3,4,5] EWP Wood Specific Gravity G ≥ 0.50					
				in	mm	A	B	C	D	E	F
3-1/2" (89mm)	MIFLK312	F3.5FL	2	24	610	770	--	--	--	--	--
				19.2	488	960					
				16	406	1160					
			3	24	610	1160	--	--	--	--	--
				19.2	488	1440					
				16	406	1730					
5" (127mm)	MIFLK005	F5.0FL	2	24	610	--	600	780	--	--	--
				19.2	488		750	980			
				16	406		900	1170			
			3	24	610	--	900	1170	--	--	--
				19.2	488		1130	1460			
				16	406		1350	1760			
6-3/4" (171mm)	MIFLK634	F6.75FL	2	24	610	--	--	--	530	1220	530
				19.2	488				670	1530	670
				16	406				800	1830	800
			3	24	610	--	--	--	800	1830	800
				19.2	488				1000	2290	1000
				16	406				1200	2750	1200

1) The factored uniform loads are derived from tested fastener properties as reported in Technical Evaluation Report TER 1501-08. This report can be referenced at FastenMaster.com.
2) A specific gravity of 0.5 was used for all engineered wood (EW) calculations.
3) The uniform loads relate only to the capacity of the fastener to tranfer shear loads between plies. The capacity of the EW bean may be less and should be checked against the manufacturer's literature.
4) Values listed reflect 100% stress level (K_D=1.0). The designer may apply adjustment factors to increase or decrease the loads per CSA 086:19.
5) The values assume that the fasteners are loaded on either the point side or head side.

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The 6" long TimberLOK screw is used to attach wood trusses, sawn lumber rafters or structural composite lumber (SCL) to wood walls. It is a code-compliant way to attach rafters or trusses to a double top plate, offers an alternative to toe-nail connections, metal hurricane and seismic clips/straps, or nails in uplift and/or lateral resistance applications.

The TimberLOK screw has a shank diameter of 0.189", and is approved for use in interior and exterior conditions, and in ACQ pressure treated lumber.

There is no need to pre-drill with TimberLOK. Its sharp point and aggressive threads zip right in to the densest woods. It can be installed from inside the structure and after sheathing is applied. A free bit is included in every box.



Materials: Heat-treated carbon steel
Finish: Proprietary coating

Installation:

- Install using a high torque 1/2" variable speed drill.
- Where the truss/rafter is aligned directly over the wall stud, insert fastener point between the bottom of the top plate and the top of the stud.
- Where the truss/rafter is located between two studs, insert fastener point on bottom face of the top plate no greater than ½" from the inside edge of the plate.
- Drive one (1) 6" long TimberLOK screw upward through the underside of the double top plate at an angle 22.5°±5° (i.e., ½ of 45°, from vertical) into the centre of the truss bottom chord/ rafter edge. Ensure the entire threaded portion is fully embedded into the truss chord/rafter. Bring the fastener head flush with the wood surface.
- Truss chord/rafter shall be a minimum of 1-1/2" edge width.
- Always refer to project-specific uplift and lateral load requirements. Consult a design professional as needed for complex design conditions.

Product Code	Ref No.	Screw Length (in)	Thread Length (in)	Unit	D Fir-L Factored Resistance[1,2,3,6]		S-P-F Factored Resistance[1,2,3,6]	
					Uplift[4]	Lateral[5]	Uplift[4]	Lateral[5]
MITMBLK06	--	6	2	Lbs	907	313	714	296
				kN	4.03	1.39	3.18	1.32

1) Table values apply to truss or rafter to double top plate tie-down connections. Side member thickness = 3.0".
2) Factored resistances have been increased 15% for short term loads such as wind and earthquake; no further increase allowed.
3) Table values depicted assume dry service condition and fasteners installed in untreated lumber.
4) Factored uplift resistance is based on the fastener installed at 22-1/2° to vertical.
5) Factored lateral resistance is based on loading perpendicular to grain.
6) Where a fastener is subjected to uplift and lateral loads simultaneously, apply interaction equation to evaluate the resistance of the connection. Consult a design professional as needed.

Packaging Table

Use	Product Code	Retail Box Offering		Mini Bulk Offering	
		Order No.	Box/Ctn Qty	Order No.	Box Qty
Truss/Rafter to Double Top Plate	MITMBLK06	MITMBLK06-B	6 Boxes/40 EA	MITMBLK06-C	300

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LL LumberLok Exterior Structural Connector Screws

The LumberLok Exterior Structural Connector Screw is a self-drilling screw that can be used with a number of MiTek and also for wood-to-wood applications. The screws feature a T20* drive head with integral washer and gimlet point for ease of installation. The twin-lead threads drive in twice as fast as the single lead threads significantly reducing installation time. The MiTek head stamp identifies the screw length for easy inspection.

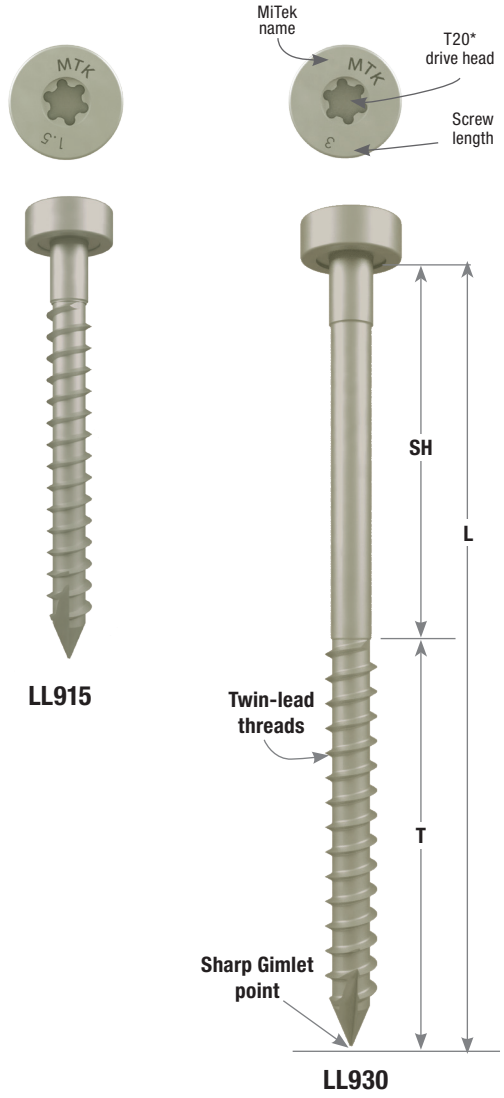
LumberLok screws are specially made with Gold Coat (GC) finish. Gold Coat is a proprietary multi-layer protection system. It is comprised of a top coat barrier layer and a galvanized layer placed over a steel substrate. GC finish provides enhance protection and may be used where HDG or Exterior Coat fasteners are required.

LumberLok screws have a thread diameter of 0.170" (4.3 mm). The LL915 screw has an unthreaded shank diameter of 0.170" (4.3 mm). LL930 is partially threaded with a stepped smooth shank having diameters of 0.170" (4.3 mm) and 0.145" (3.7 mm). MiTek LumberLok Structural Connector Screws have a bending yield strength of 170,000 psi.

Materials: Low carbon hardened steel
Finish: Gold Coat

Installation:

- Screws are self-drilling.
- Install using a low speed clutch drill with T20* drive (not included). The washer head should be flat to the surface. Do not over-tighten the screws.
- Installing the screw at an angle may introduce additional bending and tension forces into the fastener if the screw head is not flat to the bearing surface. Care should be given to ensure the fastener is installed perpendicular to the plane of the fastener hole.
- **Impact drills are not recommended for use with LumberLok Screws**
- Reference page 33 for MiTek connectors compatible with LumberLok structural exterior screws.



Size	MiTek Stock No.	Ref. No.	Dimensions (in.) L	SH	T	Finish[1]	Unit	D Fir-L Factored Resistance (100%)[2,3] Wood to Wood Shear[6]	Steel to Wood Shear[4] 18 Ga	16 Ga	Withdrawal[5]	S-P-F Factored Resistance (100%)[2,3] Wood to Wood Shear[6]	Steel to Wood Shear[4] 18 Ga	16 Ga	Withdrawal[5]
#9 x 1-3/8	LL915	SD9112	1-3/8	1/4	1-1/8	GC	Lbs	--	199	218	214	--	181	200	163
							kN	--	0.89	0.97	0.95	--	0.81	0.89	0.73
#9 x 2-7/8	LL930	SD9212	2-7/8	1-3/8	1-1/2	GC	Lbs	228	321	340	285	196	291	310	217
							kN	1.01	1.43	1.51	1.27	0.87	1.29	1.38	0.97

1) GC = Gold Coat over Clear Zinc Trivalent.
2) Factored Resistance values determined in accordance with CSA O86:19 Clause 12.11; apply modification factors K_D, K_{SF} and K_T where applicable.
3) Factored resistances assume full screw penetration into the main member.
4) Factored shear resistances for steel-to-wood connections assume a side plate tensile strength of 45 ksi (310 MPa).
5) Factored withdrawal resistances for steel-to-wood connections assume a side plate thickness of 1/4" or less.
6) Factored shear resistances for wood-to-wood connections assume a wood side member thickness of 1-1/2".
New products or updated product information are designated in blue font.

Packaging Table

Use	Size (in)	Retail Box Offering MiTek Stock No.	Box/Ctn Qty
Exterior for Deck & other wood-to-wood connections	#9 x 1-3/8"	LL915R50	50-pack/24-ea
	#9 x 2-7/8"	LL930R50	50-pack/24-ea

* T20 is a trademark of Acument

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Common Deck Connectors that are Compatible with LumberLok Structural Connector Screws

This is not a complete list of MiTek connectors that are compatible with LumberLok Structural Connector Screws. Most connectors that are installed with nails can also be installed with LumberLok Structural Connector Screws. For the connectors shown below, the catalog allowable design values will not change when installed with MiTek's LumberLok Structural Connector Screws shown.



LL915



LL930



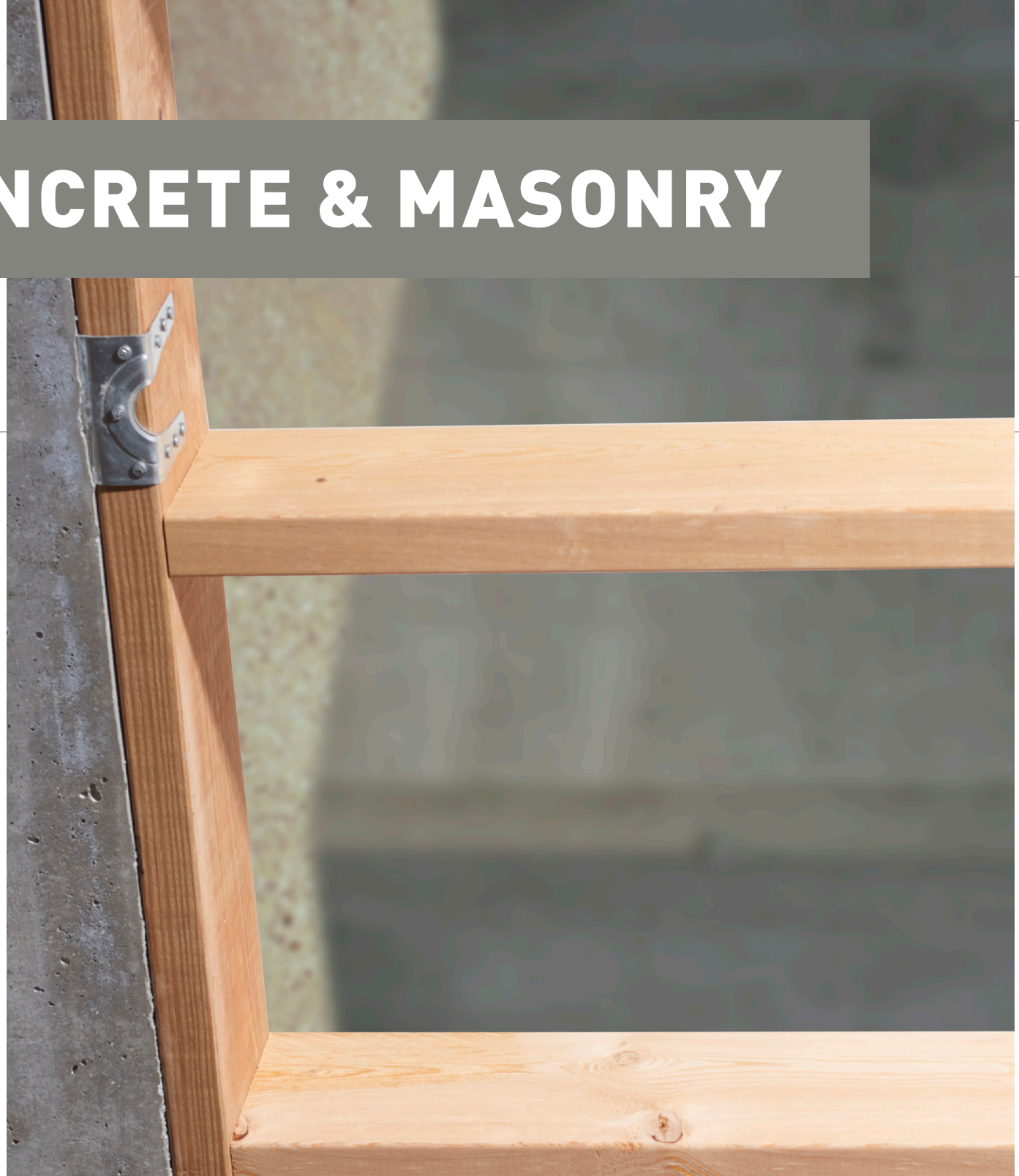
MiTek Stock No.	LumberLok Screw LL915 Qty	LumberLok Screw LL930 Qty
Angles / Framing Plates		
AC5-TZ	--	6
AC7-TZ	--	8
AC9-TZ	--	10
MPA1-TZ	12	--
MP34-TZ	8	--
MP4F-TZ	12	--
MP3-TZ	--	6
MP5-TZ	--	8
MP7-TZ	--	10
MP9-TZ	--	12
SDPT5-TZ	5	--
SDPT7-TZ	5	--
Hangers		
ADTT-TZ	10	--
CSH-TZ	10	--
JUS24-TZ	--	6
JUS24-2TZ	--	6
JUS26-TZ	--	8
JUS26-2TZ	--	8
JUS28-TZ	--	10

MiTek Stock No.	LumberLok Screw LL915 Qty	LumberLok Screw LL930 Qty
Hangers		
JUS28-2TZ	--	10
JUS28-3TZ	--	10
JUS210-TZ	--	12
JUS210-2TZ	--	14
JUS210-3TZ	--	14
JUS44-TZ	--	6
JUS46-TZ	--	8
JUS48-TZ	--	10
JUS410-TZ	--	14
SKH26L/R-TZ	6	6
SKH28L/R-TZ	8	10
SKH210L/R-TZ	10	14
SKH210L/R-2TZ	--	24
Column / Post Caps		
PB44-6TZ	--	16
PB66-6TZ	--	16
PBES44-TZ	--	16
PBES66-TZ	--	16
PA44E-TZ	--	6
PA44-TZ	--	8

MiTek Stock No.	LumberLok Screw LL915 Qty	LumberLok Screw LL930 Qty
Column / Post Bases		
PAU44-TZ	--	12
PA46E-TZ	--	8
PA46-TZ	--	14
PAU46-TZ	--	12
PA66E-TZ	--	8
PA66-TZ	--	16
PAU66-TZ	--	12
PAU88-TZ	--	14
Hurricane Ties		
RT3A-TZ	8	--
RT4-TZ	8	--
RT5-TZ	8	--
RT7-TZ	10	--
RT7A-TZ	10	--
RT8A-TZ	10	--
RT15-TZ	10	--
RT16A-TZ	9	8
RT16-2TZ	16	--

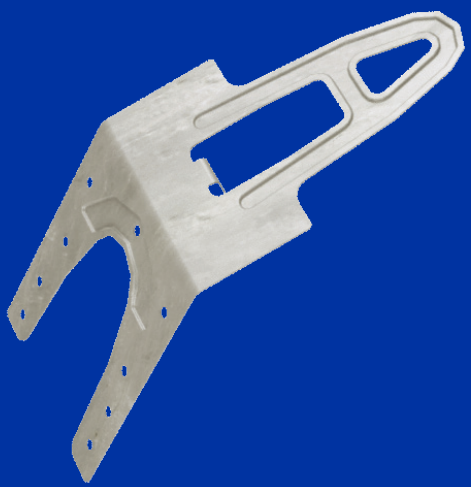
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CONCRETE & MASONRY



MiTek®

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EPOXY QUANTITY ESTIMATOR

Estimate how much epoxy your job needs. Quickly calculate the number of required cartridges using the Epoxy Quantity Estimator. Run our web application on your desktop, smart phone or tablet. The Estimator works with threaded rods or rebar. Enter the quantity, rod diameter and drilled hole depth, choose the epoxy type and the required number of cartridges is displayed. **Mitek.ca/products/Builder-Products/Anchoring-Epoxy/.**

CIA-GEL 7000-C Epoxy

CIA-GEL 7000-C Epoxy is an adhesive designed to attach anchor rods into concrete that is, or may become, cracked due to cyclic loading from wind or earthquakes. It is a low odor, solvent free, non-shrink, non-sag adhesive. The two-component (resin and hardener) epoxy is supplied in equal volume cartridges, which are combined in a 1:1 ratio when dispensed through the attached mixing nozzle. Either a manual or powered dispenser may be used. The cartridges are sealed with a D-plug which opens easily on the job-site and allows partially used cartridges to be saved for later use. The epoxy has a two year shelf life when stored in unopened containers at temperatures between 10ºC / 50°F and 25ºC/ 77°F.

Applications:

- Anchors threaded rod or deformed rebar into cracked or uncracked concrete
- Anchoring All Thread Rod for holdowns into concrete for high seismic zones ($I_E F_a S_a(0.2) \geq 0.35$)
- Horizontal and overhead anchoring applications (requires special inspection)



Available Sizes:
8.5 oz. – GEL7C-10CAN
20.3 oz. – GEL7C-22CAN



MiTek Adhesive Anchor Design is powerful design software for CIA-GEL 7000-C that provides optimized epoxy connection solutions for threaded anchors post-installed into concrete. The software determines the required anchor rod steel grade, diameter and effective embedment depth based on applied factored tension, shear and moment loads. Get the free download at **Mitek.ca/software/Adhesive-Anchor-Design/.**

Continued on next page

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CIA-EA Epoxy Acrylate

CIA-EA Adhesive Anchoring System is an epoxy acrylate specifically designed to be a high strength, fast cure structural adhesive for anchoring threaded rod and deformed rebar into uncracked concrete. It has the added advantage of being formulated to be used in colder temperatures 0°C / 32°F while maintaining excellent flowability. CIA-EA may also be used with fully grouted CMU and reinforced brick construction. It is a 2-component, 100% solids, moisture insensitive adhesive that is ideally suited for a wide range of applications. It is composed of a proprietary blend of solvent free epoxy acrylate resin and is backed by independent research and testing. The epoxy has a 15 month shelf life when stored in unopened containers at temperatures between 5°C / 41°F to 25°C / 77°F.

Applications:

- Anchors All-Thread rod into concrete
- May also be used to anchor rebar, starter bars and dowels
- Applications requiring fast cure times
- Cold weather applications
- Can be used in horizontal anchoring applications
- Can be used in overhead anchoring applications (requires special inspection)



Available Sizes:
9.4 oz. – EA-10CAN

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MiTek's FWAN-TZ Foundation Wall Anchor is designed to transfer in-plane and out-of-plane foundation wall loads imposed by soil through the joist/blocking into the floor diaphragm. The unique design allows for installations that straddle the joist/blocking eliminating bending stresses in the rim board that result from offset installations.

The FWAN-TZ offers two methods of installation:

1. Centered Installation

- Compatible with joist/blocking up to 3-1/2" wide
- Highest load capacities for transfer of out-of-plane loads into floor framing
- Rim board splices allowed anywhere along the wall

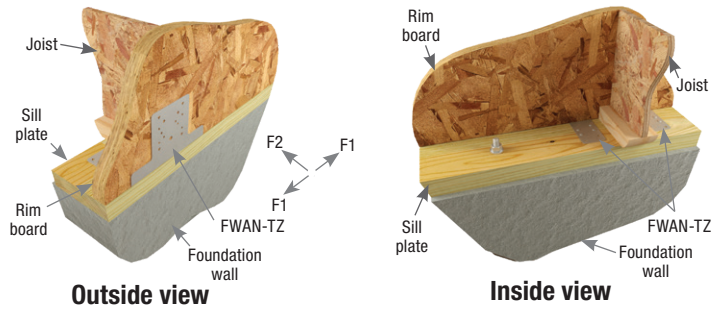
2. Offset Installation

- Installs in the space between the joists/blocking
- Out-of-plane loads are transferred thru the rim board into the floor framing
- Offsets up to 4"

Materials: 16 gauge
Finish: G-185 galvanizing

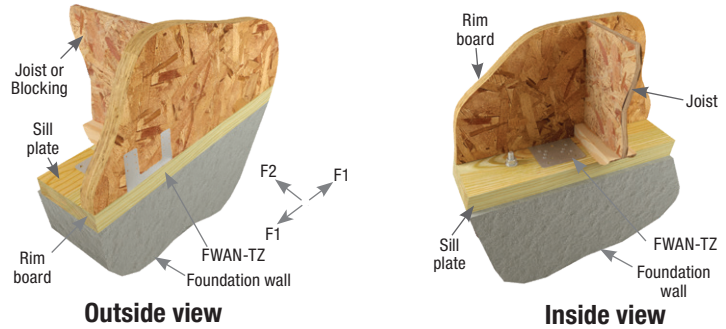
Installation:

- **Centered Installation** - Fill only triangle holes when nailing to the rim board.
- **Offset Installation -** Fill only diamond holes when nailing to the rim board.
- FWAN-TZ must be installed tight to the outside face of the rim board.
- Minimum sill plate thickness is 1-1/2".
- Offset Installations require that the FWAN-TZ be installed within 4" of the joist/blocking.
- For Offset Installations, install with two narrow tabs against rim board. Splices in the rim board are not permitted in the space between the joist/blocking where the FWAN-TZ is installed.
- The designer must specify the anchor bolt size, spacing and embedment necessary to transfer the foundation loads into the sill plate. Stresses in the sill plate must be considered when determining the maximum spacing of the anchor bolts.



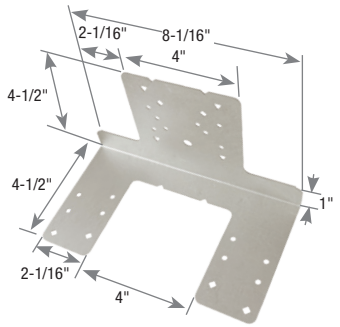
Centered Installation

Typical FWAN-TZ centered on joist/blocking



Offset Installation

Typical FWAN-TZ offset max 4" from joist/blocking



FWAN-TZ

Continued on next page

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MiTek Stock No.	Ref. No.	Sill Plate	Fastener Schedule[5]			Rim Board Material	D Fir-L Factored Resistance[1]				S-P-F Factored Resistance[1]				Corrosion Finish
			Sill Plate Qty	Rim Board Qty	Type		F1 (115%)[2]		F2 (115%)[3]		F1 (115%)[2]		F2 (115%)[3]		
							Lbs	kN	Lbs	kN	Lbs	kN	Lbs	kN	
FWAN-TZ	FWANZ	**Centered on Joist/Blocking**													
		2x4, 2-2x4, 3x4, 4x4	8	4	10d x 1-1/2	1-1/8" OSB	800	3.56	2065	9.19	745	3.31	1925	8.56	
						2x Rim	1005	4.47	2545	11.32	935	4.16	2375	10.56	
						1-3/4" LVL	1005	4.47	2545	11.32	935	4.16	2375	10.56	
		2x6, 2-2x6, 3x6, 4x6	12	4	10d x 1-1/2	1-1/8" OSB	800	3.56	2770	12.32	745	3.31	2585	11.50	
						2x Rim	1005	4.47	3140	13.97	935	4.16	2930	13.03	
						1-3/4" LVL	1005	4.47	3140	13.97	935	4.16	2930	13.03	
		Offset from Joist Blocking (Max Offset 4")													
		2x4, 2-2x4, 3x4, 4x4	8	4	10d x 1-1/2	1-1/8" OSB	800	3.56	955	4.25	745	3.31	890	3.96	
						2x Rim	1005	4.47	1855	8.25	935	4.16	1725	7.67	
						1-3/4" LVL	1005	4.47	1855	8.25	935	4.16	1725	7.67	
		2x6, 2-2x6, 3x6, 4x6	12	4	10d x 1-1/2	1-1/8" OSB	800	3.56	955	4.25	745	3.31	890	3.96	
						2x Rim	1005	4.47	1855	8.25	935	4.16	1725	7.67	
						1-3/4" LVL	1005	4.47	1855	8.25	935	4.16	1725	7.67	

1) Factored Resistance has been increased by 15% for wind and earthquake; no further increase allowed.
2) F1 loads are parallel to the sill plate.
3) F2 loads are perpendicular toward the sill plate.
4) The designer must specify the type, size and spacing of fasteners connecting the sill plate to the foundation wall.
5) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long.

Corrosion Finish Key Stainless Steel HDG Triple Zinc

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FA3 Foundation Anchor

For installation into concrete slabs. The FA3 features a split flange for nailing to both mudsill and stud for greater framing versatility.

Materials: 16 gauge

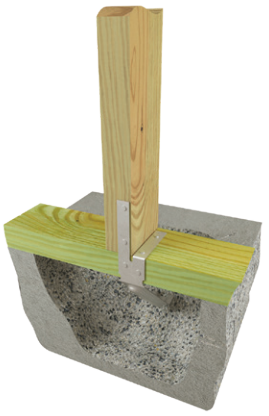
Finish: G90 galvanizing

Options: See chart for Corrosion Finish Options

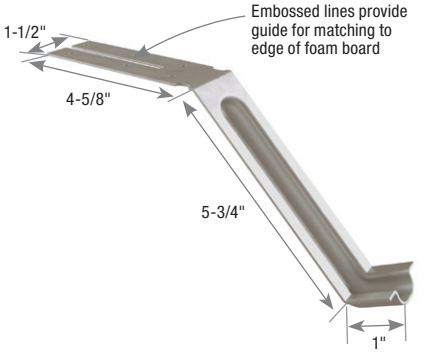
Codes: Load values are derived from data submitted to various North American building code evaluators.

Installation:

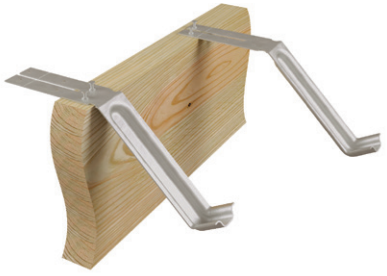
- Use all specified fasteners. See Product Notes, page 16.
- Use a minimum of two anchors per mudsill. An anchor should always be within 12" of the end of each mudsill section.
- Do not rely on these anchors to secure concrete sections together between cold joints.
- Insert into wet concrete (minimum strength of 2,500 psi). Place mudsill after concrete cures. Secure flanges to sill (and stud, if applicable), bending flanges as needed to achieve a tight fit. Fasten as directed in chart.
- Do not use in red clay brick.



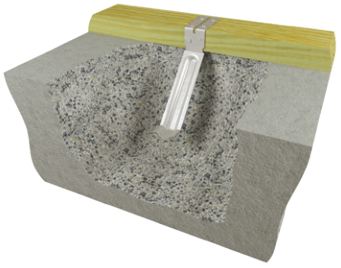
Typical FA3 installation to mudsill and stud



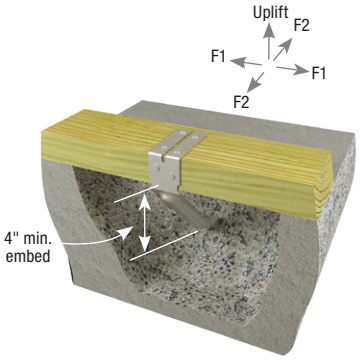
FA3



Typical FA3 form board installation



Alternate FA3 installation



Typical FA3 installation in concrete

MiTek Stock No.	Ref. No.	GA	Fastener Schedule[1,7] Sill Plate Side Qty	Sill Plate Top Qty	Stud Qty	Type	Concrete Condition[6]	Unit	D Fir-L Factored Resistance[2,3,4,5] $I_E F_a S_a(0.2) < 0.35$ Uplift 115%	F1 115%	F2 115%	D Fir-L $I_E F_a S_a(0.2) \geq 0.35$ Uplift 115%	F1 115%	F2 115%	S-P-F Factored Resistance[2,3,4,5] $I_E F_a S_a(0.2) < 0.35$ Uplift 115%	F1 115%	F2 115%	S-P-F $I_E F_a S_a(0.2) \geq 0.35$ Uplift 115%	F1 115%	F2 115%	Corrosion Finish
FA3 Mudsill Only	--	16	2	4	--	10d x 1-1/2	Uncracked	Lbs	1045	645	760	1045	645	760	900	555	655	900	555	655	
								kN	4.65	2.87	3.38	4.65	2.87	3.38	4.00	2.47	2.91	4.00	2.47	2.91	
							Cracked	Lbs	1020	565	760	875	485	670	875	485	655	755	415	575	
								kN	4.54	2.51	3.38	3.89	2.16	2.98	3.89	2.16	2.91	3.36	1.85	2.56	
FA3 Mudsill & Stud			2	2	2	10d x 1-1/2	Uncracked	Lbs	780	635	480	780	635	480	670	545	415	670	545	415	
								kN	3.47	2.82	2.14	3.47	2.82	2.14	2.98	2.42	1.85	2.98	2.42	1.85	
							Cracked	Lbs	780	565	480	780	485	480	670	485	415	670	415	415	
								kN	3.47	2.51	2.14	3.47	2.16	2.14	2.98	2.16	1.85	2.98	1.85	1.85	

1) Predrilled holes are not required.
2) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; no further increase is allowed.
3) FA3 capacities are based on using a single-ply 2x sill plate.
4) Factored resistances are based on a minimum stemwall thickness of 6".
5) Minimum anchor spacing for full capacity is 8". For spacing less than that reduce capacity proportionally.
6) Minimum concrete strength f'c = 2,500 psi
7) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long.

Corrosion Finish Key
- Stainless Steel
- HDG
- Triple Zinc

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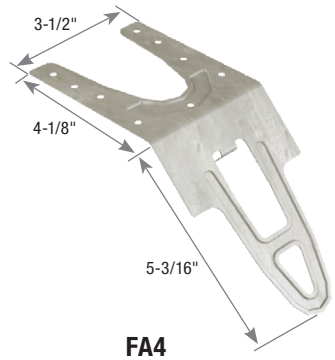
FA4 Foundation Anchor

FA4 foundation anchors can be installed as a replacement for the 5/8" diameter anchor bolts or also the commonly used 1/2" diameter anchor bolts while achieving the same load carrying capacity.

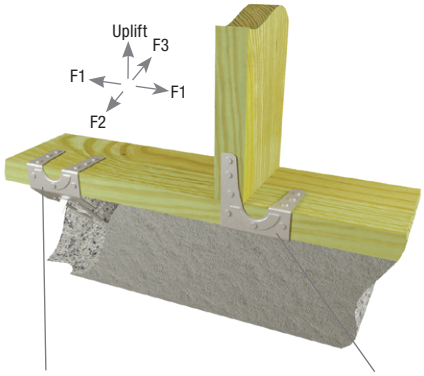
Materials: 16 gauge
Finish: G90 galvanizing
Options: See chart for Corrosion Finish Options

Installation:

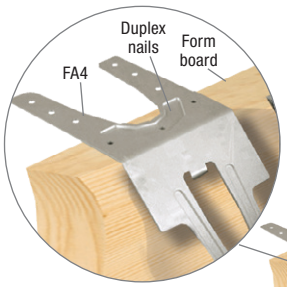
- The FA4 can be mounted to the form board before placing the concrete or inserted into the wet concrete after it is poured. See **Detail A** installation.
- Place the mudsill in position after the concrete cures. Secure the FA4 to the mudsill (and stud, if applicable) by bending the flanges as needed for a tight fit and nailing into place with the size and quantity of fasteners specified in the chart.



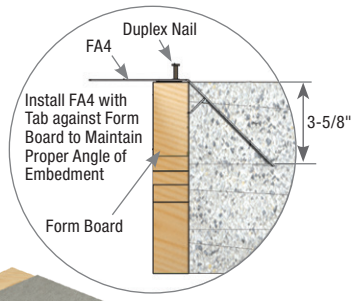
FA4



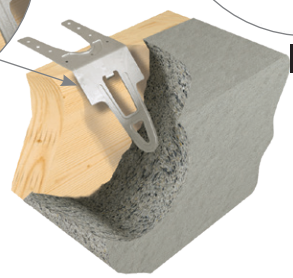
Typical FA4 Mudsill only installation



Detail A



Detail B



Typical FA4 Mudsill & Stud installation

Typical FA4 form board installation

MiTek Stock No.	Ref. No.	GA	Fastener Schedule[6] Sill Plate[4] Side Qty	Top Qty	Stud Qty	Type	Concrete[3]	Unit	D Fir-L Factored Resistance[1,2,5] Wind and $I_E F_a S_a(0.2) < 0.35$ Uplift 115%	F1 115%	F2 115%	F3 115%	D Fir-L Factored Resistance[1,2,5] $I_E F_a S_a(0.2) \geq 0.35$ Uplift 115%	F1 115%	F2 115%	F3 115%	S-P-F Factored Resistance[1,2,5] Wind and $I_E F_a S_a(0.2) < 0.35$ Uplift 115%	F1 115%	F2 115%	F3 115%	S-P-F Factored Resistance[1,2,5] $I_E F_a S_a(0.2) \geq 0.35$ Uplift 115%	F1 115%	F2 115%	F3 115%	Corrosion Finish
FA4 Mudsill Only	MASA	16	3	6	--	10d x 1-1/2	Uncracked	Lbs	1615	2265	1825	990	1395	2035	1395	990	1450	2030	1635	885	1395	2030	1395	885	
								kN	7.18	10.08	8.12	4.40	6.21	9.05	6.21	4.40	6.45	9.03	7.27	3.94	6.21	9.03	6.21	3.94	
							Cracked	Lbs	1340	1900	1340	975	1005	1425	1005	730	1340	1900	1340	885	1005	1425	1005	730	
								kN	5.96	8.45	5.96	4.34	4.47	6.34	4.47	3.25	5.96	8.45	5.96	3.94	4.47	6.34	4.47	3.25	
FA4 Mudsill & Stud			3	3	3	10d x 1-1/2	Uncracked	Lbs	1395	1485	1915	780	1395	1485	1395	780	1250	1335	1915	700	1250	1335	1395	700	
								kN	6.21	6.61	8.52	3.47	6.21	6.61	6.21	3.47	5.56	5.94	8.52	3.11	5.56	5.94	6.21	3.11	
							Cracked	Lbs	1340	1485	1340	780	1005	1425	1005	730	1250	1335	1340	700	1005	1335	1005	700	
								kN	5.96	6.61	5.96	3.47	4.47	6.34	4.47	3.25	5.56	5.94	5.96	3.11	4.47	5.94	4.47	3.11	

1) Short-term load duration factor 115% for wind and earthquake has been taken into consideration; no further increased is allowed.
2) Factored resistances are based on a minimum stemwall thickness of 6", minimum end distance of 5-1/2" and minimum spacing of 7".
3) Minimum 28-day concrete compressive strength f'c = 2,500 psi (17.25 MPa).
4) Factored resistances are based on using a single-ply 2x sill plate. Sill plate may be treated lumber.
5) When loads in more than one direction are present, interaction effects shall be considered using the unity equation - Refer to MiTek Catalog Design Notes (1).
6) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long.

Corrosion Finish Key
- Stainless Steel
- HDG
- Triple Zinc

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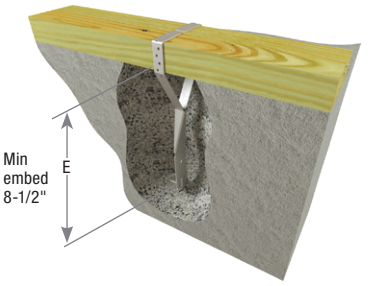
ST1-TZ – For installation into concrete slab or poured stemwalls. The ST1-TZ features a prebent base flange to assure proper anchoring into concrete

ST2-TZ – For installation into concrete slab, poured stemwalls or concrete/masonry. The ST2-TZ features a prebent base flange to assure proper anchoring into concrete. Do not use in red clay brick

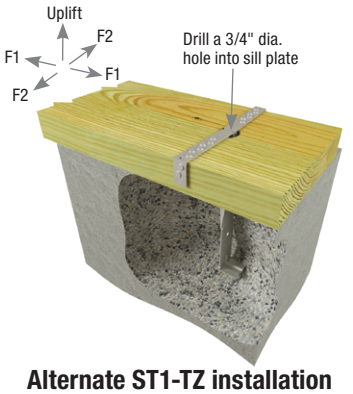
Materials: 18 gauge
Finish: G-185 galvanizing
Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:

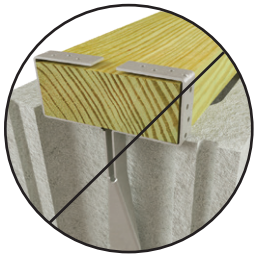
- Use all specified fasteners. See Product Notes, page 16.
- Use a minimum of two anchors per mudsill. An anchor should always be within 12" of the end of each mudsill section.
- Space ST anchors at 4' (1.2m) to meet code prescribed ½" anchor bolt with standard washer spaced at 7'-10" (2.4 m).
- Do not rely on these anchors to secure concrete sections together between cold joints.
- Spread sill flanges to mudsill width prior to insertion into wet concrete (minimum strength of 2,500 psi, 17.25 MPa). Alternate installation is possible by inserting unbent flanges through 3/4" center hole predrilled in mudsill. Foundation anchors may also be attached to mudsill and then inserted into wet concrete. When installing into concrete block, fill cells with grout with a minimum strength of 2,500 psi or 17.25 MPa. Concrete block edges may need to be beveled to facilitate installation.
- **ST2-TZ in masonry construction** shall be installed in the core of the block and grouted with concrete grout designed for that purpose. In no case, shall they be installed in a mortar joint.



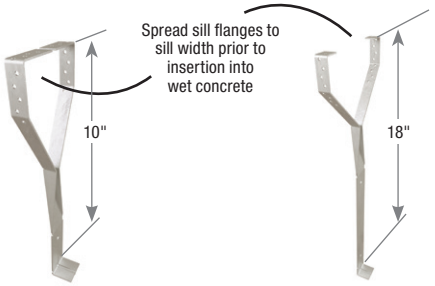
Typical ST1-TZ installation in concrete



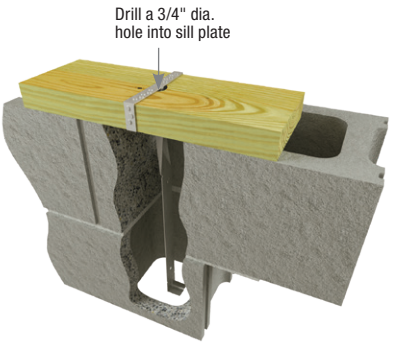
Alternate ST1-TZ installation with 3/4" center hole



DO NOT install ST1-TZ and ST2-TZ without pre-bending sill flanges in "Y" configuration



ST1-TZ **ST2-TZ**



Alternate ST2-TZ installation with 3/4" center hole in mudsill

Plate Size	MiTek Stock No.	Ref. No.	Steel Gauge	Fastener Schedule[2] Mudsill Side Qty	Mudsill Top Qty	Mudsill Type	Min. Embed (E) (in)	Unit	D Fir-L Factored Resistance[1] Uplift 115%	D Fir-L F1 115%	D Fir-L F2 115%	S-P-F Factored Resistance[1] Uplift 115%	S-P-F F1 115%	S-P-F F2 115%	Corrosion Finish
2 x 4 or 2 x 6	ST1-TZ	MAB15, MAB15Z	18	4	4	8d x 1-1/2 HDG	8-1/2	Lbs	1000	680	1005	855	585	860	
								kN	4.45	3.02	4.47	3.80	2.60	3.83	
2 x 4 or 2 x 6	ST2-TZ	MAB23, MAB23Z	18	4	4	8d x 1-1/2 HDG	16-1/2	Lbs	1000	680	1005	855	585	860	
								kN	4.45	3.02	4.47	3.80	2.60	3.83	

1) Short term load duration has been taken into consideration. No increase allowed.
2) **NAILS:** 8d x 1-1/2 nails are 0.131" diameter by 1-1/2" long.

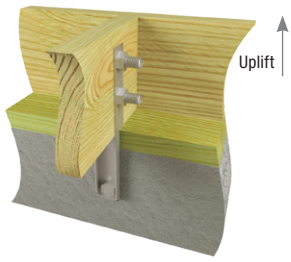
Corrosion Finish Key Stainless Steel HDG Triple Zinc

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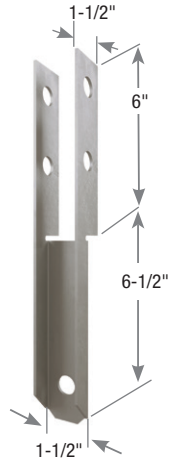
The SFJA ties floor joists directly to foundations with bolt fastening.

Materials: 12 gauge
Finish: G90 galvanizing

Installation:
- Use all specified fasteners. See Product Notes, page 16.
- A design professional must specify anchor bolt type, length, and embedment. Anchor bolts are laterally loaded. Follow installation instructions for epoxy adhesive.



Typical SFJA installation



SFJA

MiTek Stock No.	Ref. No.	Steel Gauge	Fastener Schedule: Anchor Bolts Qty	Anchor Bolts Dia (in)	Framing Bolts[2] Qty	Framing Bolts[2] Dia.	D Fir-L Factored Resistance[1,3] Uplift 115%	S-P-F Factored Resistance[1,3] Uplift 115%
SFJA	FJA	12	1	5/8	2	5/8	1620	1360

1) The 115% values are short-term loads such as wind and earthquake.
2) Bolts shall conform to ASTM A 307 or better.
3) Factored resistances assume a minimum concrete compressive strength of 2,500 psi.

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FT / WG Concrete Form Ties & Wedge

FT – Connect 1x and 2x nominal form lumber in low foundation walls up to 4 feet high.

WG – V-shaped wedge assures rigidity and consistent form spacing.

Materials: FT – 18 gauge, WG – 14 gauge
Finish: G90 galvanizing

Installation:

- Use the Spacing Guide chart to determine spacing between FT units. Each level in chart assumes 12" form boards. Wall thickness from 6" to 12".
- Install with "V" facing up.
- Use (2) WG wedges for each tie. Insert wedge into inside slots for 1x nominal forms and outside slots for 2x nominal forms.
- No walers or stiff-backs are used.
- Vertical ties to keep forms from separating are not included.
- Form deflection may be substantial. Check deflection, if it is critical, and move ties to compensate.
- Forming lumber is assumed to have fb of 1,000 psi.
- **Not recommended for pours greater than 4 feet in height.**

MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in)		Wedge		Footing Width or Wall Thickness (ft)
			W	L	Qty	Type	
FT6	WT6	18	5/8	10-5/8	2	WG	6
FT8	WT8	18	5/8	12-5/8	2	WG	8
FT10	WT10	18	5/8	14-5/8	2	WG	10
FT12	WT12	18	5/8	16-5/8	2	WG	12
WG	W1	14	11/16	3-5/8	--	--	--

1) May be used with either 3/4-in or 1-1/2-in forming materials.
2) Breaking strength is approximately 775 pounds ultimate. Space as necessary to prevent form blow-out.

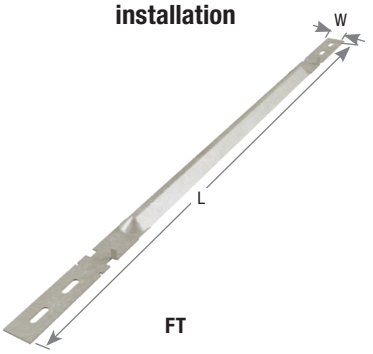
Spacing Guide Chart

Concrete Lift Height (in)	Level 1		Level 2		Level 3		Level 4	
	1x	2x	1x	2x	1x	2x	1x	2x
12 or Less	2' 6"	4' 0"	--	--	--	--	--	--
12 - 24	1' 6"	3' 0"	2' 6"	4' 0"	--	--	--	--
24 - 36	1' 0"	2' 0"	1' 6"	3' 0"	2' 6"	4' 0"	--	--
36 - 48	0' 9"	1' 6"	1' 0"	2' 0"	1' 6"	3' 0"	2' 6"	4' 0"

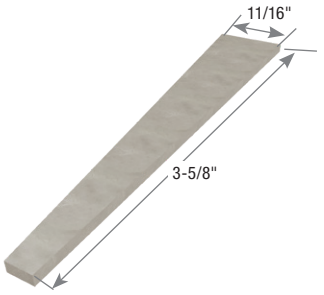
1) Factor of safety against tensile failure of tie is 1.5 or more.



Typical FT/WG installation



FT



WG Wedge
must order separately

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ARC Anchor Rod Chairs

When attached to the forms, the ARC allows for easy and precise placement of anchor rods prior to pouring concrete. The “chair” and nut are pre-assembled for quick installation.

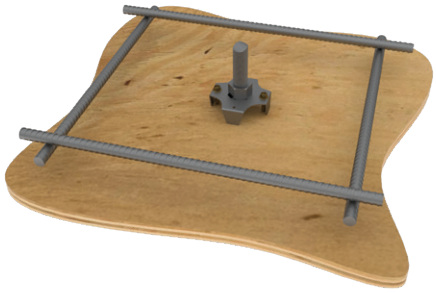
Materials: Nut: Heavy Hex; Chair: 16 gauge

Finish: Nut: None; Chair: Rolled Steel

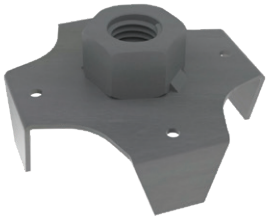
Installation:

- Installs with nails or screws. Threaded rod can then be screwed in to desired depth.

MiTek Stock No.	Ref. No.	Dia. (in)
ARC4	ABL4-1	1/2
ARC5	ABL5-1	5/8
ARC6	ABL6-1	3/4
ARC7	ABL7-1	7/8
ARC8	ABL8-1	1
ARC9	ABL9-1	1-1/8
ARC10	ABL10-1	1-1/4
ARC11	--	1-3/8
ARC12	--	1-1/2
ARC14	--	1-3/4
ARC16	--	2



Typical ARC installation



ARC6

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Embossed ends provide guides for embedment angle and depth. An embedment line is embossed on the shaft for easy installation. Features rolled threads for high tensile strength.

STB – For monolithic slabs and concrete stem walls

STBL – Designed for use with 3x sill plates. Excellent choice for use with taller holdown washers like those in the PHD series

Materials: ASTM A 36 steel, also conforms to ASTM F1554 and ASTM A 307 requirements for bolts

Finish: None

Options: See Chart for Corrosion Finish Options on page 47

Codes: Load values are derived from data submitted to various North American building code evaluators

Monolithic or Stem Wall Foundations – Prior to pour, install the STB or STBL in an upright position and at a 45° angle to the wall. Install one horizontal #4 rebar at a depth of 4" (minimum). (See illustrations.)

Concrete Block Applications – Prior to cell pour, install the STB or STBL in an upright position and at a 45° angle to the wall. (See illustrations.) Use the embossed angle guide on the end of the STB or STBL shaft as a guide. Install one horizontal #4 rebar at a depth of 4" and one vertical #4 rebar maximum 48" o.c. spacing. Fill all cells with concrete having a minimum 2,500 psi compressive strength.

Installation:

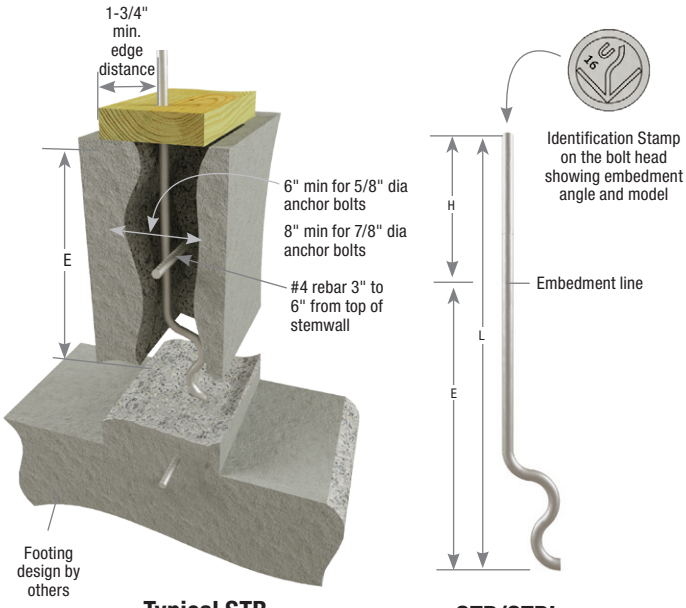
- Select appropriate STB or STBL Anchor Bolt.
- Use normal weight concrete with minimum compressive strength of 2,500 psi.
- Minimum center-to-center spacing between bolts is 3(E) for anchors acting simultaneously in tension.
- Match embedment depth with embedment line on the STB or STBL shaft.
- The STB or STBL does not need to be tied to the rebar.
- Nuts and washers are not included.

Anchor Bolt Selection Table

MiTek Stock No.	2x, 3x, (2) 2x Sill Plates[1]
	Mono Pour
PHD2A	STB16 STBL16
TDX2-TZ	
LTS20B	
HTT16	
HTT45	
PHD4A	STB20 STBL20
HTT45	
TD5	
HTT45	STB24 STBL24
PHD5A	
PHD8	STB28 STBL28
UPHD8	
TD7	
TD9	
TD12	

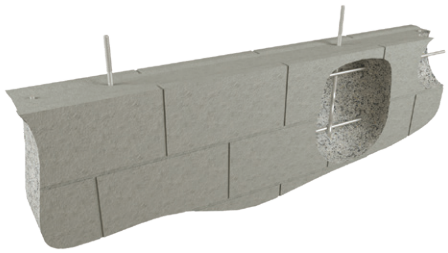
* Recommend installation of washer under nut of anchor bolt.

1) STBL model are recommended for use with PHD and UPHD8 holdowns on (2) 2x and 3x sill plates.

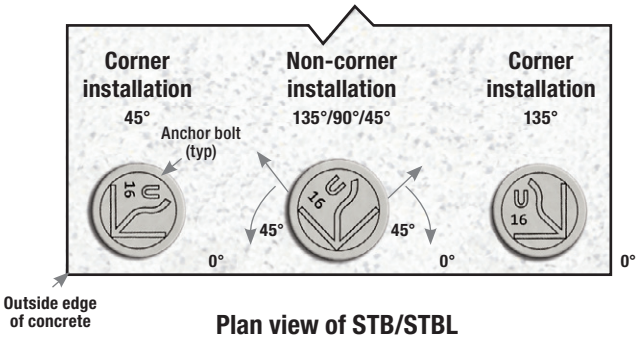


Typical STB anchor bolt installation

STB/STBL



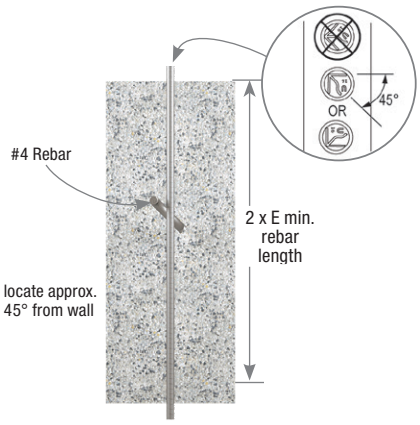
Typical STB/STBL concrete block installation



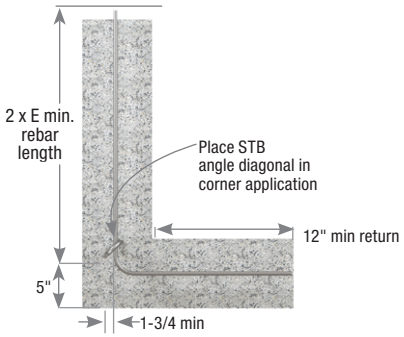
Plan view of STB/STBL placement in concrete stemwall

Continued on next page

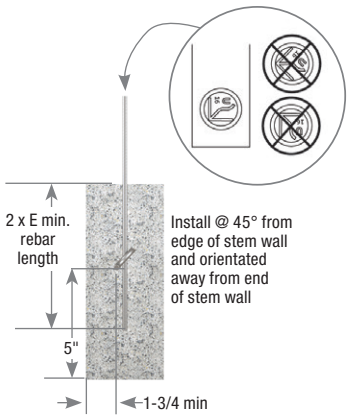
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Plan view along continuous stem wall installation



Plan view of corner of stem wall installation



Plan view of End of Stem Wall installation

MiTek Stock No.	Ref. No.	Dimensions (in)					Unit	Factored Tensile Resistance[1,2]									Corrosion Finish
								Seismic $I_eF_aS_a(0.2) < 0.35$			Wind $I_eF_aS_a(0.2) < 0.35$			Seismic $I_eF_aS_a(0.2) \geq 0.35$			
		Stemwall Width	Dia.	L	H	Min. Embed. (E)		Midwall	Corner	End Wall	Midwall	Corner	End Wall	Midwall	Corner	End Wall	
STB16	SSTB16	6	5/8	17-13/16	5	12-13/16	Lbs	5920	5920	5920	6770	6770	6770	4935	4935	4935	
							kN	26.33	26.33	26.33	30.12	30.12	30.12	21.95	21.95	21.95	
STB20	SSTB20	6	5/8	21-13/16	5	16-13/16	Lbs	7170	6635	6635	8185	6770	6770	5970	4975	4975	
							kN	31.90	29.52	29.52	36.41	30.12	30.12	26.56	22.13	22.13	
STB24	SSTB24	6	5/8	25-13/16	5	20-13/16	Lbs	8385	8280	8280	9585	8910	8910	6985	6545	6545	
							kN	37.30	36.83	36.83	42.64	39.64	39.64	31.07	29.11	29.11	
STB28	SSTB28	8	7/8	31	5	26	Lbs	14140	13285	13285	14575	14575	14575	10710	10710	10710	
							kN	62.90	59.10	59.10	64.84	64.84	64.84	47.64	47.64	47.64	
STB34	SSTB34	8	7/8	36	6	30	Lbs	15980	14735	14350	18225	16840	15050	13320	12280	11060	
							kN	71.09	65.55	63.83	81.07	74.91	66.95	59.25	54.63	49.20	
STB36	SSTB36	8	7/8	38	8	30	Lbs	15980	14735	14350	18225	16840	15050	13320	12280	11060	
							kN	71.09	65.55	63.83	81.07	74.91	66.95	59.25	54.63	49.20	
STBL16	SSTBL16	6	5/8	19-9/16	6-3/4	12-13/16	Lbs	5920	5920	5920	6770	6770	6770	4935	4935	4935	
							kN	26.33	26.33	26.33	30.12	30.12	30.12	21.95	21.95	21.95	
STBL20	SSTBL20	6	5/8	23-9/16	6-3/4	16-13/16	Lbs	7170	6635	6635	8185	6770	6770	5970	4975	4975	
							kN	31.90	29.52	29.52	36.41	30.12	30.12	26.56	22.13	22.13	
STBL24	SSTBL24	6	5/8	27-9/16	6-3/4	20-13/16	Lbs	8385	8280	8280	9585	8910	8910	6985	6545	6545	
							kN	37.30	36.83	36.83	42.64	39.64	39.64	31.07	29.11	29.11	
STBL28	SSTBL28	8	7/8	32-3/4	6-3/4	26	Lbs	14140	13285	13285	14575	14575	14575	10710	10710	10710	
							kN	62.90	59.10	59.10	64.84	64.84	64.84	47.64	47.64	47.64	

1) Loads may not be increased for short term loading.
2) Minimum center to center spacing between bolts is 3(E) for anchors acting in tension simultaneously.
3) Minimum edge distance is 1-3/4".
4) Concrete stemwall shall be a minimum of 6" thick for 5/8" anchor bolts and 8" for 7/8" anchor bolts.
5) End distance shall be no less than 5".
6) Connection is limited by lowest of bolt or holdown capacity.
7) Concrete block shall be minimum 10" block.

Corrosion Finish Key Stainless Steel HDG Triple Zinc

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AB / ABL / ABP Anchor Bolts

Anchor bolts are used to secure wood plates to foundation walls. Washers are available in various package combinations.

Materials: Bolt: ASTM F 1554, Nut: ASTM A 563, Washers: ASTM F 844

Finish: AB126-HDG, AB128-HDG, AB1212-HDG, AB5812-HDG – Hot-dip galvanized; All others – None

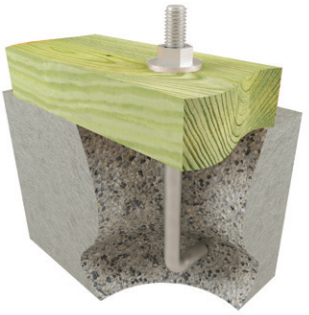
Installation:

- Select appropriate AB or ABP Anchor Bolt.
- Use concrete with minimum compressive strength of 2,500 psi at 28 days.
- Nuts and washers are included.
- Anchor bolts intended for use to satisfy code prescribed anchoring of mudsill plates, and shall be installed as defined in the code.
- Factored resistance shall be derived in accordance with the code.

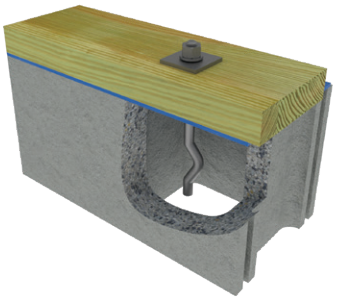
MiTek Stock No.	Ref. No.	Bolt Dia (in)	L (in)	Corrosion Finish
AB126-HDG	--	1/2	6	
AB128-HDG	--	1/2	8	
AB1212-HDG	--	1/2	12	
AB5812-HDG	--	5/8	12	
AB6NW	--	1/2	6	
AB8NW	--	1/2	8	
ABL588	--	5/8	8	
ABP6NW	--	1/2	6	
ABP8NW	--	1/2	8	

New products or updated product information are designated in blue font.

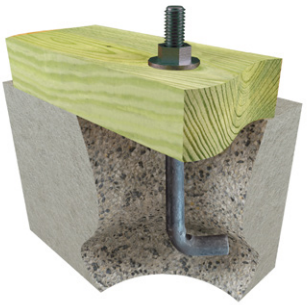
Corrosion Finish Key Stainless Steel HDG Triple Zinc



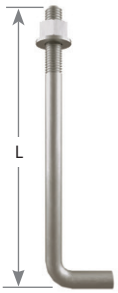
Typical AB128-HDG installation



Typical ABP installation



Typical ABL588 installation



AB128-HDG



ABP



ABL

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BP / HBPS / LBP / LBPS Bearing Plates

BP / LBP – Designed to meet code requirements for mudsill-to-foundation

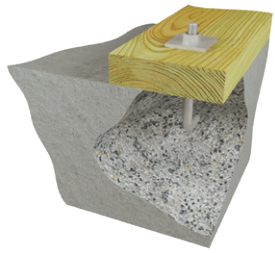
HBPS / LBPS – Offers anchor bolt adjustment slots

Materials: See chart
Finish: BP / HBPS – none; LBP / LBPS – G-185 galvanizing
Options: See Chart for Corrosion Finish Options

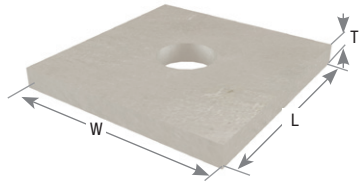
Installation:
• Bolt holes are sized 1/16" larger than Bolt Dia. shown in chart.

MiTek Stock No.	Ref. No.	Plate Thickness (T)		Dimensions (in) W	Dimensions (in) L	Bolt Dia. (in)	Corrosion Finish
LBP12-TZ	LBP1/2, LBP1/2Z	10 Ga	9/64	2	2	1/2	
LBP58-TZ	LBP5/8, LBP5/8Z	10 Ga	9/64	2	2	5/8	
LBPS12-TZ	LBPS1/2, LBPS1/2Z	10 Ga	9/64	3	3	1/2	
LBPS58-TZ	LBPS5/8, LBPS5/8Z	10 Ga	9/64	3	3	5/8	
HBPS12	BPS1/2-3	3 Ga	1/4	3	3	1/2	
HBPS34	BPS3/4-3	3 Ga	1/4	3	3	3/4	
HBPS58	BPS5/8-3	3 Ga	1/4	3	3	5/8	
BP12	BP1/2	7 Ga	3/16	2	2	1/2	
BP582	BP5/8-2	7 Ga	3/16	2	2	5/8	
BP583	BP5/8, BP5/8-3	3 Ga	1/4	3	3	5/8	
BP343	BP3/4-3	3 Ga	1/4	3	3	3/4	

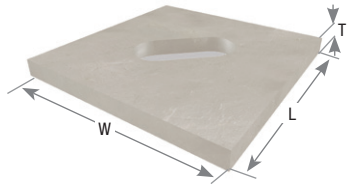
Corrosion Finish Key Stainless Steel HDG Triple Zinc



Typical bearing plate installation



BP/LBP standard bearing plate



HBPS/LBPS slotted bearing plate

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RP Retro Plate

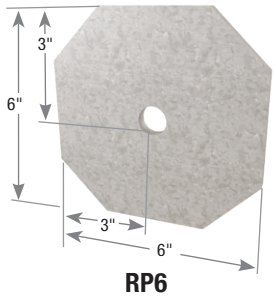
Uses heavy gauge HRPO steel and a large surface area to distribute seismic forces on masonry exteriors.

Materials: 3/8" plate
Finish: Primer
Options: See chart for Corrosion Finish Options

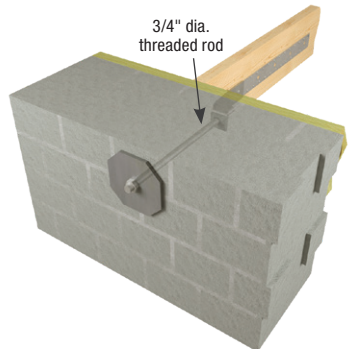
Installation:
• Install with a 3/4" diameter steel threaded rod.

MiTek Stock No.	Ref. No.	Corrosion Finish
RP6	RP6	

Corrosion Finish Key
Stainless Steel
HDG Triple Zinc



RP6



Typical RP6 installation

THR Threaded Rods

MiTek has added longer length THR's to support the new deck oriented code requirements for mechanically reinforced railing post and deck to house ledger board attachments.

Materials: ASTM A 36 Steel, also conforms to ASTM F 1554 Grade 36

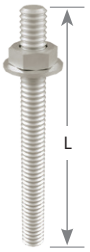
Finish: Hot-dip galvanized

Installation:

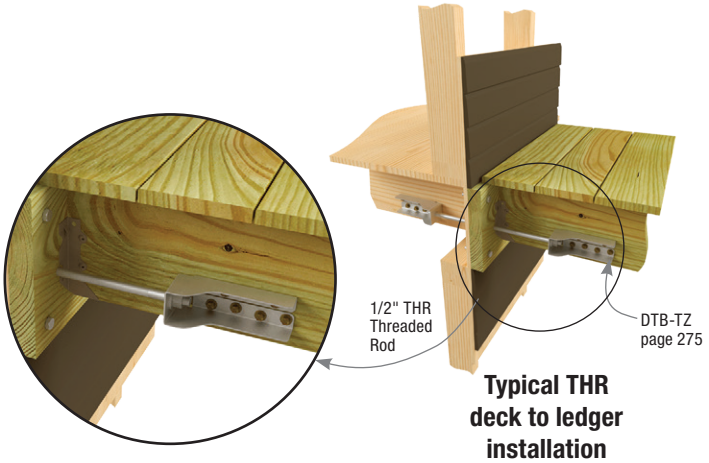
- Install into wet concrete with nut embedded or drill minimum 1/16" – 1/8" oversized hole depending on rod size and secure with anchor epoxy. Nut and washer are included.



Typical THR installation



THR



Typical THR deck to ledger installation

MiTek Stock No.	Ref. No.	Dimensions (in)		Corrosion	Finish
		Bolt Dia	L		
THR125-HDG	RFB#4X5HDG	1/2	5		
THR126-HDG	RFB#4X6HDG	1/2	6		
THR128-HDG	RFB#4X8HDG	1/2	8		
THR1218-HDG	--	1/2	18		
THR1224-HDG	--	1/2	24		
THR1236-HDG	--	1/2	36		
THR588-HDG	RFB#5X8HDG	5/8	8		
THR5812-HDG	RFB#5X12HDG	5/8	12		
THR5816-HDG	RFB#5X16HDG	5/8	16		

Corrosion Finish Key Stainless Steel HDG Triple Zinc

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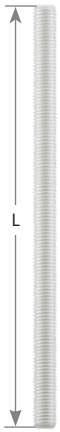
ATR All Thread Rods

ATR All Thread Rod is a continuously threaded low carbon steel rod that may be used for anchoring MiTek's holdowns, tension ties and wood structural panel shear walls to concrete. They can also be used for many other general purpose tension transfer fastening needs.

Materials: ASTM A307 Grade A
Finish: None

Installation:

- ATR All Thread Rod can be cast-in-place or epoxied into concrete. Use MiTek's CIA-EA epoxy acrylate or CIA-GEL 7000-C epoxy when installed as a post installed application and follow the published installation instructions to obtain maximum strength. Use MiTek's CIA-GEL 7000 when installing into fully grouted CMU block wall. Reference MiTek's Adhesive Anchor Design Software for more information, MiTek-US.com.



ATR

MiTek Stock No.	Ref. No.	Dia. x L (in)
ATR3812	ATR3/8X12	3/8 x 12
ATR1212	ATR1/2X12	1/2 x 12
ATR1216	--	1/2 x 16
ATR1224	ATR1/2X24	1/2 x 24
ATR5812	ATR5/8X12	5/8 x 12
ATR5816	--	5/8 x 16
ATR5824	ATR5/8X24	5/8 x 24
ATR5836	ATR5/8X36	5/8 x 36
ATR3412	ATR3/4X12	3/4 x 12
ATR3416	--	3/4 x 16
ATR3424	ATR3/4X24	3/4 x 24
ATR3436	ATR3/4X36	3/4 x 36
ATR7812	ATR7/8X12	7/8 x 12
ATR7816	--	7/8 x 16
ATR7824	ATR7/8X24	7/8 x 24
ATR7836	ATR7/8X36	7/8 x 36
ATR112	ATR1X12	1 x 12
ATR116	--	1 x 16
ATR124	ATR1X24	1 x 24
ATR136	ATR1X36	1 x 36
ATR11824	--	1-1/8 x 24
ATR11836	--	1-1/8 x 36

New products or updated product information are designated in blue font.

HN Hex Nuts

The HN nut is a standard hex nut manufactured from low carbon ASTM A563 Grade A steel (Proof Load = 90 ksi) which makes it applicable for many common ASTM steel threaded rods of equivalent or lower strength.

Materials: ASTM A563 Grade A
Finish: See chart


HN

MiTek Stock No.	Ref. No.	Dia. (in)
HN38	--	0.375
HN12	--	0.500
HN58	--	0.625
HN34	--	0.750
HN78	--	0.875
HN1	--	1.000
HN118	--	1.125

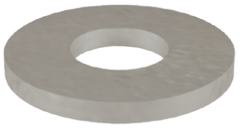
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RW Round Washers

Washers are an important component of a threaded rod assembly and should be properly sized for the intended application. They distribute load from the tightened nut and reduce bearing stresses to prevent crushing of the supporting material. This is especially important when tightening over wood.

Materials: ASTM/ANSI B18.22
Finish: None



RW

MiTek Stock No.	Ref. No.	Dia. (in)
RW38	--	0.375
RW12	--	0.500
RW58	--	0.625
RW34	--	0.750
RW78	--	0.875
RW1	--	1.000
RW118	--	1.125

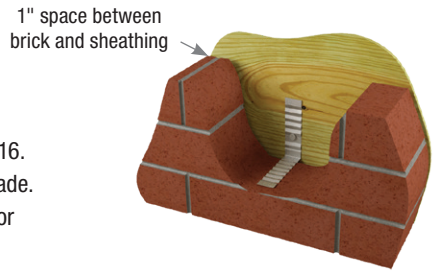
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WT Wall Ties

Materials: 22 gauge
Finish: G90 galvanizing; WT22B-HDG – Hot-dip galvanized
Options: See chart for Corrosion Finish options

Installation:

- Use nails appropriate for intended use. See Product Notes, page 16.
- The opposite end must be bonded in the mortar joint of brick facade.
- WT22B-HDG meets the prescriptive requirements of CSA A370 for corrugated strip ties.



Typical WT17HD/WT22 installation

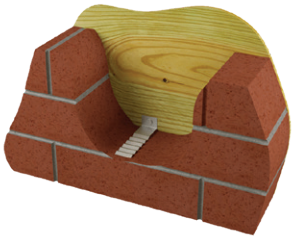


WT17HD/WT22

MiTek Stock No.	Ref. No.	Steel Gauge	Fastener Schedule[2]		Corrosion Finish
			Qty	Type	
WT17HD	--	22	2	10d	
WT22[1]	BTB	22	2	10d	
WT22B-HDG	--	22	1	#10 HDG wood screw	

1) WT22 is bulk packed in 500 pieces.
2) **NAILS**: 10d nails are 0.148" dia. x 3" long.

Corrosion Finish Key Stainless Steel HDG Triple Zinc



Typical WT22B-HDG installation



WT22B-HDG

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KGLB – Single bolt, bearing only

KGLBT – Double bolt with structural tee provides uplift and horizontal resistance

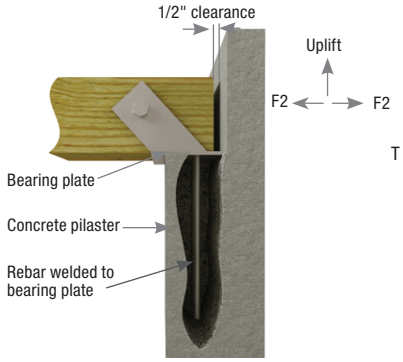
KHGLB – Double bolt design provides uplift and horizontal resistance

Materials: Flanges – 1/4" steel
Bearing Plate – See chart for "T" dimension
Anchor Dowels – 3/4" x 12" rebar

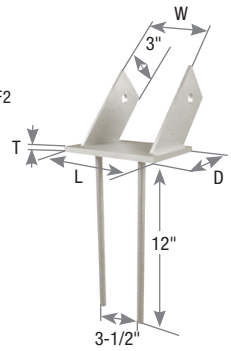
Finish: Primer
Options: Consult MiTek for non-catalogue variations
Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:

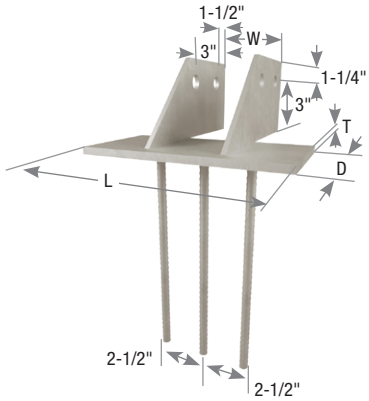
- Use all specified fasteners. See Product Notes, page 16.
- Bolt holes shall be a minimum of 1/32" to a maximum of 1/16" larger than the bolt diameter.
- Concrete or masonry walls must be checked by a design professional for adequacy to resist lateral or uplift loads transferred from the beam seat anchor.



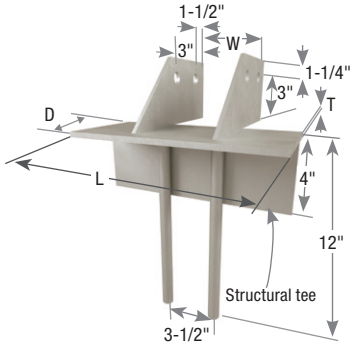
Typical KGLB installation



KGLB



KHGLB



KGLBT

MiTek Stock No.	Ref. No.	Dimensions (in)				Bolt Schedule		Factored Bearing Resistance[1,4,5]			
								Masonry @ 375 psi[2]		Concrete[3]	
		W	L	T	D	Qty	Dia. (in)	Lbs	kN	Lbs	kN
KGLB5A	GLB5A	5-1/4	7	1/4	5	1	5/8	16980	75.53	16980	75.53
KGLB5B	GLB5B	5-1/4	7	3/8	6	1	5/8	20370	90.61	20370	90.61
KGLB5C	GLB5C	5-1/4	7	3/8	7	1	5/8	23765	105.72	23765	105.72
KGLB5D	GLB5D	5-1/4	7	3/8	8	1	5/8	27160	120.82	27160	120.82
KGLB7A	GLB7A	6-7/8	9	1/4	5	1	3/4	22355	99.44	22355	99.44
KGLB7B	GLB7B	6-7/8	9	3/8	6	1	3/4	26825	119.33	26825	119.33
KGLB7C	GLB7C	6-7/8	9	3/8	7	1	3/4	31300	139.23	31300	139.23
KGLB7D	GLB7D	6-7/8	9	3/8	8	1	3/4	35770	159.12	35770	159.12

1) Beams must fully bear on plates.
2) Factored bearing resistances are based on the bearing value listed times the bearing area equal to W x D. (Note that full bearing plate area is not used.) Factored bearing resistances shall be reduced where limited by wood bearing on the plate.
3) Factored bearing resistances on concrete are based on factored bearing strength in compression perpendicular to grain (ϕ fcp) of 662 psi and actually beam width times beam bearing length.
4) Designer shall specify minimum edge and spacing requirements in masonry or concrete structure.
5) Concrete or masonry support structure is assumed adequate to support loads listed.

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Continued on next page

MiTek Stock No.	Ref. No.	Dimensions (in)				Bolt Schedule		Factored Bearing Resistance[1,5]							
		Range W	D	L	T	Qty	Dia. (in)	Unit	Masonry @ 375 psi	On Concrete with Beam Width[1]				F2[3,4]	Min. 3-1/8 Beam Width (W)
										5-1/8	6-3/4	8-3/4	10-3/4	100%	Uplift 115%[3]
KHGLBA	HGLBA	3-1/4 to 9	5	10	3/8	2	3/4	Lbs	27000	16980	22355	28980	--	9445	4045
								kN	120.11	75.53	99.44	128.91	--	42.02	17.99
KHGLBB	HGLBB	3-1/4 to 9	6	10	3/8	2	3/4	Lbs	32400	20370	26825	34775	--	9445	4045
								kN	144.13	90.61	119.33	154.69	--	42.02	17.99
KHGLBC	HGLBC	3-1/4 to 9	7	10	3/8	2	3/4	Lbs	37800	23765	31300	40570	--	9445	4045
								kN	168.15	105.72	139.23	180.47	--	42.02	17.99
KHGLBD	HGLBD	3-1/4 to 9	8	10	3/8	2	3/4	Lbs	43200	27160	35770	46370	--	9445	4045
								kN	192.17	120.82	159.12	206.27	--	42.02	17.99
KGLBT512	GLBT512	3-1/4 to 11	5-1/2	12	1/3	2	3/4	Lbs	35640	18670	24595	31880	39170	9445	4045
								kN	158.54	83.05	109.41	141.81	174.24	42.02	17.99
KGLBT612	GLBT612	3-1/4 to 11	6-1/2	12	3/8	2	3/4	Lbs	42120	22070	29065	37680	46290	9445	4045
								kN	187.37	98.18	129.29	167.62	205.92	42.02	17.99
KGLBT516	GLBT516	3-1/4 to 15	5-1/2	16	1/3	2	3/4	Lbs	39170	18670	24595	31880	39170	9445	4045
								kN	174.24	83.05	109.41	141.81	174.24	42.02	17.99
KGLBT616	GLBT616	3-1/4 to 15	6-1/2	16	3/8	2	3/4	Lbs	46290	22070	29065	37680	46290	9445	4045
								kN	205.92	98.18	129.29	167.62	205.92	42.02	17.99
KGLBT520	GLBT520	3-1/4 to 19	5-1/2	20	1/3	2	3/4	Lbs	39170	18670	24595	31880	39170	9445	4045
								kN	174.24	83.05	109.41	141.81	174.24	42.02	17.99
KGLBT620	GLBT620	3-1/4 to 19	6-1/2	20	3/8	2	3/4	Lbs	46290	22070	29065	37680	46290	9445	4045
								kN	205.92	98.18	129.29	167.62	205.92	42.02	17.99

1) Beams must fully bear on plates.
2) Factored bearing resistances on concrete are based on factored bearing strength in compression perpendicular to grain (ϕ fcp) of 662 psi and actually beam width times beam bearing length.
3) The 115% values are short-term loads such as wind and earthquake and are based on bolt in wood values only. Factored resistances assume concrete or masonry structure is adequate to resist loads in those directions.
4) Factored resistances must be be reduced if the allowable lateral load (F2) for masonry or concrete column governs.
5) Designer shall specify minimum edge and spacing requirements in masonry or concrete structure.

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KGH Floor Girder Hangers

Connects girder beams to foundation walls and eliminates the need to block out pockets or inserts while forming foundation.

Materials: 12 gauge

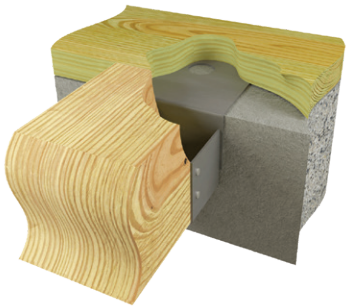
Finish: Primer

Options: See Specialty Options Chart. Consult MiTek for non-catalogue design variations.

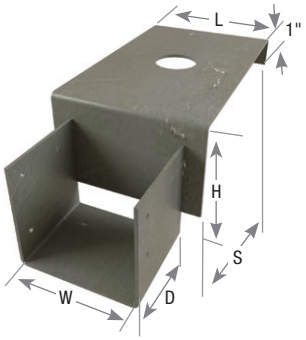
Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:

- Use all specified fasteners. See Product Notes, page 16.
- H dimension assumes 2x mudsill. For 3x or larger mudsill, please contact factory.
- The 1-1/2" hole, centered in the saddle, allows for installation over any protruding foundation bolts. This is not required.
- Placement of a wood sill over the top of the KGH top flange is required to achieve factored resistance.



Typical KGH installation



KGH

Girder Size	MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in)					Fastener Schedule[3]		D Fir-L Factored Resistance		SPF Factored Resistance	
				W	L	D	S	H	Qty	Type	Download 100%[1,2]		Download 100%[1,2]	
											Lbs	kN	Lbs	kN
4 x 6	KGH46-6	GH46-6	12	3-9/16	5	3-1/4	6	4	4	16d	2975	13.23	2335	10.39
	KGH46-8	GH46-8	12	3-9/16	5	3-1/4	8	4	4	16d	2975	13.23	2335	10.39
4 x 8	KGH48-6	GH48-6	12	3-9/16	5	3	6	6	4	16d	2975	13.23	2335	10.39
	KGH48-8	GH48-8	12	3-9/16	5	3	8	6	4	16d	2975	13.23	2335	10.39
6 x 6	KGH66-6	GH66-6	12	5-1/2	6-1/4	3	6	4	4	16d	2955	13.14	2320	10.32
	KGH66-8	GH66-8	12	5-1/2	6-1/4	3	8	4	4	16d	2955	13.14	2320	10.32
6 x 8	KGH68-6	GH68-6	12	5-1/2	6-1/4	3	6	6	4	16d	2955	13.14	2320	10.32
	KGH68-8	GH68-8	12	5-1/2	6-1/4	3	8	6	4	16d	2955	13.14	2320	10.32

1) Factored download resistances shall not be increased for short-term load duration.
2) Placement of a wood sill over the top of the KGH top flange is required to achieve listed factored download resistances.
3) **NAILS:** 16d nails are 0.162" dia. x 3-1/2" long.

Specialty Options Chart –
refer to Specialty Options pages 294, 296-297 for additional details.

Option	Skewed[1,2]	Saddle
Range	1˚ to 45˚	--
Factored Resistance	100% of table load.	100% of table load per side.
Ordering	Add *SK*, angle required, right (*R*) or left (*L*), and square cut (*SQ*) or bevel cut (*BV*) to product number. Ex. KGH46-6_SK45R_BV	Add SA, and saddle width required to product number. Ex. KGH46-6_SA=5-1/2˝

1) Skewed hangers with skews greater than 15° may have all joist nailing on outside flange.
2) For skewed hangers, the required cut type (square or bevel) of joist member may vary based on skew angle and width of hanger. Some square cut hangers will require custom pricing due to welded back plate.



KGH saddle

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STRUCTURAL COLUMNS



MiTek®

STRUCTURAL COLUMNS 56-67

Adjustable Support Posts 58

BLACKJACK/REDJACK Adjustable Support Columns 59-67

CCK BLACKJACK / REDJACK Column Cap 61



Adjustable Support Posts may be used to support carport roofs and beams carrying loads not more than two wood frame floors, where the length of joists carried by such beams does not exceed 16' and a live load on any floor does not exceed 50 lbs/ft^2.

Materials: Top/bottom plate: 3-1/2" x 6", 3 gauge
Inner/upper tube: 2-1/2" O.D., 11 gauge
Outer/lower tube: 2-3/4" O.D., 12 gauge

Finish: Black Paint

Codes: Conforms to NBC 2015, Sentence 9.17.3.4.(1) and to CAN/CGSB-7.2-94.



JP Installation



JP

Installation:

- Ensure post is installed in a vertical and plumb position.
- Post base shall be aligned and secured to a proper supporting slab.
- Top plate shall cover the full width of the supported beam. Beam shall be centered on the top plate and continuous across the entire length of the plate. Split beam installation is not permitted.
- For multiple ply beams, ensure to laminate all plies together to act as a single member.
- JP24: Single tube post. Rotate jack screw to desired height, then place top plate in position, and fasten the supported beam to the top plate with two (2) 1/4" x 2" lag screws for wood beam, self tapping screws or tack weld for steel beam.
- JP36, JP60, JP96, JP108: Double tube post. Elevate top tube to approximate height and insert locking pin. Rotate jack screw to desired height, then place top plate in position, and fasten the supported beam to the top plate with two (2) 1/4" x 2" lag screws for wood beam, self tapping screws or tack weld for steel beam.

Part	Model No.	Adjustable Height		Post Capacity				No. of Plies	Factored Bearing Resistance, 100% [3]					
				Allowable Load [1]		Factored Resistance [2]			1-3/4" SCL (f_{cp} = 1,365 psi) [4]		D Fir-L		S-P-F	
		in	mm	lb	kN	lb	kN		lb	kN	lb	kN	lb	kN
JP24	V18243P50	19-1/2 – 24	495 – 608					FOR ALL POSTS						
JP36	V24363P50	24-1/2 – 36	622 – 914					1-Ply	11465	51.0	7310	32.5	5535	24.6
JP60	V30503P50	36 – 60	914 – 1524	8093	36.0	11654	51.8	2-Ply	11654	51.8	11654	51.8	11070	49.2
JP96	V50803P50	59 – 96	1499 – 2438					3-Ply [5]	--	--	11654	51.8	9685	43.1
JP108	V60903P50	69 – 108	1753 – 2743					4-Ply [5]	--	--	11654	51.8	11654	51.8

1) Post Allowable Loads were established in accordance with CAN/CGSB-7.2-94.
2) The Factored Resistances of the post were soft converted by multiplying the respective Allowable Load by 1.44.
3) Factored Bearing Resistances are for standard term loading; reduce for other load durations in accordance with the code.
4) SCL Factored Bearing Resistance assumes 1-3/4" ply width and specified compression perpendicular to grain fcp = 1,365 psi (9.4 MPa). **For beams of weaker specified fcp or smaller width**, calculate the Factored Beam Bearing Resistance as follows: overall beam width x plate length x fcp x 0.8. Use the minimum of the calculated "Factored Beam Bearing Resistance" and the "Post Capacity - Factored Resistance" as the Factored Resistance of the post supporting the respective beam.
5) For 3-ply or 4-ply 2x beams, rotate plate to ensure full plate coverage over the width of the beam.
New products or updated product information are designated in blue font.

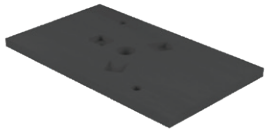
Replacement Parts for Adjustable Support Posts

Part	Model No.	Description
JPA001	A001	Screw & Nut Assembly
JPA002	A002	Top/Bottom Plate
JPA004	A004	Locking Pin
JPA005	--	6" x 7" x 1/4" Steel Plate
JPSSN	--	Screw & Nut (3/4" thickness) Assembly

New products or updated product information are designated in blue font.



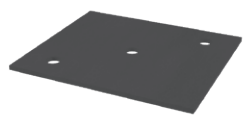
JPA001



JPA002



JPA004



JPA005



JPSSN

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BLACKJACK 2.5 Adjustable Support Column

Adjustable Support Column BlackJack 2.5 is designed and tested to meet or exceed the CAN/CGSB-7.2-94 Adjustable Steel Columns standard.

Materials: Tube: 2-1/2" x 2-1/2"; 11 gauge
Top Plate: 3-1/2" x 6"; 3/8" thick
Bottom Plate: 4-1/2" x 6"; 3 Gauge

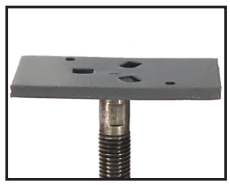
Finish: Tube – Powder-coated Black Paint; Plates – Grey Primer Paint

Installation:

- Ensure column is installed in a vertical and plumb position.
- Column base shall be aligned and secured to a proper supporting slab.
- Top plate shall cover the full width of the supported beam. Beam shall be centered on the top plate and continuous across the entire length of the plate. Split beam installation is not permitted.
- For multiple ply beams, ensure to laminate plies together to act as a single member.
- Square tube may be cut down, ensure cut is smooth, square and level.
- Rotate jack screw to desired height. Secure the top plate to beam with two (2) 1/4" x 2" screws for wood beam, self tapping screws or tack weld for steel beam.



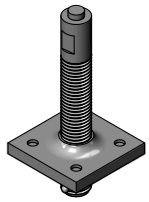
BLACKJACK 2.5



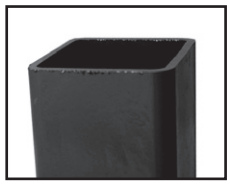
Top Plate



Bottom Plate



BLACKJACK 2.5 Adjustment Assembly



Square tube may be cut (cut must be smooth and square)

MiTek Stock No.	Adjustable Height		Extended Length		Column Capacity (supporting steel beam)				No. of Plies	Factored Bearing Resistance, 100% [3]					
					Allowable Load [1]		Factored Resistance [2]			1-3/4" SCL (f_{cp} = 1,365 psi) [4]		D Fir-L		S-P-F	
	in	mm	in	mm	lb	kN	lb	kN		lb	kN	lb	kN	lb	kN
BJ25x90	86 - 90	2184 - 2286	90	2286	10000	44.5	14400	64.1	1-Ply	11465	51.0	7310	32.5	5535	24.6
									2-Ply	14400	64.1	14400	64.1	11070	49.2
BJ25x110	106 - 110	2692 - 2794	110	2794					3-Ply [5]	--	--	12790	56.9	9685	43.1
									4-Ply [5]	--	--	14400	64.1	12915	57.4

1) Column Allowable Load has been determined through testing standards prescribed in the National Research Council Evaluation Directive for Adjustable Steel Columns using a safety factor of 2.25.
2) The Factored Resistance of the column is soft converted by multiplying the Allowable Load by 1.44.
3) Factored Bearing Resistances are for standard term loading; reduce for other load durations in accordance with the code.
4) SCL Factored Bearing Resistance assumes 1-3/4" ply width and specified compression perpendicular to grain f_{cp} = 1,365 psi (9.4 MPa). For beams of **weaker specified f_{cp} or smaller width**, calculate the Factored Beam Bearing Resistance as follows: overall beam width x plate length x f_{cp} x 0.8. Use the minimum of the calculated "Factored Beam Bearing Resistance" and the "Factored Resistance of the Column Capacity supporting steel beam" as the Factored Resistance of the column supporting the respective beam.
5) For 3-ply or 4-ply 2x beams, rotate plate to ensure full plate coverage over the width of the beam.
6) Column is not capable of resisting lateral or uplift load.

New products or updated product information are designated in blue font.

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Adjustable Support Columns are designed and tested to meet or exceed the CAN/CGSB-7.2-94 Adjustable Steel Columns standard. REDJACK 2.5, BLACKJACK 3.0 and REDJACK 3.0 are assembled with Column Cap (CCK) or Plate at the column top to support dimensional lumber, SCL or steel beams.

Materials: See chart

Finish: REDJACK 2.5 & REDJACK 3.0 Tube – Powder-Coated Red Paint;
BLACKJACK 3.0 Tube – Powder-Coated Black Paint;
Plates, Column Caps – Grey Primer Paint

- **HEAVY DUTY ADJUSTMENT ASSEMBLY FOR MAXIMUM LOADS**
- **MODULAR DESIGN FOR GREATEST JOB SITE FLEXIBILITY**
- **SQUARE POST FOR EASY AND ACCURATE CUT DOWN**
- **USE REBAR/ROD THROUGH 9/16" HOLE FOR HEIGHT ADJUSTMENT**

Installation:

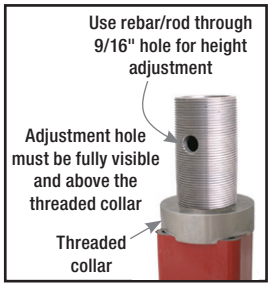
- Ensure column is installed in a vertical and plumb position.
- Column base shall be aligned and secured to a proper supporting slab.
- Top plate shall cover the full width of the supported beam. Beam shall be centered on the top plate and continuous across the entire length of the plate. For split beam applications, please contact MiTek.
- For multiple ply beams, ensure to laminate plies together to act as a single member.
- Square tube may be cut down, ensure cut is smooth, square and level.
- Turn threaded collar or threaded pipe to extend the column to the desired height. Maximum 4" adjustment. Secure the top plate to beam with four (4) 1/4" x 2" screws for wood beam, self tapping screws or tack weld for steel beam.

Column Height Specification Table

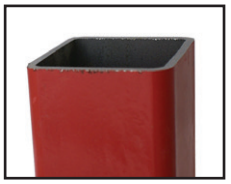
REDJACK 2.5: Tube 2-1/2" x 2-1/2", 11 Gauge				
MiTek Stock No.	Adjustable Height		Extended Length	
	in	mm	in	mm
RJ25x96	92 - 96	2337 - 2438	96	2438
RJ25x102	98 - 102	2489 - 2591	102	2591
RJ25x108	104 - 108	2642 - 2743	108	2743
RJ25x120	116 - 120	2946 - 3048	120	3048
BLACKJACK 3.0: Tube 3" x 3", 10 Gauge				
MiTek Stock No.	Adjustable Height		Extended Length	
	in	mm	in	mm
BJ30x96	92 - 96	2337 - 2438	96	2438
BJ30x102	98 - 102	2489 - 2591	102	2591
BJ30x108	104 - 108	2642 - 2743	108	2743
BJ30x120	116 - 120	2946 - 3048	120	3048
REDJACK 3.0: Tube 3" x 3", 8 Gauge				
MiTek Stock No.	Adjustable Height		Extended Length	
	in	mm	in	mm
RJ30x90	86 - 90	2184 - 2286	90	2286
RJ30x96	92 - 96	2337 - 2438	96	2438
RJ30x102	98 - 102	2489 - 2591	102	2591
RJ30x108	104 - 108	2642 - 2743	108	2743
RJ30x114	110 -114	2794 - 2896	114	2896
RJ30x120	116 - 120	2946 - 3048	120	3048
RJ30x144	140 - 144	3556 - 3658	144	3658



REDJACK 2.5 BLACKJACK 3.0 REDJACK 3.0



Adjustment Assembly



Square tube design

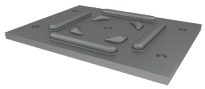
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Plate Specification Table

Plate	Dimensions (in) W	Dimensions (in) L	Gauge / Thickness	Beam Size	Installation Notes
PL (4.5 x 6) Bottom Plate	4.5	6	3 GA	**3-Ply 2x**	Inter-changeable with A (3.5 x 5.25) plate and use as top plate on RJ25 columns
				4-Ply 2x	
A (3.5 x 5.25) Top Plate	3.5	5.25	3 GA	**2-Ply SCL**	Inter-changeable with PL (4.5 x 6) plate and use as bottom plate on RJ25 columns
				3-Ply SCL	
				2-Ply 2x	
				3-Ply 2x	
B (3.5 x 7) Top Plate	3.5	7	1/2"	**2-Ply SCL**	Use 4 outer holes for beam attachment
				4-Ply SCL	
				2-Ply 2x	
				4-Ply 2x	
				3-Ply SCL	Use 4 inner holes for beam attachment
				3-Ply 2x	
C (5.25 x 7) Top Plate	5.25	7	1/2"	**3-Ply SCL**	Use all 4 holes for beam attachment
				4-Ply SCL	
				3-Ply 2x	
				4-Ply 2x	
D (7 x 7) Top Plate	7	7	1/2"	**4-Ply SCL**	Use 4 outer holes for beam attachment
				4-Ply 2x	
				3-Ply SCL	Use 4 inner holes for beam attachment
				3-Ply 2x	

Each plate kit comes with one PL plate + one A or B or C or D plate.
SCL members assume 1-3/4" width.
Bold: Beam size that plate is sized for.
Grey shades: Rotate plate to fit, beam width parallel with the longer side of the plate.



PL (4.5 x 6)



A (3.5 x 5.25) Top Plate



A (3.5 x 5.25) used as Bottom Plate on RJ25 column assembly



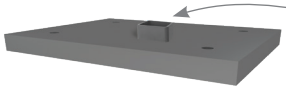
B (3.5 x 7) Top Plate



C (5.25 x 7) Top Plate



D (7 x 7) Top Plate



C (5.25 x 7) Plate shown upside down for illustration purpose

B, C & D plates are designed with a small tube at the bottom. Slide the tube into the threaded pipe component for stability.

CCK BLACKJACK / REDJACK Column Caps

Cap version for BLACKJACK 3.0 / REDJACK 2.5/3.0 Adjustable Structural Columns, CCK are sized to suit various SCL beam sizes and 3-ply/4-ply dimensional lumber beams. Cap style design helps to resist beam rotation.

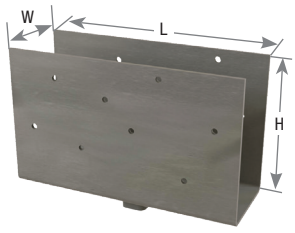
Materials: CCK35, CCK45, CCK55, CCK60: 7 gauge ASTM A1011; CCK525, CCK71: 3 gauge ASTM A 36 steel

Installation:

- Replaces BLACKJACK / REDJACK Top Plate.
- Slide column cap tube into the top of the threaded pipe component.
- MiTek's WS3 structural wood screws, 1/4" dia. x 3" long, are supplied with CCK Column Caps.
- Beam shall be continuous across the entire length of the column cap. For split beam applications, please contact MiTek.



Typical CCK Installation



CCK35

MiTek Stock No.	Steel Gauge	Dimensions (in) W	Dimensions (in) H	Dimensions (in) L	Fastener Schedule[3] Beam Qty	Fastener Schedule[3] Beam Type	D Fir-L Factored Resistance Bearing (100%)[1,2,5] Lbs	D Fir-L Factored Resistance Bearing (100%)[1,2,5] kN	S-P-F Factored Resistance Bearing (100%)[1,2,5] Lbs	S-P-F Factored Resistance Bearing (100%)[1,2,5] kN
[illegible]	7	[illegible]	[illegible]	11	16	[illegible]	31270	139.1	[illegible]	[illegible]
CCK45	7	4-5/8	6-1/2	11	16	WS3	40195	178.8	30440	135.4
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	49900	222.0	[illegible]	[illegible]
CCK55	7	5-1/2	6-1/2	11	16	WS3	46905	208.6	35515	158.0
[illegible]	7	[illegible]	[illegible]	11	16	[illegible]	49900	222.0	[illegible]	[illegible]
CCK71	3	7-1/4	6-1/2	11	16	WS3	49900	222.0	47350	210.6

Each Column Cap Kit comes with one CCK Column Cap + one PL (4.5 x 6) Bottom Plate

1) Factored bearing resistances are for standard term loading; reduce for other load durations in accordance with the code.
2) Bearing loads are based on compression perpendicular to grain values published in CSA O86:19 and having the bucket base in full contact with the supported member.
3) MiTek's WS3 structural wood screws are 1/4" dia. x 3" long and are included with CCK Column Caps.
4) Beams shall be designed to support the required loads. Beam shear may limit loads to less than listed.
5) The factored resistance of the CCK may exceed the column capacity. Refer to the BLACKJACK / REDJACK Column load tables (supporting steel beam) for the maximum factored resistance based on column length.

New products or updated product information are designated in **blue font**.

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Unit: lb (Imperial)

REDJACK 2.5, TOP PLATE: PL (4.5 x 6) / A (3.5 x 5.25)

MiTek Stock No.	Column Capacity (supporting steel beam)		Factored Bearing Resistance, 100% (lb) [3,5]								
			1-3/4" SCL (f_{cp} = 1,365 psi) [4]			D Fir-L			S-P-F		
	Allowable Load (lb) [1]	Factored Resistance (lb) [2]	1-Ply	2-Ply	3-Ply	2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply
			A (3.5x5.25)	A (3.5x5.25)	A (3.5x5.25)	A (3.5x5.25)	PL (4.5x6)	PL (4.5x6)	A (3.5x5.25)	PL (4.5x6)	PL (4.5x6)
RJ25x96	13600	21600	10030	20060	20060	12790	21600	21600	9680	16600	16600
RJ25x102	12800	19750	10030	19750	19750	12790	19750	19750	9680	16600	16600
RJ25x108	12200	18300		18300	18300		18300	18300			
RJ25x120	10900	15500	10030	15500	15500	12790	15500	15500	9680	15500	15500

REDJACK 2.5, TOP PLATE: B (3.5 x 7)

MiTek Stock No.	Column Capacity (supporting steel beam)		Factored Bearing Resistance, 100% (lb) [3,5]								
			1-3/4" SCL (f_{cp} = 1,365 psi) [4]			D Fir-L			S-P-F		
	Allowable Load (lb) [1]	Factored Resistance (lb) [2]	2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply
RJ25x96	13600	21600	21600	20060	21600	17050	12790	17050	12910	9680	12910
RJ25x102	12800	19750	19750	19750	19750	17050	12790	17050	12910	9680	12910
RJ25x108	12200	18300	18300	18300	18300						
RJ25x120	10900	15500	15500	15500	15500	15500	12790	15500	12910	9680	12910

REDJACK 2.5, TOP PLATE: C (5.25 x 7)

MiTek Stock No.	Column Capacity (supporting steel beam)		Factored Bearing Resistance, 100% (lb) [3,5]								
			1-3/4" SCL (f_{cp} = 1,365 psi) [4]			D Fir-L			S-P-F		
	Allowable Load (lb) [1]	Factored Resistance (lb) [2]	2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply
RJ25x96	13600	21600	21600	21600	21600	17050	21600	21600	12910	19370	19370
RJ25x102	12800	19750	19750	19750	19750	17050	19750	19750	12910	19370	19370
RJ25x108	12200	18300	18300	18300	18300		18300	18300		18300	18300
RJ25x120	10900	15500	15500	15500	15500	15500	15500	15500	12910	15500	15500

RedJack 2.5, TOP PLATE: D (7 x 7)

MiTek Stock No.	Column Capacity (supporting steel beam)		Factored Bearing Resistance, 100% (lb) [3,5]								
			1-3/4" SCL (f_{cp} = 1,365 psi) [4]			D Fir-L			S-P-F		
	Allowable Load (lb) [1]	Factored Resistance (lb) [2]	2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply
RJ25x96	13600	21600	21600	21600	21600	17050	21600	21600	12910	19370	21600
RJ25x102	12800	19750	19750	19750	19750	17050	19750	19750	12910	19370	19750
RJ25x108	12200	18300	18300	18300	18300		18300	18300		18300	18300
RJ25x120	10900	15500	15500	15500	15500	15500	15500	15500	12910	15500	15500

1) Column Allowable Loads have been determined through testing standards prescribed in the National Research Council Evaluation Directive for Adjustable Steel Columns using a safety factor of 2.25.
2) Column Factored Resistance is limited by the tube's axial compressive strength. The depicted values are established in accordance with CSA S16.
3) Factored Bearing Resistances are for standard term loading; reduce for other load durations in accordance to the code.
4) SCL Factored Bearing Resistance assumes 1-3/4" ply width and specified compression perpendicular to grain f_{cp} = 1,365 psi. For beams of **weaker specified f_{cp} or smaller width**, calculate the Factored Beam Bearing Resistance as follows: overall beam width x plate length x f_{cp} x 0.8.
Use the minimum of the calculated "Factored Beam Bearing Resistance" and the "Factored Resistance of the Column Capacity supporting steel beam" as the Factored Resistance of the column supporting the respective beam.
5) Grey shades: Rotate plate to fit, beam width parallel with the longer side of the plate.
6) Column is not capable of resisting lateral or uplift load.
7) Table values not applicable to split beam installation. For beams not continuous across the entire length of the supporting top plate, please contact MiTek.



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Unit: kN (Metric)

REDJACK 2.5, TOP PLATE: PL (4.5 x 6) / A (3.5 x 5.25)												
MiTek Stock No.	Column Capacity (supporting steel beam)		Factored Bearing Resistance, 100% (kN) [3,5]									
			1-3/4" SCL (f_{cp} = 1,365 psi) [4]			D Fir-L			S-P-F		
	Allowable Load (kN) [1]	Factored Resistance (kN) [2]	1-Ply	2-Ply	3-Ply	2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply
			A (3.5x5.25)	A (3.5x5.25)	A (3.5x5.25)	A (3.5x5.25)	PL (4.5x6)	PL (4.5x6)	A (3.5x5.25)	PL (4.5x6)	PL (4.5x6)
RJ25x96	60.5	96.1	44.6	89.2	89.2	56.9	96.1	96.1	43.1	73.8	73.8
RJ25x102	56.9	87.9	44.6	87.9	87.9	56.9	87.9	87.9	43.1	73.8	73.8
RJ25x108	54.3	81.4		81.4	81.4		81.4	81.4			
RJ25x120	48.5	68.9	44.6	68.9	68.9	56.9	68.9	68.9	43.1	68.9	68.9

REDJACK 2.5, TOP PLATE: B (3.5 x 7)											
MiTek Stock No.	Column Capacity (supporting steel beam)		Factored Bearing Resistance, 100% (kN) [3,5]								
			1-3/4" SCL (f_{cp} = 1,365 psi) [4]			D Fir-L			S-P-F		
	Allowable Load (kN) [1]	Factored Resistance (kN) [2]	2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply
RJ25x96	60.5	96.1	96.1	89.2	96.1	75.8	56.9	75.8	57.4	43.1	57.4
RJ25x102	56.9	87.9	87.9	87.9	87.9	75.8	56.9	75.8	57.4	43.1	57.4
RJ25x108	54.3	81.4	81.4	81.4	81.4						
RJ25x120	48.5	68.9	68.9	68.9	68.9	68.9	56.9	68.9	57.4	43.1	57.4

REDJACK 2.5, TOP PLATE: C (5.25 x 7)											
MiTek Stock No.	Column Capacity (supporting steel beam)		Factored Bearing Resistance, 100% (kN) [3,5]								
			1-3/4" SCL (f_{cp} = 1,365 psi) [4]			D Fir-L			S-P-F		
	Allowable Load (kN) [1]	Factored Resistance (kN) [2]	2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply
RJ25x96	60.5	96.1	96.1	96.1	96.1	75.8	96.1	96.1	57.4	86.2	86.2
RJ25x102	56.9	87.9	87.9	87.9	87.9	75.8	87.9	87.9	57.4	86.2	86.2
RJ25x108	54.3	81.4	81.4	81.4	81.4		81.4	81.4		81.4	81.4
RJ25x120	48.5	68.9	68.9	68.9	68.9	68.9	68.9	68.9	57.4	68.9	68.9

RedJack 2.5, TOP PLATE: D (7 x 7)											
MiTek Stock No.	Column Capacity (supporting steel beam)		Factored Bearing Resistance, 100% (kN) [3,5]								
			1-3/4" SCL (f_{cp} = 1,365 psi) [4]			D Fir-L			S-P-F		
	Allowable Load (kN) [1]	Factored Resistance (kN) [2]	2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply
RJ25x96	60.5	96.1	96.1	96.1	96.1	75.8	96.1	96.1	57.4	86.2	96.1
RJ25x102	56.9	87.9	87.9	87.9	87.9	75.8	87.9	87.9	57.4	86.2	87.9
RJ25x108	54.3	81.4	81.4	81.4	81.4		81.4	81.4		81.4	81.4
RJ25x120	48.5	68.9	68.9	68.9	68.9	68.9	68.9	68.9	57.4	68.9	68.9

1) Column Allowable Loads have been determined through testing standards prescribed in the National Research Council Evaluation Directive for Adjustable Steel Columns using a safety factor of 2.25.
2) Column Factored Resistance is limited by the tube's axial compressive strength. The depicted values are established in accordance with CSA S16.
3) Factored Bearing Resistances are for standard term loading; reduce for other load durations in accordance to the code.
4) SCL Factored Bearing Resistance assumes 1-3/4" ply width and specified compression perpendicular to grain f_{cp} = 1,365 psi (9.4 MPa). For beams of **weaker specified f_{cp} or smaller width**, calculate the Factored Beam Bearing Resistance as follows: overall beam width x plate length x f_{cp} x 0.8.
Use the minimum of the calculated "Factored Beam Bearing Resistance" and the "Factored Resistance of the Column Capacity supporting steel beam" as the Factored Resistance of the column supporting the respective beam.
5) Grey shades: Rotate plate to fit, beam width parallel with the longer side of the plate.
6) Column is not capable of resisting lateral or uplift load.
7) Table values not applicable to split beam installation. For beams not continuous across the entire length of the supporting top plate, please contact MiTek.



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Unit: lb (Imperial)

BLACKJACK 3.0, TOP PLATE: A (3.5 x 5.25)

MiTek Stock No.	Column Capacity (supporting steel beam)		Factored Bearing Resistance, 100% (lb) [3,5]								
			1-3/4" SCL (f_{cp} = 1,365 psi) [4]			D Fir-L			S-P-F		
	Allowable Load (lb) [1]	Factored Resistance (lb) [2]	1-Ply	2-Ply	3-Ply	1-Ply	2-Ply	3-Ply	1-Ply	2-Ply	3-Ply
BJ30x96	24000	36100	10030	20060	20060	6390	12790	12790	4840	9680	9680
BJ30x102	22900	33650	10030	20060	20060	6390	12790	12790	4840	9680	9680
BJ30x108	22300	31400									
BJ30x120	21900	27200	10030	20060	20060	6390	12790	12790	4840	9680	9680

BLACKJACK 3.0, TOP PLATE: B (3.5 x 7)

MiTek Stock No.	Column Capacity (supporting steel beam)		Factored Bearing Resistance, 100% (lb) [3,5]								
			1-3/4" SCL (f_{cp} = 1,365 psi) [4]			D Fir-L			S-P-F		
	Allowable Load (lb) [1]	Factored Resistance (lb) [2]	2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply
BJ30x96	24000	36100	26750	20060	26750	17050	12790	17050	12910	9680	12910
BJ30x102	22900	33650	26750	20060	26750	17050	12790	17050	12910	9680	12910
BJ30x108	22300	31400									
BJ30x120	21900	27200	26750	20060	26750	17050	12790	17050	12910	9680	12910

BLACKJACK 3.0, TOP PLATE: C (5.25 x 7)

MiTek Stock No.	Column Capacity (supporting steel beam)		Factored Bearing Resistance, 100% (lb) [3,5]								
			1-3/4" SCL (f_{cp} = 1,365 psi) [4]			D Fir-L			S-P-F		
	Allowable Load (lb) [1]	Factored Resistance (lb) [2]	2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply
BJ30x96	24000	36100	26750	36100	36100	17050	25580	25580	12910	19370	19370
BJ30x102	22900	33650	26750	33650	33650	17050	25580	25580	12910	19370	19370
BJ30x108	22300	31400		31400	31400						
BJ30x120	21900	27200	26750	27200	27200	17050	25580	25580	12910	19370	19370

BLACKJACK 3.0, TOP PLATE: D (7 x 7)

MiTek Stock No.	Column Capacity (supporting steel beam)		Factored Bearing Resistance, 100% (lb) [3,5]								
			1-3/4" SCL (f_{cp} = 1,365 psi) [4]			D Fir-L			S-P-F		
	Allowable Load (lb) [1]	Factored Resistance (lb) [2]	2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply
BJ30x96	24000	36100	26750	36100	36100	17050	25580	34110	12910	19370	25820
BJ30x102	22900	33650	26750	33650	33650	17050	25580	33650	12910	19370	25820
BJ30x108	22300	31400		31400	31400			31400			
BJ30x120	21900	27200	26750	27200	27200	17050	25580	27200	12910	19370	25820

1) Column Allowable Loads have been determined through testing standards prescribed in the National Research Council Evaluation Directive for Adjustable Steel Columns using a safety factor of 2.25.
2) Column Factored Resistance is limited by the tube's axial compressive strength. The depicted values are established in accordance with CSA S16.
3) Factored Bearing Resistances are for standard term loading; reduce for other load durations in accordance to the code.
4) SCL Factored Bearing Resistance assumes 1-3/4" ply width and specified compression perpendicular to grain f_{cp} = 1,365 psi. For beams of **weaker specified f_{cp} or smaller width**, calculate the Factored Beam Bearing Resistance as follows: overall beam width x plate length x f_{cp} x 0.8.
Use the minimum of the calculated "Factored Beam Bearing Resistance" and the "Factored Resistance of the Column Capacity supporting steel beam" as the Factored Resistance of the column supporting the respective beam.
5) Grey shades: Rotate plate to fit, beam width parallel with the longer side of the plate.
6) Column is not capable of resisting lateral or uplift load.
7) Table values not applicable to split beam installation. For beams not continuous across the entire length of the supporting top plate, please contact MiTek.



Continued on next page

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Unit: kN (Metric)

BLACKJACK 3.0, TOP PLATE: A (3.5 x 5.25)

MiTek Stock No.	Column Capacity (supporting steel beam)		Factored Bearing Resistance, 100% (kN) [3,5]								
			1-3/4" SCL (f_{cp} = 1,365 psi) [4]			D Fir-L			S-P-F		
	Allowable Load (kN) [1]	Factored Resistance (kN) [2]	1-Ply	2-Ply	3-Ply	1-Ply	2-Ply	3-Ply	1-Ply	2-Ply	3-Ply
BJ30x96	106.8	160.6	44.6	89.2	89.2	28.4	56.9	56.9	21.5	43.1	43.1
BJ30x102	101.9	149.7	44.6	89.2	89.2	28.4	56.9	56.9	21.5	43.1	43.1
BJ30x108	99.2	139.7									
BJ30x120	97.4	121.0	44.6	89.2	89.2	28.4	56.9	56.9	21.5	43.1	43.1

BLACKJACK 3.0, TOP PLATE: B (3.5 x 7)

MiTek Stock No.	Column Capacity (supporting steel beam)		Factored Bearing Resistance, 100% (kN) [3,5]								
			1-3/4" SCL (f_{cp} = 1,365 psi) [4]			D Fir-L			S-P-F		
	Allowable Load (kN) [1]	Factored Resistance (kN) [2]	2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply
BJ30x96	106.8	160.6	119.0	89.2	119.0	75.8	56.9	75.8	57.4	43.1	57.4
BJ30x102	101.9	149.7	119.0	89.2	119.0	75.8	56.9	75.8	57.4	43.1	57.4
BJ30x108	99.2	139.7									
BJ30x120	97.4	121.0	119.0	89.2	119.0	75.8	56.9	75.8	57.4	43.1	57.4

BLACKJACK 3.0, TOP PLATE: C (5.25 x 7)

MiTek Stock No.	Column Capacity (supporting steel beam)		Factored Bearing Resistance, 100% (kN) [3,5]								
			1-3/4" SCL (f_{cp} = 1,365 psi) [4]			D Fir-L			S-P-F		
	Allowable Load (kN) [1]	Factored Resistance (kN) [2]	2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply
BJ30x96	106.8	160.6	119.0	160.6	160.6	75.8	113.8	113.8	57.4	86.2	86.2
BJ30x102	101.9	149.7	119.0	149.7	149.7	75.8	113.8	113.8	57.4	86.2	86.2
BJ30x108	99.2	139.7		139.7	139.7						
BJ30x120	97.4	121.0	119.0	121.0	121.0	75.8	113.8	113.8	57.4	86.2	86.2

BLACKJACK 3.0, TOP PLATE: D (7 x 7)

MiTek Stock No.	Column Capacity (supporting steel beam)		Factored Bearing Resistance, 100% (kN) [3,5]								
			1-3/4" SCL (f_{cp} = 1,365 psi) [4]			D Fir-L			S-P-F		
	Allowable Load (kN) [1]	Factored Resistance (kN) [2]	2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply
BJ30x96	106.8	160.6	119.0	160.6	160.6	75.8	113.8	151.7	57.4	86.2	114.9
BJ30x102	101.9	149.7	119.0	149.7	149.7	75.8	113.8	149.7	57.4	86.2	114.9
BJ30x108	99.2	139.7		139.7	139.7			139.7			
BJ30x120	97.4	121.0	119.0	121.0	121.0	75.8	113.8	121.0	57.4	86.2	114.9

1) Column Allowable Loads have been determined through testing standards prescribed in the National Research Council Evaluation Directive for Adjustable Steel Columns using a safety factor of 2.25.
2) Column Factored Resistance is limited by the tube's axial compressive strength. The depicted values are established in accordance with CSA S16.
3) Factored Bearing Resistances are for standard term loading; reduce for other load durations in accordance to the code.
4) SCL Factored Bearing Resistance assumes 1-3/4" ply width and specified compression perpendicular to grain f_{cp} = 1,365 psi (9.4 MPa). For beams of **weaker specified f_{cp} or smaller width**, calculate the Factored Beam Bearing Resistance as follows: overall beam width x plate length x f_{cp} x 0.8.
Use the minimum of the calculated "Factored Beam Bearing Resistance" and the "Factored Resistance of the Column Capacity supporting steel beam" as the Factored Resistance of the column supporting the respective beam.
5) Grey shades: Rotate plate to fit, beam width parallel with the longer side of the plate.
6) Column is not capable of resisting lateral or uplift load.
7) Table values not applicable to split beam installation. For beams not continuous across the entire length of the supporting top plate, please contact MiTek.

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Continued on next page

Unit: lb (Imperial)

REDJACK 3.0, TOP PLATE: A (3.5 x 5.25)

MiTek Stock No.	Column Capacity (supporting steel beam)		Factored Bearing Resistance, 100% (lb) [3,5]								
			1-3/4" SCL (f_{cp} = 1,365 psi) [4]			D Fir-L			S-P-F		
	Allowable Load (lb) [1]	Factored Resistance (lb) [2]	1-Ply	2-Ply	3-Ply	1-Ply	2-Ply	3-Ply	1-Ply	2-Ply	3-Ply
RJ30x90	35500	46400	10030	20060	20060	6390	12790	12790	4840	9680	9680
RJ30x96	32100	43400									
RJ30x102	30000	40300	10030	20060	20060	6390	12790	12790	4840	9680	9680
RJ30x108	28300	37600									
RJ30x114	27500	35100	10030	20060	20060	6390	12790	12790	4840	9680	9680
RJ30x120	26800	32700									
RJ30x144	21300	24800	10030	20060	20060	6390	12790	12790	4840	9680	9680

REDJACK 3.0, TOP PLATE: B (3.5 x 7)

MiTek Stock No.	Column Capacity (supporting steel beam)		Factored Bearing Resistance, 100% (lb) [3,5]								
			1-3/4" SCL (f_{cp} = 1,365 psi) [4]			D Fir-L			S-P-F		
	Allowable Load (lb) [1]	Factored Resistance (lb) [2]	2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply
RJ30x90	35500	46400	26750	20060	26750	17050	12790	17050	12910	9680	12910
RJ30x96	32100	43400									
RJ30x102	30000	40300	26750	20060	26750	17050	12790	17050	12910	9680	12910
RJ30x108	28300	37600									
RJ30x114	27500	35100	26750	20060	26750	17050	12790	17050	12910	9680	12910
RJ30x120	26800	32700									
RJ30x144	21300	24800	24800	20060	24800	17050	12790	17050	12910	9680	12910

REDJACK 3.0, TOP PLATE: C (5.25 x 7)

MiTek Stock No.	Column Capacity (supporting steel beam)		Factored Bearing Resistance, 100% (lb) [3,5]								
			1-3/4" SCL (f_{cp} = 1,365 psi) [4]			D Fir-L			S-P-F		
	Allowable Load (lb) [1]	Factored Resistance (lb) [2]	2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply
RJ30x90	35500	46400	26750	40130	40130	17050	25580	25580	12910	19370	19370
RJ30x96	32100	43400									
RJ30x102	30000	40300	26750	40130	40130	17050	25580	25580	12910	19370	19370
RJ30x108	28300	37600		37600	37600						
RJ30x114	27500	35100	26750	35100	35100	17050	25580	25580	12910	19370	19370
RJ30x120	26800	32700		32700	32700						
RJ30x144	21300	24800	24800	24800	24800	17050	24800	24800	12910	19370	19370

REDJACK 3.0, TOP PLATE: D (7 x 7)

MiTek Stock No.	Column Capacity (supporting steel beam)		Factored Bearing Resistance, 100% (lb) [3,5]								
			1-3/4" SCL (f_{cp} = 1,365 psi) [4]			D Fir-L			S-P-F		
	Allowable Load (lb) [1]	Factored Resistance (lb) [2]	2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply
RJ30x90	35500	46400	26750	40130	46400	17050	25580	34110	12910	19370	25820
RJ30x96	32100	43400			43400						
RJ30x102	30000	40300	26750	40130	40300	17050	25580	34110	12910	19370	25820
RJ30x108	28300	37600		37600	37600						
RJ30x114	27500	35100	26750	35100	35100	17050	25580	34110	12910	19370	25820
RJ30x120	26800	32700		32700	32700			32700			
RJ30x144	21300	24800	24800	24800	24800	17050	24800	24800	12910	19370	24800

1) Column Allowable Loads have been determined through testing standards prescribed in the National Research Council Evaluation Directive for Adjustable Steel Columns using a safety factor of 2.25.
2) Column Factored Resistance is limited by the tube's axial compressive strength. The depicted values are established in accordance with CSA S16.
3) Factored Bearing Resistances are for standard term loading; reduce for other load durations in accordance to the code.
4) SCL Factored Bearing Resistance assumes 1-3/4" ply width and specified compression perpendicular to grain f_{cp} = 1,365 psi. For beams of **weaker specified f_{cp} or smaller width**, calculate the Factored Beam Bearing Resistance as follows: overall beam width x plate length x f_{cp} x 0.8.
Use the minimum of the calculated "Factored Beam Bearing Resistance" and the "Factored Resistance of the Column Capacity supporting steel beam" as the Factored Resistance of the column supporting the respective beam.
5) Grey shades: Rotate plate to fit, beam width parallel with the longer side of the plate.
6) Column is not capable of resisting lateral or uplift load.
7) Table values not applicable to split beam installation. For beams not continuous across the entire length of the supporting top plate, please contact MiTek.



Continued on next page

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Unit: kN (Metric)

REDJACK 3.0, TOP PLATE: A (3.5 x 5.25)

MiTek Stock No.	Column Capacity (supporting steel beam)		Factored Bearing Resistance, 100% (kN) [3,5]								
			1-3/4" SCL (f_{cp} = 1,365 psi) [4]			D Fir-L			S-P-F		
	Allowable Load (kN) [1]	Factored Resistance (kN) [2]	1-Ply	2-Ply	3-Ply	1-Ply	2-Ply	3-Ply	1-Ply	2-Ply	3-Ply
RJ30x90	157.9	206.4	44.6	89.2	89.2	28.4	56.9	56.9	21.5	43.1	43.1
RJ30x96	142.8	193.1									
RJ30x102	133.4	179.3	44.6	89.2	89.2	28.4	56.9	56.9	21.5	43.1	43.1
RJ30x108	125.9	167.3									
RJ30x114	122.3	156.1	44.6	89.2	89.2	28.4	56.9	56.9	21.5	43.1	43.1
RJ30x120	119.2	145.5									
RJ30x144	94.7	110.3	44.6	89.2	89.2	28.4	56.9	56.9	21.5	43.1	43.1

REDJACK 3.0, TOP PLATE: B (3.5 x 7)

MiTek Stock No.	Column Capacity (supporting steel beam)		Factored Bearing Resistance, 100% (kN) [3,5]								
			1-3/4" SCL (f_{cp} = 1,365 psi) [4]			D Fir-L			S-P-F		
	Allowable Load (kN) [1]	Factored Resistance (kN) [2]	2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply
RJ30x90	157.9	206.4	119.0	89.2	119.0	75.8	56.9	75.8	57.4	43.1	57.4
RJ30x96	142.8	193.1									
RJ30x102	133.4	179.3	119.0	89.2	119.0	75.8	56.9	75.8	57.4	43.1	57.4
RJ30x108	125.9	167.3									
RJ30x114	122.3	156.1	119.0	89.2	119.0	75.8	56.9	75.8	57.4	43.1	57.4
RJ30x120	119.2	145.5									
RJ30x144	94.7	110.3	110.3	89.2	110.3	75.8	56.9	75.8	57.4	43.1	57.4

REDJACK 3.0, TOP PLATE: C (5.25 x 7)

MiTek Stock No.	Column Capacity (supporting steel beam)		Factored Bearing Resistance, 100% (kN) [3,5]								
			1-3/4" SCL (f_{cp} = 1,365 psi) [4]			D Fir-L			S-P-F		
	Allowable Load (kN) [1]	Factored Resistance (kN) [2]	2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply
RJ30x90	157.9	206.4	119.0	178.5	178.5	75.8	113.8	113.8	57.4	86.2	86.2
RJ30x96	142.8	193.1									
RJ30x102	133.4	179.3	119.0	178.5	178.5	75.8	113.8	113.8	57.4	86.2	86.2
RJ30x108	125.9	167.3		167.3	167.3						
RJ30x114	122.3	156.1	119.0	156.1	156.1	75.8	113.8	113.8	57.4	86.2	86.2
RJ30x120	119.2	145.5		145.5	145.5						
RJ30x144	94.7	110.3	110.3	110.3	110.3	75.8	110.3	110.3	57.4	86.2	86.2

REDJACK 3.0, TOP PLATE: D (7 x 7)

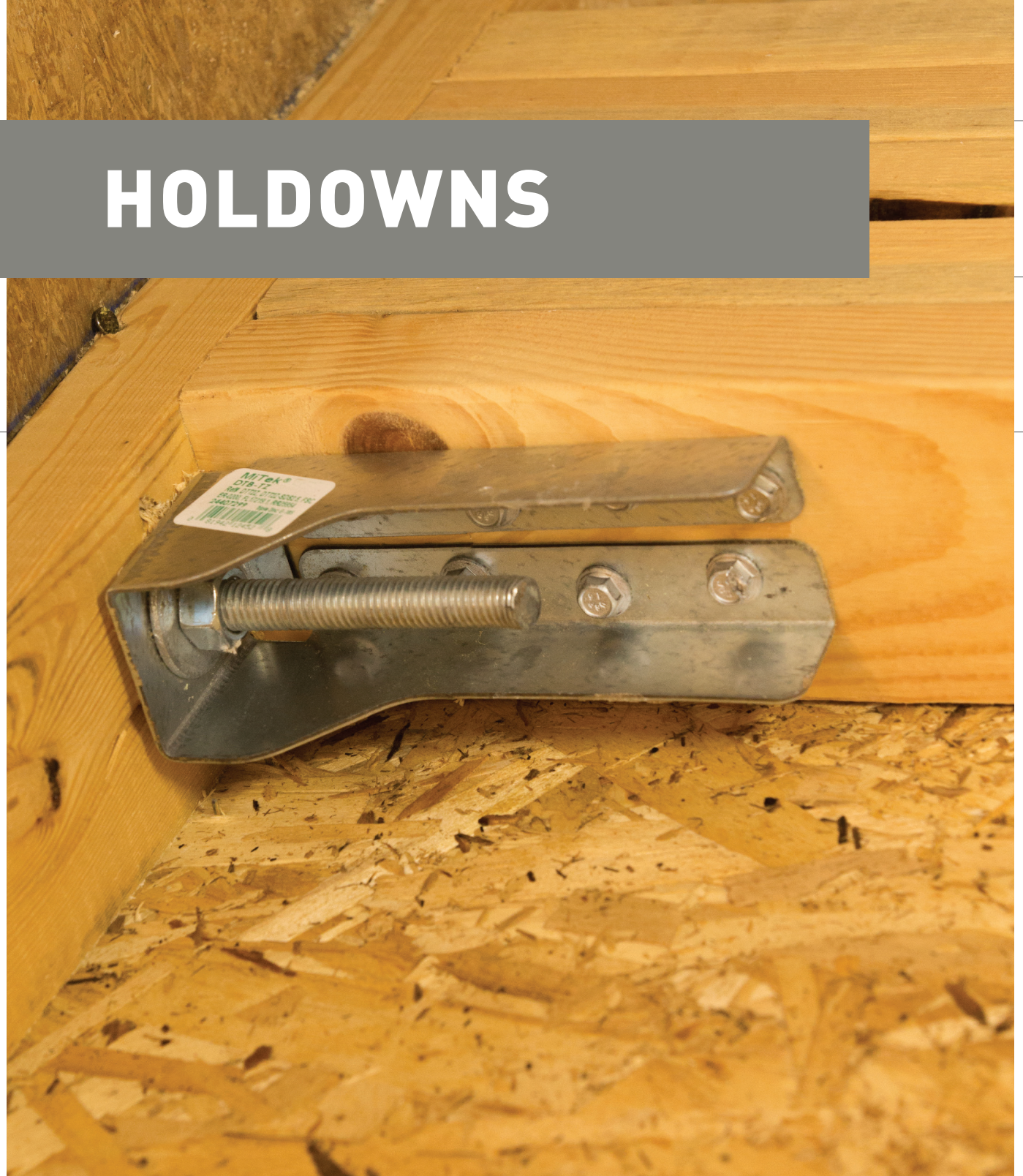
MiTek Stock No.	Column Capacity (supporting steel beam)		Factored Bearing Resistance, 100% (kN) [3,5]								
			1-3/4" SCL (f_{cp} = 1,365 psi) [4]			D Fir-L			S-P-F		
	Allowable Load (kN) [1]	Factored Resistance (kN) [2]	2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply	2-Ply	3-Ply	4-Ply
RJ30x90	157.9	206.4	119.0	178.5	206.4	75.8	113.8	151.7	57.4	86.2	114.9
RJ30x96	142.8	193.1			193.1						
RJ30x102	133.4	179.3	119.0	178.5	179.3	75.8	113.8	151.7	57.4	86.2	114.9
RJ30x108	125.9	167.3		167.3	167.3						
RJ30x114	122.3	156.1	119.0	156.1	156.1	75.8	113.8	151.7	57.4	86.2	114.9
RJ30x120	119.2	145.5		145.5	145.5			145.5			
RJ30x144	94.7	110.3	110.3	110.3	110.3	75.8	110.3	110.3	57.4	86.2	110.3

1) Column Allowable Loads have been determined through testing standards prescribed in the National Research Council Evaluation Directive for Adjustable Steel Columns using a safety factor of 2.25.
2) Column Factored Resistance is limited by the tube's axial compressive strength. The depicted values are established in accordance with CSA S16.
3) Factored Bearing Resistances are for standard term loading; reduce for other load durations in accordance to the code.
4) SCL Factored Bearing Resistance assumes 1-3/4" ply width and specified compression perpendicular to grain f_{cp} = 1,365 psi (9.4 MPa). For beams of **weaker specified f_{cp} or smaller width**, calculate the Factored Beam Bearing Resistance as follows: overall beam width x plate length x f_{cp} x 0.8.
Use the minimum of the calculated "Factored Beam Bearing Resistance" and the "Factored Resistance of the Column Capacity supporting steel beam" as the Factored Resistance of the column supporting the respective beam.
5) Grey shades: Rotate plate to fit, beam width parallel with the longer side of the plate.
6) Column is not capable of resisting lateral or uplift load.
7) Table values not applicable to split beam installation. For beams not continuous across the entire length of the supporting top plate, please contact MiTek.



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HOLDOWNS



MiTek®

HOLDOWNS	68-83
Foundation Straps	78-81
Holdowns	70-74, 77
Purlin Anchors	82-83
Tension Ties	75-76



PHD Predeflected Holdowns

Features the pre-deflected base, the PHD holdowns minimize deflection while providing uplift resistance. Installs with screws eliminating the need for predrilling and potential fastener slip. No thru bolts to countersink.

Materials: See chart

Finish: G90 galvanizing

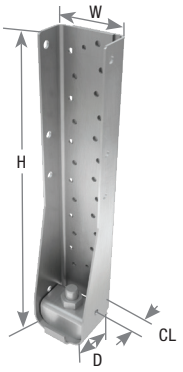
Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:

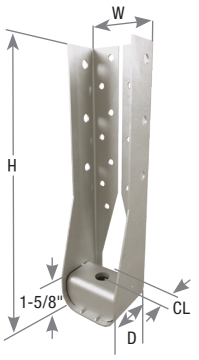
- Use all specified fasteners. See Product Notes, page 16.
- **Place the PHD over the anchor bolt. No washer is required.**
- Install with MiTek's WS3 (1/4" dia. x 3" long) structural wood screws, which are provided with the holdown.
- Tighten anchor bolt nuts finger tight to base plus 1/3 to 1/2 additional turns with a wrench.
- **PHD Predeflected Holdowns may be installed off sill plate with no load reduction.**
- The design engineer may specify any alternate anchorage calculated to resist the tension load for a specific application. Anchorage exposure length should take the bearing plate height of 1-5/8" into account, anchor bolt thread should visibly extend above nut.
- If used to anchor a built-up post, such as a double 2x4, the post component shall be designed to act as a single unit. Holdown fasteners specified shall not be considered to attach multiple plies together.
- For anchorage options see STB / STBL Anchor Bolt section on pages 46-47.



Typical PHD5A installation



PHD8



PHD5A
(PHD2A / PHD4A similar)

MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in)				Fastener Schedule				Unit	D Fir-L Factored Resistance	S-P-F Factored Resistance	Deflection at Factored Resistance	
							Anchor Bolts[2]		Wood Screws[4]						
			W	H	D	CL[6]	Qty	Dia (in)	Qty	Type		Uplift (115%)[1,5]	Uplift (115%)[1,5]	in	mm
PHD2A	HDU2-SDS2.5	14	3	7-3/4	2-5/8	1-3/8	1	5/8	6	WS3	Lbs	3735	3200	0.161	4.09
											kN	16.61	14.23		
PHD4A	HDU4-SDS2.5	14	3	9-3/4	2-5/8	1-3/8	1	5/8	10	WS3	Lbs	6600	5660	0.163	4.14
											kN	29.36	25.18		
PHD5A	HDU5-SDS2.5	14	3	11-11/16	2-5/8	1-3/8	1	5/8	14	WS3	Lbs	8435	7380	0.164	4.17
											kN	37.52	32.83		
PHD8	HDU8-SDS2.5	12	3-1/4	16-1/2	3	1-3/8	1	7/8	24	WS3	Lbs	11730	10055	0.116	2.95
											kN	52.18	44.73		

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) The designer must specify anchor bolt type, length, and embedment.
3) The PHD may be elevated off the sill and may increase deflection.
4) MiTek's WS3 structural wood screws are 1/4" dia. x 3" long and are included with PHD models.
5) Minimum post thickness is 3". Consult MiTek for installations less than 3".
6) "CL" denotes the distance between the post and center of the anchor bolt.

New products or updated product information are designated in blue font.

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DTB Holdown

DTB-TZ is a light-capacity holdown for single 2x installations.

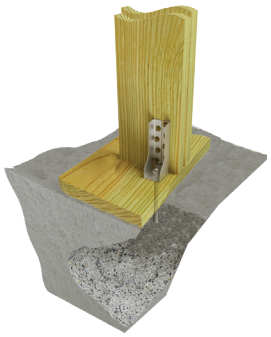
Finish: G-185 galvanizing

Options: See chart for Corrosion Finish Options

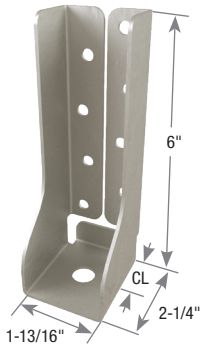
Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:

- Use all specified fasteners. See Product Notes, page 16.
- Install with MiTek's THR 1/2" threaded rod or equivalent.
- Position DTB-TZ on deck joist in a location where the 1/2" threaded rod or bolt may be threaded through the bolt hole.
- Drive MiTek's WS15-EXT structural wood screws into joist.
- Re-install threaded rod or anchor bolt. Secure with washer and nut.
- Tighten anchor bolt nuts finger tight to base plus 1⁄3 to 1⁄2 additional turns with wrench.



Typical DTB-TZ installation



DTB-TZ

MiTek Stock No.	Ref. No.	Steel Gauge	Rod / Bolt Anchor Dia. (in)	CL (in)	Fastener Schedule[2]		D Fir-L Factored Resistance				S-P-F Factored Resistance				Corrosion Finish
							Lbs		kN		Lbs		kN		
					Qty	Wood Screws	100%	115%[1]	100%	115%[1]	100%	115%[1]	100%	115%[1]	
DTB-TZ	DTT2Z	14	1/2	1-1/8	8	WS15-EXT	2640	2640	11.74	11.74	2220	2220	9.88	9.88	

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) MiTek's WS15-EXT structural wood screws are 1/4" dia. x 1-1/2" long exterior coat screw and are included with DTB-TZ holdowns.

Corrosion Finish Key Stainless Steel HDG Triple Zinc

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TD – Different welded configurations and sizes achieve a great deal of versatility within the TD series

TDX – The TDX2 and TDX5 feature formed designs, all others are welded. All are self-jigging

All models, except TD2, TD5, and TD7, feature a self-jigging design with code required end distances built in.

Materials: See chart

Finish: TDX5 – G90 galvanizing; TDX2-TZ – G-185 galvanizing; All others – Primer

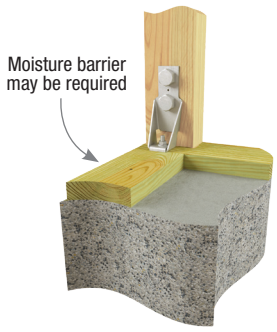
Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:

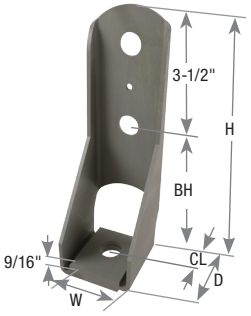
- Use all specified fasteners. See Product Notes, page 16.
- Do not use lag bolts. Washers are not required for anchor bolts or between holdown and bolt hex head, but standard washers should be used against stud or post under the nut. See page 49 for BP/LBP Bearing Plates.
- Bolt holes should be a minimum of 1/32" to a maximum of 1/16" larger than the bolt diameter.
- See pages 46-47 for STB Anchor Bolt section for anchorage options. A design professional may specify alternate anchorage with conventional anchor bolts.
- A design professional shall determine the adequacy of the stud to resist published loads. Holdown fasteners specified shall not be considered to attach multiple plies together.
- Tighten anchor bolt nuts finger tight to base plus 1/3 to 1/2 additional turns with a wrench. Wood members may shrink over time; if possible, nut tightness should be checked periodically.
- If used to anchor a built-up post, such as a double 2x4, the post component shall be designed to act as a single unit.



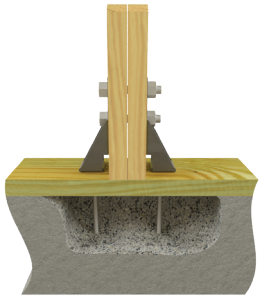
Typical TDX6 installation



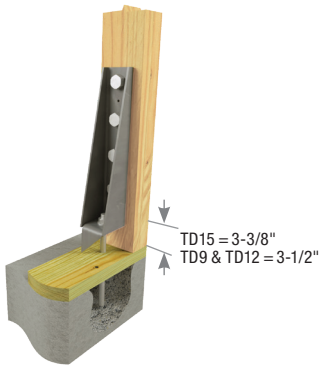
Typical TDX2-TZ installation



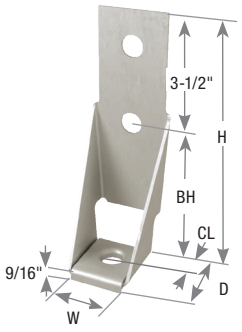
TDX6



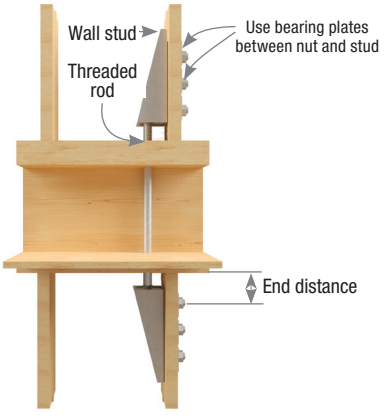
Typical TDX2-TZ back-to-back installation



Typical TD15 installation



TDX2-TZ



Holdown installation between floors

Continued on next page

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MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in)					Fastener Schedule[4]			Min. Required Bolt End Distance[5] (in)	Length of Bolt in Vertical Member (in)	D Fir-L Factored Tensile Resistance (115%)[1,2,3]		S-P-F Factored Tensile Resistance (115%)[1,2,3]		Corrosion Finish
			W	H	D	BH	CL	Anchor Bolt Dia (in)	Bolts Qty	Bolts Dia (in)			Lbs	kN	Lbs	kN	
TD5	--	7	3	6-3/8	3-3/4	1-1/4	2-1/8	3/4	2	3/4	5-1/4	1-1/2	1560	6.94	1230	5.47	
												3	3115	13.86	2460	10.94	
												3-1/2	3635	16.17	2870	12.77	
												5-1/2	5710	25.40	4510	20.06	
TD7	--	3	3-3/8	11-7/8	3-5/8	3-3/8	2-1/8	1-1/8	3	7/8	6-1/8	1-1/2	2725	12.12	2150	9.56	
												3	5450	24.24	4300	19.13	
												3-1/2	6360	28.29	5020	22.33	
												5-1/2	9995	44.46	7890	35.10	
TD9	--	3	3-3/8	16-1/2	4-1/4	4-1/8	2-1/8	1-1/8	3	1	7	3	6225	27.69	4915	21.86	
												3-1/2	7270	32.34	5740	25.53	
												4-1/2	9345	41.57	7375	32.81	
												5-1/2	11420	50.80	9015	40.10	
TD12	HD12	3	3-1/2	20-1/2	4-1/4	4-1/8	2-1/8	1-1/8	4	1	7	3	8310	36.96	6555	29.16	
												3-1/2	9690	43.10	7645	34.01	
												4-1/2	12460	55.42	9835	43.75	
												5-1/2	15225	67.72	12025	53.49	
TD15	HD19	3	3-1/2	25	4-3/8	4-1/4	2-1/8	1-1/4	5	1	7	3	10385	46.19	8195	36.45	
												3-1/2	12110	53.87	9560	42.52	
												4-1/2	15570	69.26	12295	54.69	
												5-1/2	19035	84.67	15025	66.83	
TDX2-TZ	HD3B	12	2-1/16	8-1/8	2-3/4	4-1/2	1-1/2	5/8	2	5/8	4-1/2	1-1/2	1300	5.78	1025	4.56	
												3	2525	11.23	1795	7.98	
												3-1/2	2525	11.23	1795	7.98	
												5-1/2	2525	11.23	1795	7.98	
TDX5	--	10	2-1/2	9-3/8	3-7/8	6	2	3/4	2	3/4	5-1/4	1-1/2	1560	6.94	1230	5.47	
												3	3115	13.86	2460	10.94	
												3-1/2	3635	16.17	2870	12.77	
												5-1/2	5695	25.33	4510	20.06	
TDX6	HD5B	7	3-1/2	11-1/8	3-3/4	6-1/8	2	7/8	2	7/8	6-1/8	1-1/2	1815	8.07	1440	6.41	
												3	3635	16.17	2870	12.77	
												3-1/2	4240	18.86	3345	14.88	
												5-1/2	6665	29.65	5260	23.40	
TDX8	--	7	3-1/2	14-5/8	3-3/4	6-1/8	2	7/8	3	7/8	6-1/8	1-1/2	2725	12.12	2150	9.56	
												3	5450	24.24	4300	19.13	
												3-1/2	6360	28.29	5020	22.33	
												5-1/2	9995	44.46	7890	35.10	
TDX10	HD7B	7	3-1/2	18-1/8	3-3/4	6-1/8	2	7/8	4	7/8	6-1/8	1-1/2	3635	16.17	2870	12.77	
												3	7270	32.34	5740	25.53	
												3-1/2	8480	37.72	6695	29.78	
												5-1/2	13325	59.27	10515	46.77	
TDX14	HD9B	3	3-1/2	20-1/2	3-5/8	7	2-1/8	1	4	1	7	1-1/2	4150	18.46	3275	14.57	
												3	8310	36.96	6555	29.16	
												3-1/2	9690	43.10	7645	34.01	
												5-1/2	15225	67.72	12025	53.49	

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) The designer must specify stud or post to resist published factored resistance.
3) The designer must specify anchor bolt type, length, and embedment.
4) All models may be installed with greater than the required anchor end distance with no chart load reduction.
5) The designer shall consider the effect of compression, bearing, tension, and combined bending due to device eccentricity when applicable.
6) Holdowns raised off of the sill plate may have higher deflection values.
7) The TD/TDX may be elevated off the sill which may increase deflection. Reference page 77 for more information.

Corrosion Finish Key Stainless Steel HDG Triple Zinc

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UPHD Holdowns

Engineered for high capacity with minimum deflection and low eccentricity. Install with screws eliminating the need for predrilling and potential fastener slip. No thru bolts to countersink.

Materials: See chart

Finish: Primer

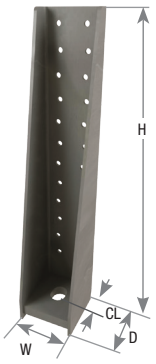
Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:

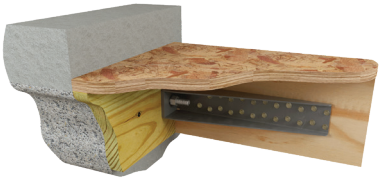
- Use all specified fasteners. See Product Notes, page 16.
- Place holdown over anchor bolt and drive screws into post.
- Tighten anchor bolt nuts finger tight to base plus 1/3 to 1/2 additional turns with a wrench.
- Holdown may be installed off of the plate with no load reduction.
- If used to anchor a built-up post, such as a double 2x4, the post component shall be designed to act as a single unit. Holdown fasteners specified shall not be considered to attach multiple plies together.



Typical UPHD installation



UPHD



Typical UPHD concrete wall installation

MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in)				Fastener Schedule				Minimum Wood Thickness (in)[3]	Minimum Wood Width (in)[4]	Unit	D Fir-L Factored Resistance	S-P-F Factored Resistance	Deflection at Factored Resistance	
							Anchor Bolts[5]		Wood Screws[6]								
			W	H	D	CL	Qty	Dia. (in)	Qty	Type				Uplift 115%[1]	Uplift 115%[1]	in	mm
UPHD8	HDQ8-SDS3	10	3-1/4	17-1/2	3	1-3/8	1	7/8	24	WS3	3	3-1/2	Lbs	13545	12100	0.106	2.69
													kN	60.25	53.82		
UPHD9	HDU11-SDS2.5	10	3-1/4	17-1/4	3-1/2	1-1/2	1	1	24	WS3	3	5-1/2	Lbs	16600	16510	0.081	2.06
													kN	73.84	73.44		
UPHD11	HHDQ11-SDS2.5	7	3	15-1/8	3-1/2	1-1/2	1	1	24	WS3	4-1/2	5-1/2	Lbs	21390	20130	0.11	2.79
													kN	95.15	89.54		
UPHD14	HDU14-SDS2.5, HHDQ14-SDS2.5	7	3	18-3/4	3-1/2	1-1/2	1	1	30	WS3	4-1/2	5-1/2	Lbs	24590	23570	0.115	2.92
													kN	109.38	104.84		

1) Short-term load duration factor K_D = 1.15 has been taken into consideration; no further increase allowed.
2) The UPHD may be installed elevated off the sill and may increase deflection.
3) Where post is consisted of multiple 2x members, members must be fastened securely together to act as one member.
4) UPHD hold-down shall be installed centered along the width of the post.
5) The designer must specify anchor bolt type, length, and embedment.
6) MiTek's WS3 structural wood screws are 1/4" dia. x 3" long and are included with UPHD models.
New products or updated product information are designated in blue font.

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Secures multi-ply studs or posts to mudsills or foundation. Nail fastening makes for a convenient connection to studs or posts in cramped retrofit installations.

Materials: 10 gauge

Finish: G90 galvanizing

Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:

- Use all specified fasteners to attach the strap portion of the connector to the side of stud, post, joist, purlin, or beam. Secure the base to the concrete or masonry wall with specified anchor bolt. A design professional shall specify the type, length, and embedment of the anchor bolt.
- **HTT45 Max Nailing** – Fill all round and diamond nail holes.
- Washers are not required on transfer plates that fit over the anchor bolt.
- Tighten anchor bolt nuts finger tight to base plus 1/3 to 1/2 additional turns with a wrench.



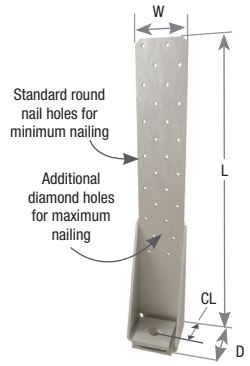
Typical HTT16 installation



Typical HTT45 Max installation



HTT16



HTT45

MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in)				Nail Spacing (in)	Fastener Schedule					D Fir-L Factored Resistance		S-P-F Factored Resistance	
								Min/ Max	Anchor Bolt[3]		Strap[2,4]		Tensile 115%[1]		Tensile 115%[1]	
			W	L	D	CL			Qty	Dia. (in)	Qty	Type	Lbs	kN	Lbs	kN
HTT16	HTT4	10	2-1/2	16	2	1-3/8	1-3/4	--	1	5/8	18	10d	5355	23.82	3800	16.90
HTT45	HTT4, HTT5	10	2-1/2	16	2	1-3/8	1-3/4	Min	1	5/8	18	10d	5590	24.87	4905	21.82
												16d x 2-1/2	6600	29.36	5780	25.71
								Max			26	10d	7280	32.38	6390	28.42
												16d x 2-1/2	8255	36.72	7230	32.16

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; no further increase allowed.
2) 16d sinkers may be substituted for the specified 10d common nails with no load reduction.
16d common nails may be substituted for the specified 16d x 2-1/2" nails with no load reduction.
3) The designer must specify anchor bolt type, length and embedment depth.
4) **NAILS:** 10d nails are 0.148" dia. x 3" long, 16d x 2-1/2" nails are 0.162" dia. x 2-1/2" long.

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LTS series – The LTS19 is designed for nail-on installation to 2x joists or studs, and the LTS20B provides a nail or bolt fastening option. The LTS20B will accommodate wood I-Joists if 10d x 1-1/2" nails are used instead of the specified 16d nails

LTTI31 – An open web joist tension tie designed for use with masonry or concrete construction

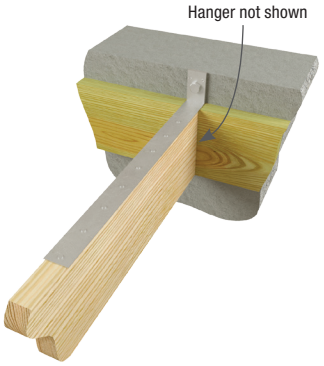
Materials: See chart

Finish: G90 galvanizing; LTS19-TZ — G-185 galvanizing

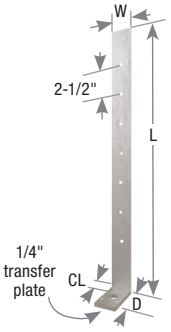
Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:

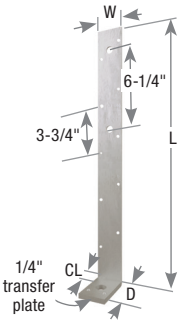
- Use all specified fasteners to attach the strap portion of the connector to the side of stud, post, joist, purlin, or beam. Secure the base to the concrete or masonry wall with specified anchor bolt. A design professional shall specify the type, length, and embedment of the anchor bolt.
- Washers are not required on transfer plates that fit over the anchor bolt.
- LTTI31 and LTS connectors must be mounted flush to the mudsill.
- Factored resistances are based on either nail or bolt fastening; nail and bolt values cannot be combined.
- Tighten anchor bolt nuts finger tight to base plus 1/3 to 1/2 additional turns with a wrench.



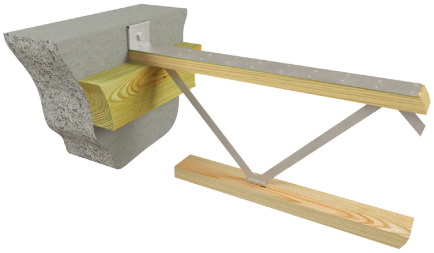
Typical LTS installation



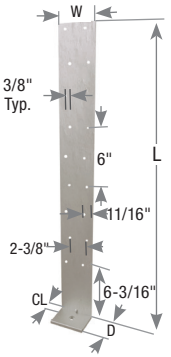
LTS19-TZ



LTS20B



Typical LTTI131 installation



LTTI131

MiTek Stock No.	Ref. No.	Steel Gauge		Dimensions (in)				Nail Spacing (in)	Fastener Schedule				D Fir-L Factored Resistance		S-P-F Factored Resistance		Corrosion Finish
									Anchor Bolt[3]		Strap[2,5,6]		Tensile 115%[1]		Tensile 115%[1]		
		Strap	Plate	W	L	D	CL		Qty	Dia (in)	Qty	Type	Lbs	kN	Lbs	kN	
LTTI31 [4]	LTTI31	18	3	3-3/4	31	2-5/8	1-3/8	3	1	5/8	18	10d x 1-1/2	2905	12.92	2440	10.85	
LTS19-TZ [4]	LTT19	16	3	1-3/4	22-1/4	3	1-1/2	2-1/2	1	3/4	8	10d HDG	1245	5.54	1045	4.65	
LTS20B	LTT20B	12	3	2	20	3	1-1/2	3-3/4	1	3/4	10	10d x 1-1/2	1140	5.07	960	4.27	
											10	16d	1145	5.09	960	4.27	
											2	1/2" Bolt	1215	5.40	1020	4.54	

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; no further increase allowed.
2) 16d sinkers may be substituted for the specified 10d common nails with no load reduction.
3) The designer must specify anchor bolt type, length and embedment depth.
4) LTTI and LTS holdowns shall be installed tight to the sill plate.
5) LTS20B bolted installation requires a minimum 1-1/2" wood member thickness.
6) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long, 10d nails are 0.148" dia. x 3" long, 16d nails are 0.162" dia. x 3-1/2" long.

Corrosion Finish Key Stainless Steel HDG Triple Zinc

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Holdown Offset Anchor Bolt Notes

Factored Resistances for holdowns such as TD, PHD, TDX, HTT and UPHD are based on installation with the anchor bolt aligned directly below the centerline of the holdown. The maximum tolerances for anchor bolt offset are described below.

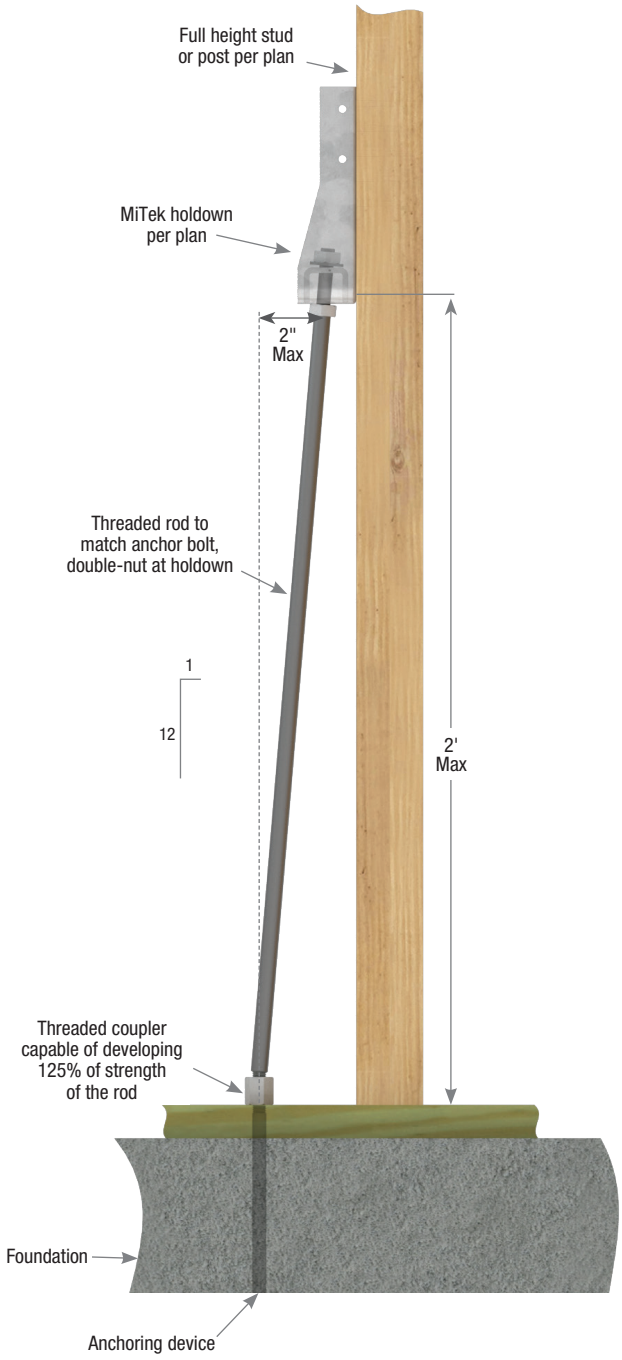
Designer should consider that installation of a holdown raised above the sill plate may result in higher deflections. These deflections are different for every installation and should be calculated by a certified designer.

Installation:

- Holdown installed at maximum of 2' above the bottom plate.
- Anchor bolt installed at maximum 2" away from the centerline of the holdown.
- Threaded rod angle must not exceed 5 degrees or a pitch of 1/12.
- A threaded coupler must be used at the anchor bolt connection capable of developing 125% of strength of the rod.

Alternate installations:

1. Install additional full-height member(s) to the existing stud(s) or post to reduce the horizontal distance between the anchor bolt and the vertical member(s).
   - Multi-ply studs/posts must be fastened together to act as a single unit. Holdown fasteners must not be considered to contribute to fastening multiple members together.
   - Added members shall be of equal or better wood species.
   - Designer must consider any effect of additional eccentricity introduced on the connection.
2. Using a threaded rod epoxied into place at the proper location in lieu of cast-in anchor bolts. These can be installed after the rough framing is completed.



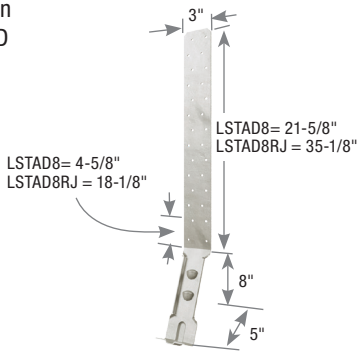
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The coined dimples below the embedment line allow for increased concrete bonding. These holdowns retain high uplift capacity even when installed at corners of foundation stemwalls. Ideal for use with built up 2x end posts. RJ after the model indicates LSTAD or STAD for rim joist applications as in STAD8RJ. Rim joist models provide for a 17" clear span without the loss of strap nailing.

Materials: LSTAD - 14 gauge: STAD - 12 gauge

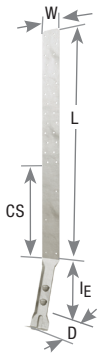
Finish: G90 galvanizing

Codes: Load values are derived from data submitted to various North American building code evaluators

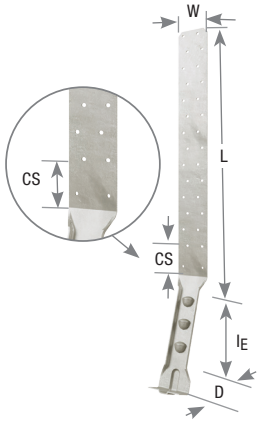


LSTAD8

(LSTAD8RJ similar)



STAD_RJ



STAD

Installation:

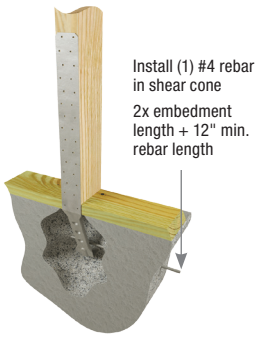
- Use all specified fasteners. See Product Notes, page 16. The bottom (2) nails are for form board attachment only and do not contribute to fastener schedule requirements.
- Embed holdown in concrete to the embedment line (bend line).
- See illustrations for requirements on rebar, edge distances, and clear spans.
- Bending the strap horizontally 90° to facilitate wall placement may cause concrete behind the embedded strap to break away at the top edge (spalling). If the spall is 1" or less from the top edge of the concrete, no load reduction is necessary. If the spall is between 1" and 4" the factored resistance is 0.90 of the published chart load.
- When installing on lumber less than 3-1/2" wide, wood splitting may occur. To reduce splitting, use 10d (0.148") x 1-1/2" nails or fill every other hole with 16d common (0.162" x 3-1/2") nails. Reduce factored resistance per code requirements accordingly.
- These straps do not secure concrete sections together at cold joints; take other measures to transfer the load. If there is a cold joint between slab and foundation, the minimum embedment must be made into the foundation. Fastening opportunities may be reduced because the slab pour level may be higher than some nail holes. Using fewer fasteners will reduce factored resistance. Reduce factored resistance by the code capacity for each fastener not installed.
- To achieve full table loads the minimum center-to-center spacing is twice the embedment depth (l_E) when resisting tension loads at the same time.
- Where fewer fasteners are used in the structural wood member, reduce loads according to the code.
- There may be an increase in the amount of deflection if the strap is installed on the outside of the sheathing, versus directly to the framing members.
- Strap may be bent one complete cycle to aid installation.
- For installation in severe corrosion environments, see Corrosion Protection on pages 9-14.

MiTek Stock No.[5]	Ref. No.	Fastener Schedule[2,3,8] Qty	Fastener Schedule[2,3,8] Type	l_E	Min Stem Wall (in)	Unit	D Fir-L Factored Resistance Uplift (115%)[4] Edge Distance - Concrete 2,000 psi 1/2"	1-1/2"	8"	2,500 psi 1/2"	1-1/2"	8"	3,000 psi 1/2"	1-1/2"	8"	S-P-F Factored Resistance Uplift (115%)[4] Edge Distance - Concrete 2,000 psi 1/2"	1-1/2"	8"	2,500 psi 1/2"	1-1/2"	8"	3,000 psi 1/2"	1-1/2"	8"
LSTAD8	LSTHD8	24	16d Sinker	8	6	Lbs	2765	2765	4000	2765	2765	4000	2765	2765	4000	2320	2320	3360	2320	2320	3360	2320	2320	3360
						kN	12.30	12.30	17.79	12.30	12.30	17.79	12.30	12.30	17.79	10.32	10.32	14.95	10.32	10.32	14.95	10.32	10.32	14.95
					8	Lbs	2765	2765	4000	2765	2765	4000	2765	2765	4000	2320	2320	3360	2320	2320	3360	2320	2320	3360
						kN	12.30	12.30	17.79	12.30	12.30	17.79	12.30	12.30	17.79	10.32	10.32	14.95	10.32	10.32	14.95	10.32	10.32	14.95
LSTAD8RJ	LSTHD8RJ	24	16d Sinker	8	6	Lbs	2765	2765	4000	2765	2765	4000	2765	2765	4000	2320	2320	3360	2320	2320	3360	2320	2320	3360
						kN	12.30	12.30	17.79	12.30	12.30	17.79	12.30	12.30	17.79	10.32	10.32	14.95	10.32	10.32	14.95	10.32	10.32	14.95
					8	Lbs	2765	2765	4000	2765	2765	4000	2765	2765	4000	2320	2320	3360	2320	2320	3360	2320	2320	3360
						kN	12.30	12.30	17.79	12.30	12.30	17.79	12.30	12.30	17.79	10.32	10.32	14.95	10.32	10.32	14.95	10.32	10.32	14.95

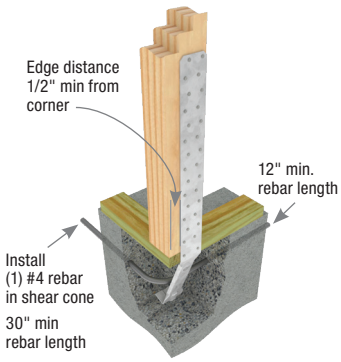
1) Factored resistances have been increased 15% for short-term load duration; no further increased is allowed.
2) 10d common (0.148" x 3" long) nails may be substituted with no load reduction.
3) Wood thickness shall be no less than 2-inch.
4) The 115% values are short-term loads such as wind and earthquake.
5) RJ after the model indicates LSTADs for rim joist applications as in LSTAD8RJ.
6) Interpolate allowable loads for edge distances between those listed. Nail quantities may be reduced for less than l_E corner distance design loads, use the code allowable loads for fasteners in shear.
7) Where fewer fasteners are used in the structural wood member, reduce loads according to the code.
8) **NAILS:** 16d Sinker nails are 0.148" dia. x 3-1/4" long.

Continued on next page

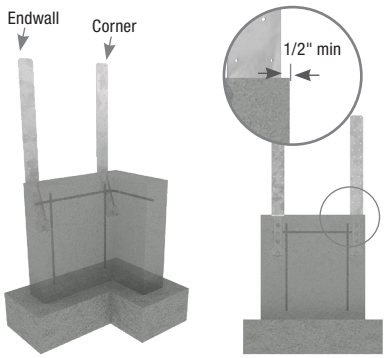
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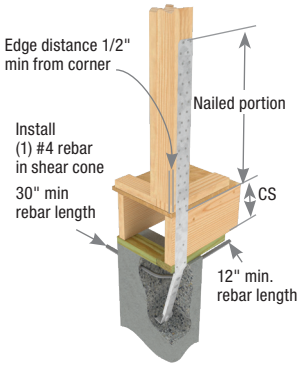
Typical STAD10 middle wall installation



Typical STAD10 corner installation



Typical STAD corner and endwall installation



Typical STAD14RJ corner rim joist installation

STAD Geometry Table

MiTek Stock No	Ref. No.	Steel Gauge	Dimensions (in)		
			L	l_E	CS
STAD8	--	12	21-5/8	8	4-5/8
STAD8RJ	--		35-1/8		18-1/8
STAD10	STHD10	12	21-5/8	10	1-5/8
STAD10RJ	STHD10RJ		36		16-1/8
STAD14	STHD14	12	32-1/8	14	4-5/8
STAD14RJ	STHD14RJ		39-5/8		12-1/8

STAD Load Table

MiTek Stock No.		Fastener Schedule[1,2,12]		Strap Location[6,7,8]	Concrete[10,11]	Unit	D Fir-L Factored Tensile Resistance (115%)			S-P-F Factored Tensile Resistance (115%)		
Standard	Rim Joist	Qty	Type				Wind and Seismic $I_E F_a S_a(0.2) < 0.35$	Seismic $I^E F_a S_a(0.2) \geq 0.35$	Wood Connection Strength	Wind and Seismic $I_E F_a S_a(0.2) < 0.35$	Seismic $I^E F_a S_a(0.2) \geq 0.35$	Wood Connection Strength
STAD8	STAD8RJ	24	16d Sinker	Corner	Uncracked	Lbs	3955	2965	7560	3955	2965	6350
						kN	17.59	13.19		17.59	13.19	
					Cracked	Lbs	3320	2490		3320	2490	
						kN	14.77	11.08		14.77	11.08	
				Middle	Uncracked	Lbs	6460	4405		6460	4405	
						kN	28.74	19.60		28.74	19.60	
					Cracked	Lbs	5540	4155		5540	4155	
						kN	24.64	18.48		24.64	18.48	
STAD10	STAD10RJ	28	16d Sinker	Corner	Uncracked	Lbs	5220	3915	7560	5220	3915	6350
						kN	23.22	17.42		23.22	17.42	
					Cracked	Lbs	4230	3170		4230	3170	
						kN	18.82	14.10		18.82	14.10	
				Middle	Uncracked	Lbs	7560	6105		6350	6105	
						kN	33.63	27.16		28.25	27.16	
					Cracked	Lbs	7465	5600		6320	5600	
						kN	33.21	24.91		28.11	24.91	
STAD14	STAD14RJ	38	16d Sinker	Corner	Uncracked	Lbs	7535	5540	7535	6330	5540	6330
						kN	33.52	24.64		28.16	24.64	
					Cracked	Lbs	7910	5540		7580	5540	
						kN	35.19	24.64		33.72	24.64	
				Middle	Uncracked	Lbs	7535	5975		6330	5975	
						kN	33.52	26.58		28.16	26.58	
					Cracked	Lbs	8765	5975		7580	5975	
						kN	38.99	26.58		33.72	26.58	

1) Predrilled holes are not required.
2) When 16d Sinker nails are specified, 10d common (0.148" dia. x 3" long) nails may be substituted with no load reduction.
3) Short-term load duration factor 115% for wind and earthquake has been taken into consideration; no further increase is allowed.
4) Wood thickness shall be no less than 3" (2 - 2x members).
5) Factored resistances are based on a minimum stemwall thickness of 6".
6) Corner strap location implies that the distance from the corner of the wall to the edge of the strap is no less than 1/2".
7) Middle strap location implies that the minimum distance from the corner of the wall to the centerline of the strap is no less than 1.5 times the embedment depth (l_E).
8) For edge distances between 1/2" and 1.5 x l_E calculate loads using straight line interpolation.
9) Minimum anchor spacing for full capacity is 2 x l_E. For spacing less than that reduce capacity proportionally.
10) Minimum concrete strength f'c = 2,500 psi.
11) Minimum 1-#4 rebar shall be installed in the shear cone
12) **NAILS:** 16d Sinker nails are 0.148" dia. x 3-1/4" long.

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TA Foundation Straps

Foundation Straps offer an economical, one-piece method of achieving a continuous load path from a 2 x 8 or 2 x 14 rim joist through concrete block to foundation. All models require a 6" embedment into concrete footings.

Materials: 12 gauge

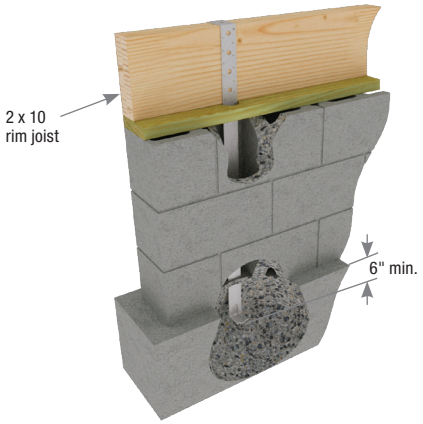
Finish: G90 galvanizing

Options: See Chart for Corrosion Finish Options

Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:

- Use all specified fasteners. See Product Notes, page 16.
- Factored resistances are based on either nail fastening or bolt fastening; nail and bolt values cannot be combined.
- Install by inserting product into footing's wet concrete. All models require a 6" embedment into concrete foundations. Courses of concrete block must be laid over connector. Notch mudsill at connector locations. Wrap strap over rim joist and fasten.
- Do not rely on these straps to secure concrete sections together between cold joints; take other measures to transfer the load. If there is a cold joint between block and foundation, the minimum embedment must be made into the foundation.
- Based on product embedment the exposed number of fastener holes may be reduced. Using fewer fasteners will reduce factored resistance. Reduce factored resistances by the code prescribed factored resistance per fastener, for each fastener not installed.
- Factored resistances are based on a minimum concrete compressive strength of 2,500 psi at 28 days.



Typical TA rim joist to foundation installation



TA

MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in) W	L	L1	Installation Type	Fastener Schedule[4] Qty	Type	D Fir-L Factored Resistance[1] Uplift 115%[2,3] Lbs	kN	S-P-F Factored Resistance[1] Uplift 115%[2,3] Lbs	kN
TA51	PA51	12	2-1/16	48-1/4	17-5/8	2 x 8	2	1/2	3335	14.84	2615	11.63
							8	16d x 2-1/2	2770	12.32	1965	8.74
						2 x 10	3	1/2	3680	16.37	2615	11.63
							10	16d x 2-1/2	2770	12.32	1965	8.74
						2 x 12	4	1/2	3680	16.37	2615	11.63
							14	16d x 2-1/2	3635	16.17	2580	11.48
						2 x 14	5	1/2	3680	16.37	2615	11.63
							16	16d x 2-1/2	3635	16.17	2580	11.48
TA71	PA68	12	2-1/16	68-1/4	22-1/8	2 x 8	2	1/2	3335	14.84	2615	11.63
							8	16d x 2-1/2	2770	12.32	1965	8.74
						2 x 10	3	1/2	3680	16.37	2615	11.63
							10	16d x 2-1/2	2770	12.32	1965	8.74
						2 x 12	4	1/2	3680	16.37	2615	11.63
							14	16d x 2-1/2	3635	16.17	2580	11.48
						2 x 14	5	1/2	3680	16.37	2615	11.63
							16	16d x 2-1/2	3635	16.17	2580	11.48

1) Bolt values are for 3" thick rim joist loaded perpendicular to grain.
2) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; no further increase is allowed.
3) Factored uplift resistance for bolted connections based on upper most fastener 1-1/2" from top of rim board.
4) **NAILS:** 16d x 2-1/2 nails are 0.162" dia. x 2-1/2" long.

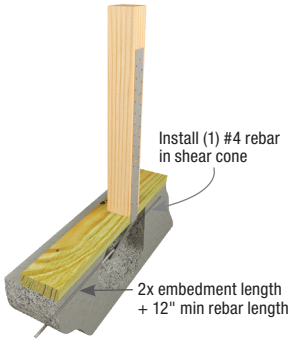
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Designed to anchor wood framing to poured concrete foundations.

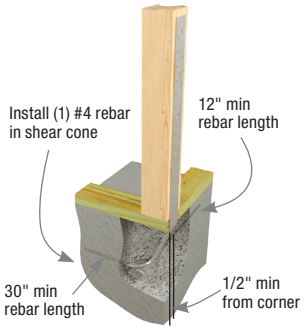
Materials: See chart
Finish: G90 galvanizing
Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:

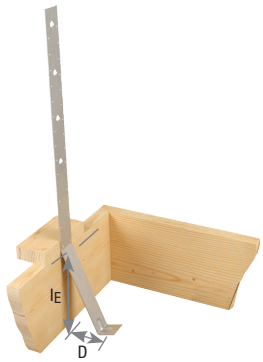
- Use all specified fasteners. See Product Notes, page 16.
- Bending the strap horizontally 90° to facilitate wall placement may cause concrete behind the embedded strap to break away at the top edge (spalling). If the spall is 1" or less from the top edge of the concrete, no load reduction is necessary. If the spall is between 1" and 4", the factored resistance is 0.90 of the published chart load.
- When installing on lumber less than 3-1⁄2" wide, wood splitting may occur. To reduce splitting, use 10d (0.148") x 1-1⁄2" nails or fill every other hole with 16d common (0.162" x 3-1/2") nails. Reduce factored resistance in accordance with code requirements.
- Straps are to be installed at the edge of concrete. Install prior to pour by nailing to form. Drive temporary nails through lowest two nail holes into form. Concrete level should reach embedment line; minimum embedment depths are listed in chart.
- Do not rely on these straps to secure concrete sections together between cold joints; take other measures to transfer the load. If there is a cold joint between slab and foundation, the minimum embedment must be made into the foundation. Fastening opportunities may be reduced because the slab pour level may be higher than some nail holes. Using fewer fasteners will reduce factored resistance. Reduce factored resistance by the code capacity for each fastener not installed.
- Factored resistances based on a minimum concrete compressive strength of 2,500 psi at 28 days, with one #4 horizontal rebar in the shear cone. Rebar should be a minimum length of 2x embedment depth plus 12" (see chart for exceptions in corner installations).
- Where fewer fasteners are used in the structural wood member, reduce loads according to the code.
- There may be an increase in the amount of deflection if the strap is installed on the outside of the sheathing, versus directly to the framing members.
- Strap may be bent one complete cycle to aid installation.
- For installation in severe corrosion environments, see Corrosion Information on pages 9-14.



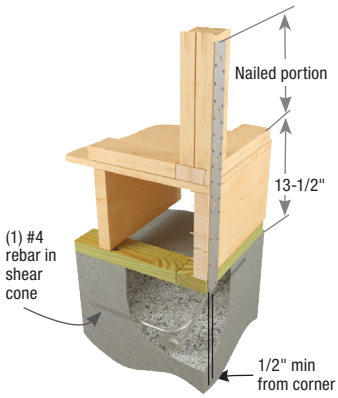
Typical HPAHD22 single pour midwall installation



Typical HPAHD22 single pour corner and endwall installation



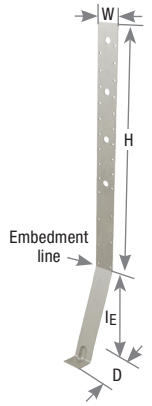
HPAHD22 form board installation



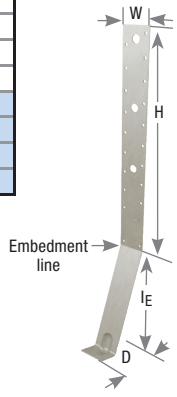
Typical HPAHD22 single pour rim joist corner installation

MiTek Stock No.	Ref. No.	Steel Ga.	Fastener Schedule[1,2]		Dimensions (in)				Min Stemwall Thickness (in)	Edge Distance[3,4] (in)	Concrete[8,9]	D Fir-L Factored Tensile Resistance (115%)		S-P-F Factored Tensile Resistance (115%)	
			Qty	Type	W	L	I_E	D				Lbs	kN	Lbs	kN
HPAHD22	--	10	23	16d	2-1/16	24-3/4	9-1/2	4-1/8	6	1/2	Uncracked	4780	21.26	4330	19.26
											Cracked	3345	14.88	3345	14.88
										1.5 x I_E	Uncracked	5345	23.78	4330	19.26
											Cracked	3745	16.66	3745	16.66
PAHD42	--	12	15	16d	2-1/16	16-5/8	8	5-3/4	6	1/2	Uncracked	2555	11.37	2555	11.37
											Cracked	1785	7.94	1785	7.94
										1.5 x I_E	Uncracked	4675	20.80	3495	15.55
											Cracked	3275	14.57	3275	14.57

1) A 16d common nail has a diameter of 0.162" and a length of 3-1/2".
2) Predrilled holes are not required.
3) An edge distance of 1/2" implies that the distance from the corner of the wall to the edge of the strap is no less than 1/2".
4) An edge distance of 1.5 x IE implies that the minimum distance from the corner of the wall to the centerline of the strap is no less than 1.5 times the embedment depth.
5) For edge distances between 1/2" and 1.5 x IE calculate loads using straight line interpolation.
6) Minimum anchor spacing for full capacity is 2 x IE. For spacing less than that reduce capacity proportionally.
7) Factored resistances are based on lumber with a specific gravity of 0.49 for DF and 0.42 for S-P-F with a moisture content of 19% or less.
8) Minimum concrete strength f'c = 2,500 psi
9) Minimum 1-#4 rebar shall be installed in the shear cone



HPAHD



PAHD42

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PA series – For installation into poured concrete or concrete block walls and foundations

PAI series – For wood I-Joist applications. An expanded 3" on-center nail spacing reduces splitting along I-Joist flange

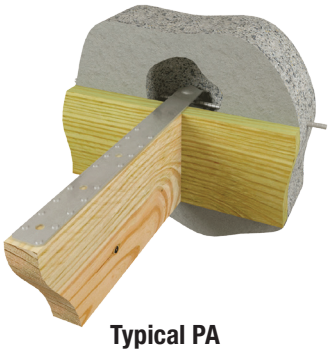
Materials: 12 gauge

Finish: G90 galvanizing

Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:

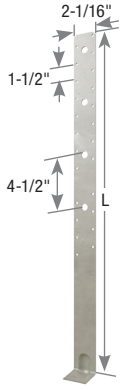
- Use all specified fasteners. See Product Notes, page 16.
- Minimum concrete strength is 2,500 psi.
- The factored resistance for bolts are based on parallel to grain loading with a 3" minimum member thickness. Reduce load per code requirements when minimum member thickness is not achieved.
- Minimum concrete end/edge distance is 4" for PA & PAI series.
- Minimum CMU end/edge distance is 20".
- Designer may specify alternate fastening schedules. Refer to Nail Specification Table on page 21 for nail shear values. Load values shall not exceed published factored resistances.
- No anchor bolts are needed for achieving efficient stress transfer from framing to concrete walls or foundations.



Typical PA purlin installation



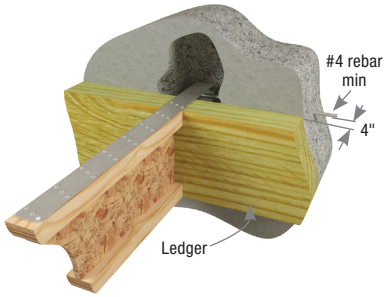
Typical PA holdown installation



PA



PAI



Typical PAI I-Joist purlin face installation

Continued on next page

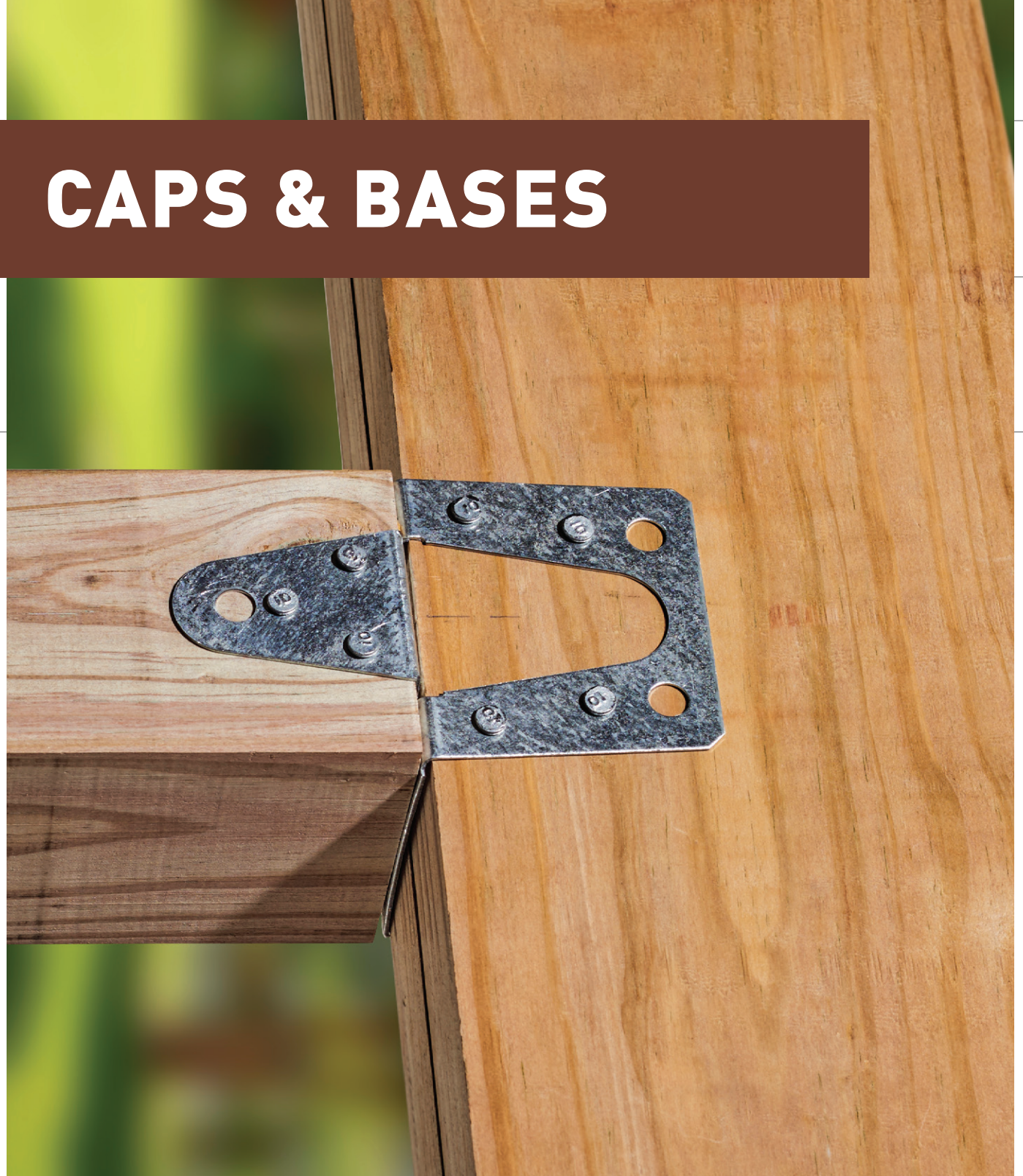
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MiTek Stock No.	Ref. No.	L (in)	Minimum Embedment		Fastener Schedule[4,5,6]		D Fir-L Factored Resistance				S-P-F Factored Resistance			
							Tensile (115%)[1,2,3]				Tensile (115%)[1,2,3]			
							Concrete		Masonry		Concrete		Masonry	
			Concrete	Masonry	Min Qty[7]	Type	Lbs	kN	Lbs	kN	Lbs	kN	Lbs	kN
Maximum Capacity														
PA18	PA18	18-1/2	4	6	12	16d	3200	14.23	3200	14.23	2685	11.94	2685	11.94
					2	1/2	2340	10.41	2340	10.41	1965	8.74	1965	8.74
PA23	PA23	23-3/4	4	6	15	16d	4175	18.57	3770	16.77	3505	15.59	3165	14.08
					3	1/2	3380	15.04	3380	15.04	2840	12.63	2840	12.63
PA28	PA28	29	4	6	15	16d	4175	18.57	3770	16.77	3505	15.59	3165	14.08
					4	1/2	4185	18.62	3770	16.77	3515	15.64	3165	14.08
PA35	PA35	35	4	6	15	16d	4175	18.57	3770	16.77	3505	15.59	3165	14.08
					4	1/2	4185	18.62	3770	16.77	3515	15.64	3165	14.08
PAI18	PAI18	18-1/2	4	6	12	10d x 1-1/2	2565	11.41	2565	11.41	2155	9.59	2155	9.59
PAI23	PAI23	23-1/2	4	6	18	10d x 1-1/2	3845	17.10	3770	16.77	3230	14.37	3165	14.08
PAI28	PAI28	28-1/2	4	6	24	10d x 1-1/2	4595	20.44	3770	16.77	3860	17.17	3165	14.08
PAI35	PAI35	35-1/2	4	6	26	10d x 1-1/2	4595	20.44	3770	16.77	3860	17.17	3165	14.08
2x & 3x Ledger														
PA18	PA18	18-1/2	4	6	12	16d	3200	14.23	3200	14.23	2685	11.94	2685	11.94
					2	1/2	2340	10.41	2340	10.41	1965	8.74	1965	8.74
PA23	PA23	23-3/4	4	6	15	16d	4175	18.57	3770	16.77	3505	15.59	3165	14.08
					3	1/2	3380	15.04	3380	15.04	2840	12.63	2840	12.63
PA28	PA28	29	4	6	15	16d	4175	18.57	3770	16.77	3505	15.59	3165	14.08
					4	1/2	4185	18.62	3770	16.77	3515	15.64	3165	14.08
PA35	PA35	35	4	6	15	16d	4175	18.57	3770	16.77	3505	15.59	3165	14.08
					4	1/2	4185	18.62	3770	16.77	3515	15.64	3165	14.08
PAI18	PAI18	18-1/2	4	6	12	10d x 1-1/2	2565	11.41	1925	8.56	2155	9.59	1615	7.18
PAI23	PAI23	23-1/2	4	6	18	10d x 1-1/2	3635	16.17	3635	16.17	3050	13.57	3050	13.57
PAI28	PAI28	28-1/2	4	6	24	10d x 1-1/2	4595	20.44	3770	16.77	3860	17.17	3165	14.08
PAI35	PAI35	35-1/2	4	6	26	10d x 1-1/2	4595	20.44	3770	16.77	3860	17.17	3165	14.08
4x Ledger														
PA18	PA18	18-1/2	4	6	12	16d	3200	14.23	3200	14.23	2685	11.94	2685	11.94
					2	1/2	2340	10.41	2340	10.41	1965	8.74	1965	8.74
PA23	PA23	23-3/4	4	6	15	16d	4175	18.57	3770	16.77	3505	15.59	3165	14.08
					3	1/2	3380	15.04	3380	15.04	2840	12.63	2840	12.63
PA28	PA28	29	4	6	15	16d	4175	18.57	3770	16.77	3505	15.59	3165	14.08
					4	1/2	4185	18.62	3770	16.77	3515	15.64	3165	14.08
PA35	PA35	35	4	6	15	16d	4175	18.57	3770	16.77	3505	15.59	3165	14.08
					4	1/2	4185	18.62	3770	16.77	3515	15.64	3165	14.08
PAI18	PAI18	18-1/2	4	6	12	10d x 1-1/2	2355	10.48	1925	8.56	1975	8.79	1615	7.18
PAI23	PAI23	23-1/2	4	6	18	10d x 1-1/2	3205	14.26	3205	14.26	2690	11.97	2690	11.97
PAI28	PAI28	28-1/2	4	6	24	10d x 1-1/2	4595	20.44	3770	16.77	3860	17.17	3165	14.08
PAI35	PAI35	35-1/2	4	6	26	10d x 1-1/2	4595	20.44	3770	16.77	3860	17.17	3165	14.08

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) Values for bolts are based on parallel-to-grain loading with 3" minimum member thickness.
3) Values are based on the use of either nails or bolts; nail and bolt values cannot be combined.
4) 16d sinkers or 10d common nails may be substituted for the specified 16d common nails at 0.85 of the table loads.
5) For alternate nail schedule and load values consult MiTek.
6) Minimum quantity of fasteners to be installed. Product may have additional fastener holes not needed to meet published allowable load of product.
7) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long, 16d nails are 0.162" dia. x 3-1/2" long.

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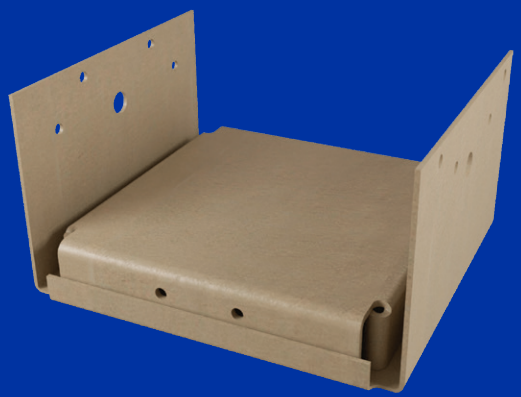
CAPS & BASES



MiTek®

CAPS & BASES 84-103

Column Bases	91-93
Column Caps	101-103
Post Anchors	87-89, 95
Post Bases	86, 88, 90, 94
Post Caps	96-100



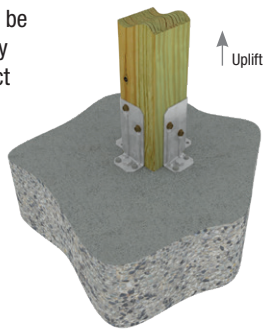
RPB-TZ post base attaches 4x4 or larger wood posts to concrete or wood surfaces after the post is in place. Can be installed with 1 or 2 RPB-TZs (single or double). Post may also be installed on our CPB composite post base product which provides a 1" stand off as required in untreated wood installations. Installs with concrete screws, so no more mis-installed, mis-located anchor bolts!

Materials: 12 gauge

Finish: G-185 galvanizing

Installation:

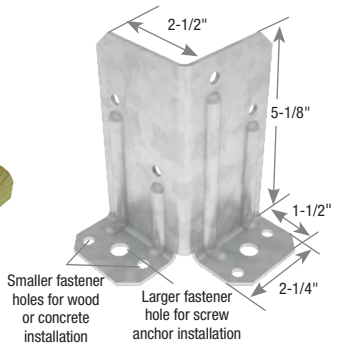
- MiTek's WS structural wood screws and screw anchors are not included with RPB bases.
- **Not recommended for fence posts or other unrestrained (not fixed or fastened at top) applications. These anchors are not designed to resist overturning (moment) loads.**
- **Concrete Installation:**
  1. Place RPB-TZ over one corner of post flush to both concrete and post surfaces and mark hole locations in concrete. Place aside.
  2. Drill holes for concrete screws using appropriate bit and hammer drill.
  3. Place RPB-TZ in position and install with specified screw anchors as listed in table below.
  4. Repeat for RPB-TZ on other side of post for double installations.
- **Wood-to-Wood Installation:**
  1. Place RPB-TZ over one corner of post flush to wood base and post surfaces.
  2. Install all specified MiTek WS structural wood screws as listed in the table below.
  3. Repeat for RPB-TZ on other side of post for double installations.



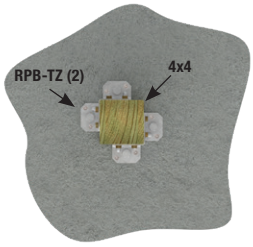
Typical double RPB-TZ concrete installation



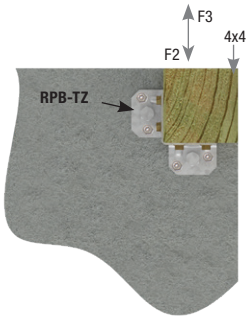
Typical double RPB-TZ wood-to wood installation



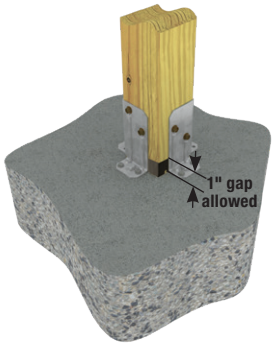
RPB-TZ



Typical double RPB-TZ concrete installation Min 2-1/2" from any concrete edge
(Top view)



Typical single RPB-TZ installation at concrete corner, flush to edge
(Top view)



Typical double RPB-TZ installation with CPB composite post base
(CPB ordered separately)

MiTek Stock No.	Ref. No.	Steel Gauge	Qty of RPBs	Fastener Schedule[4,9] Post Qty	Post Type[10]	Base Qty	Base Type[2,3]	D Fir-L Factored Resistance, 115% (Lbs.)[1,6] Uplift	D Fir-L F2	D Fir-L F3	SPF Factored Resistance, 115% (Lbs.)[1,6] Uplift	SPF F2	SPF F3	Corrosion Finish
RPB-TZ	RPBZ	12	**Concrete Base with Post Flush to Corner[7]**											
			1	4	WS15 or WS3	2	3/8" x 2-1/2"	2555	1165	915	2515	1165	785	
						4	Tapper+	1125	1070	830	1125	1070	710	
			Concrete Base with Post 2-1/2" from Concrete Edge[7]											
			1	4	WS15 or WS3	2	3/8" x 2-1/2"	2555	1165	915	2515	1165	785	
						4	Tapper+	1325	1070	830	1325	1070	710	
			2[5]	8	WS15 or WS3	4	3/8" x 2-1/2"	3850	1830	1830	3300	1565	1565	
						8	Tapper+	2655	1830	1830	2655	1565	1565	
			Wood Base[8]											
			1	4	WS15 or WS3	4	WS15	1925	1645	830	1650	1410	710	
			2	8	WS15 or WS3	8	WS15	3850			3300			

1) Factored resistances are for wood posts of 4x4, 6x6 or larger.
2) Use DeWalt 3/8" x 2-1/2" Screw-Bolt+; or equal, installed in accordance with manufacturer's specification. Anchors are not supplied.
3) Tapper+ refers to the Powers® 1/4" x 1-3/4" Tapper+ concrete screw anchor or equivalent product.
4) All fasteners must be installed per manufacturer's recommendations.
5) When installing connectors in pairs, the post must be a minimum of 2-1/2" from the edge of the concrete.
6) 15% increase for short-term loads such as wind and earthquake has been taken into consideration; no further increase allowed.
7) Concrete compressive strength shall be 2,500 psi or greater at 28 days.
8) Wood framing base shall be at least 1-1/2" thick.
9) MiTek's structural wood screws and DeWalt screw anchors should be used only in interior-dry and non-corrosive environments.
10) Use MiTek's WS15-EXT or WS3-EXT structural wood screws when installing to treated wood.

Corrosion Finish Key
Stainless Steel
HDG Triple Zinc

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Post Anchors are used to secure wood posts to concrete footings. These post anchors also provide moisture damage protection and feature a 1" stand-off plate to elevate wood posts above concrete surfaces.

PAE – 2-sided post anchors with high uplift and bearing capacity

PA – High capacity utilizing 4-sided design

PAF – Innovative one-piece design maintaining a 1" stand-off

PAU – Higher uplift resistance and optional bolt fastening to post

Materials: See chart

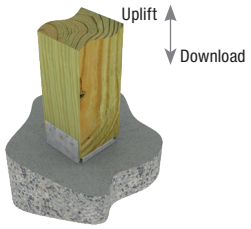
Finish: PAU, PA, PAE – G90 galvanizing;
PAF, PAU66R-TZ, PA66ER-TZ – G-185 galvanizing

Options: See chart for Corrosion Finish Options

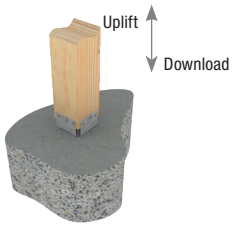
Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:

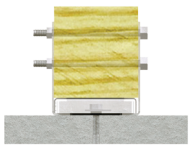
- Install the required fasteners according to the table.
- Anchor bolts are not supplied with connector.
- **Not recommended for fence posts or other unrestrained (not fixed or fastened at top) applications. These anchors are not designed to resist overturning (moment) loads.**
- **Anchor bolt installation –** place specified diameter anchor bolt at desired location with minimum 4" embedment into minimum 2,500 psi concrete. A minimum 2" edge distance from the outermost edge of the post base to the edge of the concrete is required to achieve the listed factored resistances. Tighten the anchor bolt to Post Anchor base with nut and washer.
- **For cured concrete or retrofit installations** – use specified diameter threaded rod with adhesive epoxy, following manufacturer's installation instructions.



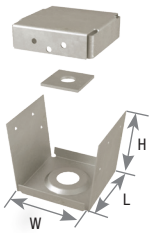
Typical PA66ER-TZ installation



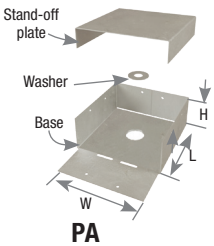
Typical PA installation



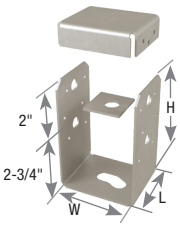
PAU cross-section



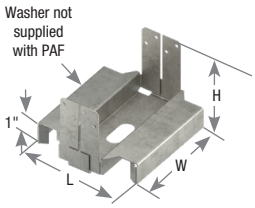
PAE



PA



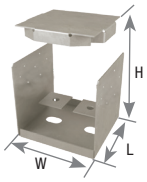
PAU



PAF



Typical PAF installation



PAU88

Post/ Column Size	MiTek Stock No.	Ref. No.	Steel Gauge		Dimensions (in)			Fastener Schedule[3,4]						Unit	DF Factored Resistance[2]			S-P-F Factored Resistance[2]			Corrosion Finish
								Anchor Bolt		Post						Uplift[1]			Uplift[1]			
										Nails		Bolts			Bearing 100%	Nails 115%	Bolts 115%	Bearing 100%	Nails 115%	Bolts 115%	
			Base	Stand-off Plate	W	H	L	Qty	Dia. (in)	Qty	Type	Qty	Dia. (in)								
4 x 4	PA44	--	18	12	3-9/16	2-1/4	3-1/2	1	1/2	8	16d	--	--	Lbs	8410	720	--	5970	510	--	
														kN	37.41	3.20	--	26.56	2.27	--	
	PA44E	--	18	16	3-9/16	3-1/2	3-1/2	1	1/2	6	16d	--	--	Lbs	11095	1655	--	7875	1175	--	
														kN	49.35	7.36	--	35.03	5.23	--	
	PAF44-TZ	ABA44Z	14	--	3-11/16	2-11/16	3-5/16	1	1	8	10d HDG	--	--	Lbs	12715	1390	--	11785	1195	--	
														kN	56.56	6.18	--	52.42	5.32	--	
	PAU44	ABU44	12	16	3-9/16	5-7/16	3	1	5/8	12	16d	2	1/2	Lbs	10675	3730	3575	8065	3260	3085	
														kN	47.48	16.59	15.90	35.87	14.50	13.72	
4 x 4 Rough	PA44R	--	18	12	4-1/16	2-1/2	4	1	1/2	12	16d	--	--	Lbs	8410	720	--	5970	510	--	
														kN	37.41	3.20	--	26.56	2.27	--	
4 x 6	PA46	--	18	12	3-9/16	2-1/4	5-1/2	1	1/2	14	16d	--	--	Lbs	10290	955	--	7305	680	--	
														kN	45.77	4.25	--	32.49	3.02	--	
	PA46E	ABA46	18	12	3-9/16	3-1/2	5-1/2	1	5/8	8	16d	--	--	Lbs	19895	1025	--	17110	880	--	
														kN	88.50	4.56	--	76.11	3.91	--	
	PAF46-TZ	ABA46Z	14	--	3-11/16	3-1/4	4-15/16	1	5/8	8	10d HDG 16d HDG	--	--	Lbs	12715	2100	--	12135	2035	--	
														kN	56.56	9.34	--	53.98	9.05	--	
	PAU46	ABU46	10	12	3-9/16	6	5	1	5/8	12	16d	2	1/2	Lbs	21775	3730	3575	16450	3260	3085	
														kN	96.86	16.59	15.90	73.17	14.50	13.72	
4 x 6 Rough	PA46R	--	18	10	4-1/16	3-1/2	6	1	1/2	14	16d	--	--	Lbs	10290	955	--	7305	680	--	
														kN	45.77	4.25	--	32.49	3.02	--	

1) Factored uplift resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) Factored resistances are based on the use of either nails or bolts; nail and bolt values cannot be combined.
3) All bolts shall meet or exceed the specifications of ASTM A 307.
4) **NAILS:** 10d nails are 0.148" dia. x 3" long, 16d nails are 0.162" dia. x 3-1/2" long. HDG denotes Hot-Dip Galvanized nail finish.
New products or updated product information are designated in blue font.

Corrosion Finish Key
Stainless Steel
HDG
Triple Zinc

Continued on next page

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Post/ Column Size	MiTek Stock No.	Ref. No.	Steel Gauge		Dimensions (in)			Fastener Schedule[3,4]						Unit	DF Factored Resistance[2]			S-P-F Factored Resistance[2]			Corrosion Finish
								Anchor Bolt		Post						Uplift[1]			Uplift[1]			
										Nails		Bolts									
			Base	Stand-off Plate	W	H	L	Qty	Dia. (in)	Qty	Type	Qty	Dia. (in)		Bearing 100%	Nails 115%	Bolts 115%	Bearing 100%	Nails 115%	Bolts 115%	
6 x 6	PA66	--	18	12	5-1/2	2-7/8	5-1/2	1	1/2	16	16d	--	--	Lbs	11385	785	--	8085	555	--	
														kN	50.64	3.49	--	35.96	2.47	--	
	PA66E	ABA66	14	12	5-1/2	3-1/2	5-1/2	1	5/8	8	16d	--	--	Lbs	26215	1770	--	18615	1255	--	
														kN	116.61	7.87	--	82.81	5.58	--	
	PAF66-TZ	ABA66Z	14	--	5-11/16	3-1/4	4-15/16	1	5/8	8	10d HDG 16d HDG	--	--	Lbs	15675	2100	--	15575	2075	--	
														kN	69.73	9.34	--	69.28	9.23	--	
	PAU66	ABU66	10	12	5-1/2	6	5	1	5/8	12	16d	2	1/2	Lbs	25225	3685	3575	19060	3225	3085	
														kN	112.21	16.39	15.90	84.78	14.35	13.72	
6 x 6 Rough	PA66R	--	18	12	6-1/16	3-1/4	6-1/16	1	1/2	16	16d	--	--	Lbs	11385	785	--	8085	555	--	
														kN	50.64	3.49	--	35.96	2.47	--	
	PA66ER-TZ	ABA66R	14	12	6	3-1/4	5-1/2	1	5/8	8	16d HDG	--	--	Lbs	26215	1770	--	18615	1255	--	
														kN	116.61	7.87	--	82.81	5.58	--	
	PAU66R-TZ	ABU66RZ	10	12	6-1/16	5-3/4	5	1	5/8	12	16d HDG	--	--	Lbs	25225	2465	--	19060	2270	--	
														kN	112.21	10.96	--	84.78	10.10	--	
8 x 8	PAU88	ABU88	12	12	7-1/2	7-3/16	7-1/16	2	5/8	14	16d	--	--	Lbs	39255	5175	--	29685	4525	--	
														kN	174.61	23.02	--	132.05	20.13	--	
8 x 8 Rough	PAU88R	ABU88R	12	12	8-1/16	6-15/16	7-1/16	2	5/8	14	16d	--	--	Lbs	39255	5175	--	29685	4525	--	
														kN	174.61	23.02	--	132.05	20.13	--	
10 x 10	PAU1010	ABU1010	12	16	9-1/2	7-3/16	9-1/2	2	1	14	16d	--	--	Lbs	42710	2495	--	32265	2215	--	
														kN	189.98	11.10	--	143.52	9.85	--	
10 x 10 Rough	PAU1010R	--	12	16	10-1/16	7-3/16	10	2	1	14	16d	--	--	Lbs	42710	2495	--	32265	2215	--	
														kN	189.98	11.10	--	143.52	9.85	--	
12 x 12	PAU1212	ABU1212	12	12	11-1/2	6-7/8	11-1/2	2	1	18	16d	--	--	Lbs	100910	1975	--	76235	1725	--	
														kN	448.87	8.79	--	339.11	7.67	--	
12 x 12 Rough	PAU1212R	--	12	12	12-1/8	6-7/8	12-1/8	2	1	18	16d	--	--	Lbs	100910	1975	--	76235	1725	--	
														kN	448.87	8.79	--	339.11	7.67	--	

1) Factored uplift resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) Factored resistances are based on the use of either nails or bolts; nail and bolt values cannot be combined.
3) All bolts shall meet or exceed the specifications of ASTM A 307.
4) **NAILS:** 10d nails are 0.148" dia. x 3" long, 16d nails are 0.162" dia. x 3-1/2" long. HDG denotes Hot-Dip Galvanized nail finish.
New products or updated product information are designated in blue font.

Corrosion Finish Key
Stainless Steel
HDG Triple Zinc

APB Height Adjustable Post Bases

Allows height adjustments of post after installation. A maximum height adjustment of 4" can be achieved with this product. Adjustments may be required if original installation is not exact, if there is a greater slope on a deck than estimated, or if there is heaving or sinking of the post beyond the initial installation. Embed in concrete a minimum of 6". Useful for reducing moisture damage.

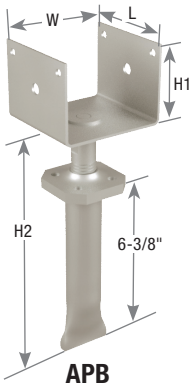
Materials: 16 gauge tube; 12 gauge steel U-bracket
Finish: Hot-dip galvanized

Installation:

- Use all specified fasteners. See Product Notes, page 16.
- **Not recommended for fence posts or other unrestrained (not fixed or fastened at top) applications. These anchors are not designed to resist overturning (moment) loads**



Typical APB installation



APB

Post Size	MiTek Stock No.	Ref. No.	Ga.	Dimensions (in)				Fastener Schedule				Unit	D Fir-L Factored Resistance[1,2]				S-P-F Factored Resistance[1,2]				Corrosion Finish
								Anchor Bolt		Post											
				W	L	H1	H2	Qty	Dia. (in)	Qty	Type[3]		Bearing 100%	Uplift 115%	F1 115%	F2 115%	Bearing 100%	Uplift 115%	F1 115%	F2 115%	
4 x 4	APB44	--	16	3-1/2	3-3/8	2-5/8	6-3/4	1	7/8	4	16d HDG	Lbs	7465	1490	975	1495	6400	1280	835	1285	
												kN	33.21	6.63	4.34	6.65	28.47	5.69	3.71	5.72	
6 x 6	APB66	--	16	5-1/2	5-3/8	2-7/8	6-3/4	1	7/8	4	16d HDG	Lbs	7465	1490	975	1495	6400	1280	835	1285	
												kN	33.21	6.63	4.34	6.65	28.47	5.69	3.71	5.72	

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) Concrete compressive strength shall be 2,500 psi or greater at 28 days.
3) **NAILS:** 16d HDG nails are 0.162" dia. x 3-1/2" long and hot-dip galvanized per ASTM A 153.

Corrosion Finish Key
Stainless Steel
HDG Triple Zinc

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WAS – A formed base providing a 1" stand-off with high bearing capacity

WE – A formed, one-piece design. Includes embossing for additional lateral strength

Materials: See chart

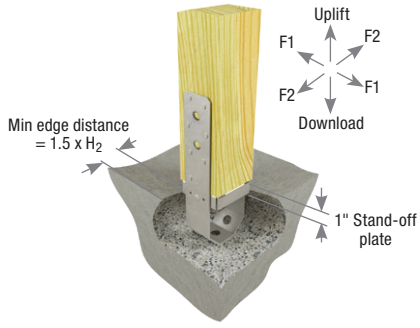
Finish: G90 galvanizing

Options: See chart for Corrosion Finish Options

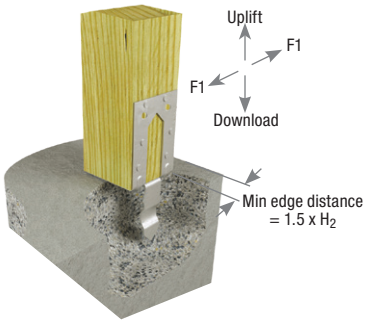
Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:

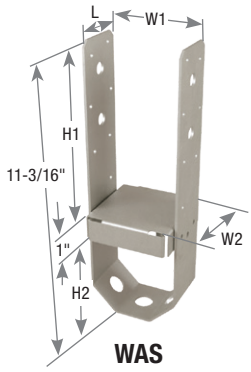
- Use all specified fasteners. See Product Notes, page 16.
- Insert into wet concrete after the pour. For the **WE**, embed the anchor so that the base plate is flush with the surface of the concrete. For the **WAS**, embed the anchor until the concrete surface meets the bottom edge of the stand off base legs. This will provide a 1" stand-off where required. A 2" minimum edge distance is required to achieve factored resistance.
- **Not recommended for fence posts or other unrestrained (not fixed or fastened at top) applications. These anchors are not designed to resist overturning (moment) loads.**



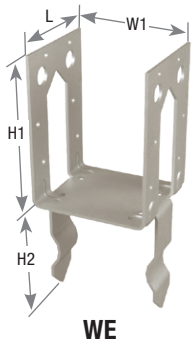
Typical WAS installation



Typical WE installation



WAS



WE

Post Size	MiTek Stock No.	Ref. No.	Steel Gauge		Dimensions (in)					Fastener Schedule[5]		Unit	D Fir-L Factored Resistance[3,4]				S-P-F Factored Resistance[3,4]				Corrosion Finish
			Base	Strap	W1	W2	H1	H2[2]	L	Qty	Type		Download 100%	Uplift 115%[1]	F1 115%[1]	F2 115%[1]	Download 100%	Uplift 115%[1]	F1 115%[1]	F2 115%[1]	
4 x 4	WE44	PB44	12	12	3-1/2	--	4-3/4	3-3/8	3-1/4	12	16d	Lbs	--	1750	1415	1470	--	1505	1215	1265	
												kN		7.78	6.29	6.54		6.69	5.40	5.63	
										2	1/2	Lbs	--	1780	1135	1270	--	1530	975	1090	
												kN		7.92	5.05	5.65		6.81	4.34	4.85	
	WAS44	PBS44A	16	14	3-9/16	3-1/2	6-3/4	3-1/2	2-1/4	14	16d	Lbs	9755	3235	1750	1620	8390	2780	1505	1395	
												kN	43.39	14.39	7.78	7.21	37.32	12.37	6.69	6.21	
										2	1/2	Lbs	9755	3235	1760	1620	8390	2780	1515	1395	
												kN	43.39	14.39	7.83	7.21	37.32	12.37	6.74	6.21	
4 x 4 Rough	WE44R	PB44R	12	12	4	--	5	3-5/8	3-3/8	12	16d	Lbs	--	1750	1470	1415	--	1505	1265	1215	
												kN		7.78	6.54	6.29		6.69	5.63	5.40	
4 x 6	WE46	PB46	12	12	5-1/2	--	4-3/4	3-3/8	3-1/4	12	16d	Lbs	--	1750	1415	1470	--	1505	1215	1265	
												kN		7.78	6.29	6.54		6.69	5.40	5.63	
										2	1/2	Lbs	--	1780	1135	1270	--	1530	975	1090	
												kN		7.92	5.05	5.65		6.81	4.34	4.85	
	WAS46	PBS46	12	14	3-9/16	5-1/2	6-3/4	3-1/2	2-1/4	14	16d	Lbs	19895	3235	1750	1620	17110	2780	1505	1395	
												kN	88.50	14.39	7.78	7.21	76.11	12.37	6.69	6.21	
										2	1/2	Lbs	19895	3235	1850	1620	17110	2780	1590	1395	
												kN	88.50	14.39	8.23	7.21	76.11	12.37	7.07	6.21	
6 x 6	WE66	PB66	12	12	5-1/2	--	5	3-5/8	5-3/8	12	16d	Lbs	--	2615	--	2790	--	2250	--	2400	
												kN		11.63		12.41		10.01		10.68	
	WAS66	PBS66	12	12	5-1/2	5-1/2	6-3/4	5	2-1/4	14	16d	Lbs	23045	3420	2615	1915	19820	2940	2250	1645	
												kN	102.51	15.21	11.63	8.52	88.17	13.08	10.01	7.32	
										2	1/2	Lbs	23045	4530	2695	1915	19820	3895	2320	1645	
												kN	102.51	20.15	11.99	8.52	88.17	17.33	10.32	7.32	
6 x 6 Rough	WE66R	PB66R	12	12	6	--	5	3-5/8	5-3/8	12	16d	Lbs	--	2615	--	2790	--	2250	--	2400	
												kN		11.63		12.41		10.01		10.68	

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) H2 is mimimum embedment length of anchor into concrete.
3) Minimum concrete compressive strength shall be 2,500 psi at 28 days.
4) Factored resistances are based on the use of either nails or bolts; nail and bolt values cannot be combined.
5) **NAILS:** 16d nails are 0.162" dia. x 3-1/2" long.

Corrosion Finish Key
Stainless Steel
HDG
Triple Zinc

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EBG / EPB / EPBH Elevated Post Bases

These post bases allow installers to pre-align posts and preset post heights above concrete floors or footings. By eliminating post-to-concrete contact, moisture damage is reduced. Elevated post bases are ideal for building carports, decks or porches. All series feature convenient nail fastening to post.

Materials: EPB – 14 gauge tube; 12 gauge steel U-bracket
EBG44 – 16 gauge tube; 16 gauge steel U-bracket
EPBH – 12 gauge steel U-bracket Stem – 15 mm rebar

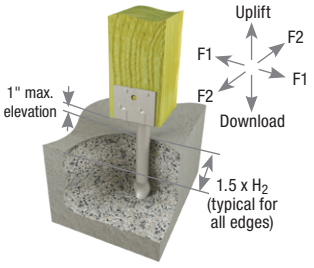
Finish: EPB – Primer; EBG44-TZ – G-185 galvanizing, EPBH–Hot-dip galvanized

Options: See chart for Corrosion Finish Options

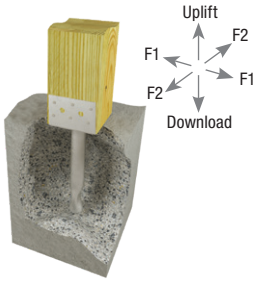
Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:

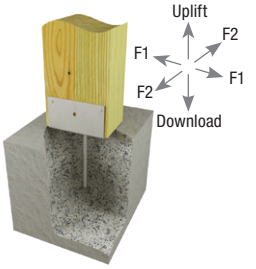
- Use all specified fasteners. See Product Notes, page 16.
- **Not recommended for fence post or other fixed post applications. These anchors are not designed to resist overturning (moment) loads.**



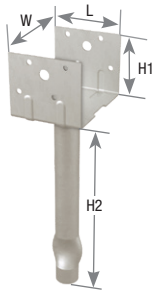
Typical EBG44-TZ installation



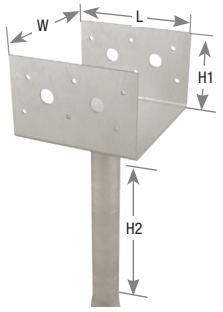
Typical EPB installation



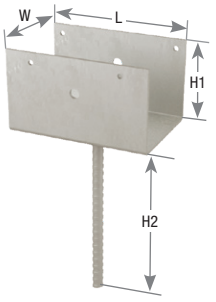
Typical EPBH installation



EBG44-TZ



EPB



EPBH

Post Size	MiTek Stock No.	Ref. No.	Dimensions (in) W	L	H1	H2	Fastener Schedule[3] Qty	Type	Unit	D Fir-L Factored Resistance Download 100%	Uplift 115%[2]	F1 115%[1,2]	F2 115%[1,2]	S-P-F Factored Resistance Download 100%	Uplift 115%[2]	F1 115%[1,2]	F2 115%[1,2]	Corrosion Finish
4 x 4	EBG44-TZ	EPB44A	3-9/16	2-3/4	2-3/8	7-1/2	8	16d HDG	Lbs	3985	1740	3685	3785	3415	1490	3160	3245	
									kN	17.73	7.74	16.39	16.84	15.19	6.63	14.06	14.43	
	EPBH44	EPB44PHDG, RCPS3.5HDG	3-1/2	3-3/8	2-3/4	7	4	16d HDG	Lbs	7025	1830	1720	1485	6020	1570	1475	1275	
									kN	31.25	8.14	7.65	6.61	26.78	6.98	6.56	5.67	
	EPB4408	EPB44, EPB44-12	3-9/16	3	3	8	8	16d	Lbs	4890	1830	3575	3455	4190	1570	3065	2965	
									kN	21.75	8.14	15.90	15.37	18.64	6.98	13.63	13.19	
4 x 6	EPB4608	EPB46, EPB46-12	3-9/16	5	3	8	12	16d	Lbs	4890	1830	3575	3455	4190	1570	3065	2965	
									kN	21.75	8.14	15.90	15.37	18.64	6.98	13.63	13.19	
4 x 6 Rough	EPBH46R	RCPS46HDG	4-1/8	5-3/8	3	7	4	16d HDG	Lbs	7025	1830	1720	1485	6020	1570	1475	1275	
									kN	31.25	8.14	7.65	6.61	26.78	6.98	6.56	5.67	
6 x 6	EPB6608	EPB66, EPB66-12	5-9/16	5	3-3/16	8	12	16d	Lbs	7490	2455	3575	3455	6420	2105	3065	2965	
									kN	33.32	10.92	15.90	15.37	28.56	9.36	13.63	13.19	
	EPBH66	RCPS5.5HDG	5-1/2	5-3/8	3	7	4	16d HDG	Lbs	7025	1830	1720	1485	6020	1570	1475	1275	
									kN	31.25	8.14	7.65	6.61	26.78	6.98	6.56	5.67	
6 x 6 Rough	EPBH66R	RCPS6HDG	6-1/8	5-3/8	3	7	4	16d HDG	Lbs	7025	1830	1720	1485	6020	1570	1475	1275	
									kN	31.25	8.14	7.65	6.61	26.78	6.98	6.56	5.67	
8 x 8	EPBH88	RCPS7.5HDG	7-9/16	7-3/8	3-1/2	7	4	16d HDG	Lbs	--	--	--	--	--	--	--	--	
									kN	--	--	--	--	--	--	--	--	

1) Factored lateral resistances (F1 and F2) are for conditions where pipe extends no more than 1" above the concrete surface.
2) Factored uplift and lateral resistances have taken short-term load duration factor 115% into consideration, no further increase is allowed.
3) **NAILS:** 16d nails are 0.162" dia. x 3-1/2" long.

Corrosion Finish Key
- Stainless Steel
- HDG
- Triple Zinc

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High capacity column base fastens to column with MiTek's WS structural wood screws.

Materials: See chart

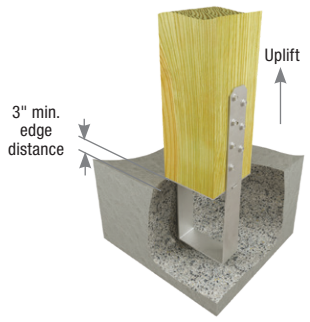
Finish: G90 galvanizing

Options: KCBQ models available in rough/full sizes
See chart for Corrosion Finish Options

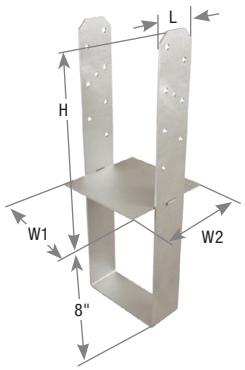
Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:

- Use all specified fasteners. See Product Notes, page 16.
- MiTek's WS2 structural wood screws, 1/4" dia. x 2" long, are supplied with KCBQ Column Bases.
- **Not recommended for fence posts or other unrestrained (not fixed or fastened at top) applications. These bases are not designed to resist overturning (moment) loads.**
- All models require a minimum edge distance of 3".
- Embed column base with bottom of base plate flush to concrete.



Typical KCBQ66 installation



KCBQ66

Column Size	MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in)				Fastener Schedule[3]		D Fir-L Factored Resistance[2]		S-P-F Factored Resistance[2]		Corrosion Finish
				W1	W2[4]	H	L	Qty	Type	Uplift (115%)[1] Lbs	Uplift (115%)[1] kN	Uplift (115%)[1] Lbs	Uplift (115%)[1] kN	
4 x 4	KCBQ44	CB44, CBQ44-SDS2	10	3-9/16	3-1/2	8-3/4	2-1/4	14	WS2	14345	63.81	10605	47.17	
4 x 6	KCBQ46	CB46, CBQ46-SDS2	10	3-9/16	5-1/2	8-3/4	2-1/4	14	WS2	14345	63.81	10605	47.17	
4 x 8	KCBQ48	CB48	10	3-9/16	7-1/2	8-3/4	2-1/4	14	WS2	14345	63.81	10605	47.17	
6 x 4	KCBQ64	--	10	5-1/2	3-1/2	8-3/4	2-1/4	14	WS2	14345	63.81	10605	47.17	
6 x 6	KCBQ66	CB66, CBQ66-SDS2	10	5-1/2	5-1/2	8-3/4	2-1/4	14	WS2	14345	63.81	10605	47.17	
6 x 8	KCBQ68	CB68	10	5-1/2	7-1/2	8-3/4	2-1/4	14	WS2	14345	63.81	10605	47.17	
7-1/8 x 3-1/2	KCBQ71-4	CB71/8-4	10	7-1/8	3-1/2	8-3/4	2-1/4	14	WS2	14345	63.81	10605	47.17	
7-1/8 x 5-1/2	KCBQ71-6	CB71/8-6	10	7-1/8	5-1/2	8-3/4	2-1/4	14	WS2	14345	63.81	10605	47.17	
7-1/8 x 7-1/8	KCBQ71-7	CB71/8-7	10	7-1/8	7-1/8	8-3/4	2-1/4	14	WS2	14345	63.81	10605	47.17	
8 x 6	KCBQ86	CB86	10	7-1/2	5-1/2	8-3/4	2-1/4	14	WS2	14345	63.81	10605	47.17	
8 x 8	KCBQ88	CB88	10	7-1/2	7-1/2	8-3/4	2-1/4	14	WS2	14345	63.81	10605	47.17	
10 x 10	KCBQ1010	CB1010	10	9-1/2	9-1/2	8-3/4	2-1/4	14	WS2	14345	63.81	10605	47.17	
10 x 12	KCBQ1012	CB1012	10	9-1/2	11-1/2	8-3/4	2-1/4	14	WS2	14345	63.81	10605	47.17	
12 x 12	KCBQ1212	CB1212	10	11-1/2	11-1/2	8-3/4	2-1/4	14	WS2	14345	63.81	10605	47.17	
Glulam Sizes														
5-1/8 glulam	KCBQ5	CB5-4.5, CB5-6	10	5-1/4	Specify	8-3/4	2-1/4	14	WS2	14345	63.81	10605	47.17	
6-3/4 glulam	KCBQ7	CB7-6, CB7-7.5, CB7-9, CB7-10.5	10	6-7/8	Specify	8-3/4	2-1/4	14	WS2	14345	63.81	10605	47.17	
8-3/4 glulam	KCBQ9	CB9-6, CB9-7.5, CB9-9, CB9-10.5	10	8-7/8	Specify	8-3/4	2-1/4	14	WS2	14345	63.81	10605	47.17	

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) Concrete compressive strength shall be 2,500 psi or greater at 28 days.
3) MiTek's WS2 structural wood screws are 1/4" dia. x 2" long and are included with KCBQ Column Bases.
4) "Specify" denotes the required width that must be specified at the time of ordering.

Corrosion Finish Key Stainless Steel HDG Triple Zinc

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12 gauge base for carports, patios, or other residential framing.

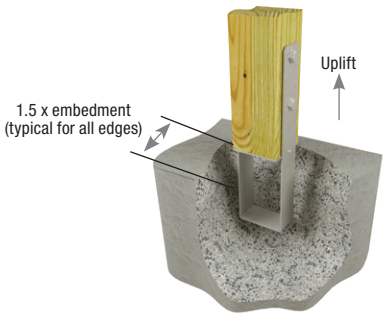
Materials: 12 gauge

Finish: G90 galvanizing

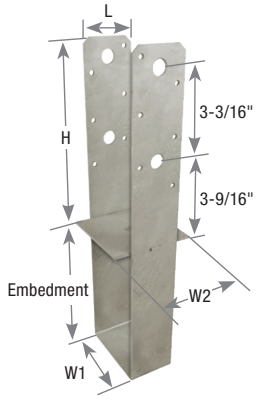
Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:

- Use all specified fasteners. See Product Notes, page 16.
- **Not recommended for fence posts or other unrestrained (not fixed or fastened at top) applications. These bases are not designed to resist overturning (moment) loads.**
- Bolted models feature diamond holes for temporary nail fastening to facilitate drilling and bolting.
- Embed column base with bottom of base plate flush to concrete.



Typical CBE installation



CBE

Column Size	MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in)					Fastener Schedule[2,6]		D Fir-L Factored Resistance		S-P-F Factored Resistance	
				W1	W2	H	L	Embedment [5]	Qty	Type	Uplift (115%)[1,3,4]		Uplift (115%)[1,3,4]	
											Lbs	kN	Lbs	kN
4 x 4	CBE44	LCB44	12	3-9/16	3-1/2	7-1/2	2	6-1/2	2	1/2	6305	28.05	5420	24.11
									12	16d	4060	18.06	3490	15.52
4 x 6	CBE46	LCB46	12	3-9/16	5-1/2	7-1/2	2	6-1/2	2	1/2	6295	28.00	5415	24.09
									12	16d	4060	18.06	3490	15.52
6 x 6	CBE66	LCB66	12	5-1/2	5-1/2	7-1/2	2	6-1/2	2	1/2	6280	27.93	5400	24.02
									12	16d	4060	18.06	3490	15.52

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) All bolts shall meet or exceed the specifications of ASTM A 307.
3) Concrete compressive strength shall be 2,500 psi or greater at 28 days.
4) Factored resistances are based on the use of either nails or bolts; nail and bolt values cannot be combined.
5) CBE column base shall be embedded into concrete up to this depth.
6) **NAILS:** 16d nails are 0.162" dia. x 3-1/2" long.

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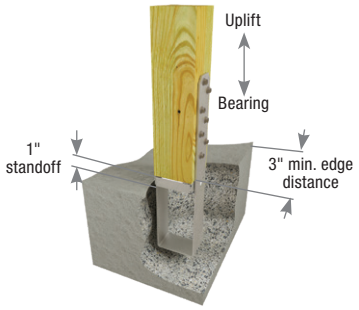
CBSQ Column Bases

These column bases install using MiTek's WS2-EXT structural wood screws, reducing installation time and cost. Designed for high uplift in high wind or seismic applications. Includes a stand-off plate to protect the wood from ground contact moisture.

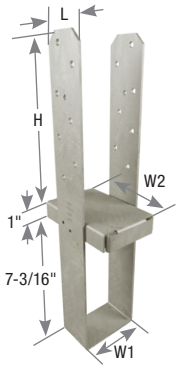
Materials: See chart
Finish: G-185 galvanizing
Options: See chart for Corrosion Finish Options

Installation:

- Use all specified fasteners. See Product Notes, page 16.
- MiTek's WS2-EXT structural wood screws, 1/4" dia. x 2" long, are supplied with CBSQ Bases.
- Maintain 3" minimum edge distance between embedded tube and edge of concrete.
- Embed the column base until the concrete surface meets the bottom edge of the stand-off plate.
- **Not recommended for fence posts or other unrestrained (not fixed or fastened at top) applications. These bases are not designed to resist overturning (moment) loads.**



Typical CBSQ44-TZ installation



CBSQ46-TZ

Column Size	MiTek Stock No.	Ref. No.	Steel Gauge		Dimensions (in)				Fastener Schedule[2]		Unit	D Fir-L Factored Resistance[3]		S-P-F Factored Resistance[3]		Corrosion Finish
			Strap	Base	W1	W2	H	L	Qty	Type		Bearing 100%	Uplift 115%[1]	Bearing 100%	Uplift 115%[1]	
4 x 4	CBSQ44-TZ	CBSQ44-SDS2	10	16	3-9/16	3-1/2	8-3/4	2-1/4	14	WS2-EXT	Lbs	9725	9895	8365	8510	
											kN	43.26	44.02	37.21	37.86	
4 x 6	CBSQ46-TZ	CBSQ46-SDS2	10	12	3-9/16	5-7/16	8-3/4	2-1/4	14	WS2-EXT	Lbs	19895	9895	17110	8510	
											kN	88.50	44.02	76.11	37.86	
6 x 6	CBSQ66-TZ	CBSQ66-SDS2	10	12	5-1/2	5-7/16	8-3/4	3	14	WS2-EXT	Lbs	23045	9895	19820	8510	
											kN	102.51	44.02	88.17	37.86	

1) Factored uplift resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) MiTek's WS2-EXT structural wood screws are 1/4" dia. x 2" long and are included with CBSQ Column Bases.
3) Concrete compressive strength shall be 2,500 psi or greater at 28 days.

Corrosion Finish Key Stainless Steel HDG Triple Zinc

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CPB Composite Post Bases

The CPB is made of corrosion resistant composite material compatible with preservative treated lumber. Provides code required 1" stand-off and can be used with rough lumber sizes.

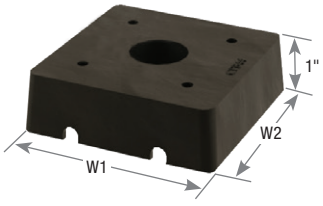
Materials: High Strength composite

Installation:

- Attach base to post with (4) 10d HDG nails.
- Attach post to concrete using 1/2" diameter rod into concrete and extend into wood member.
- **Not recommended for fence posts or other unrestrained (not fixed or fastened at top) applications. These anchors are not designed to resist overturning (moment) loads.**



Typical CPB installation



CPB

Post Size	MiTek Stock No.	Ref. No.	Dimensions (in)		Bottom Surface Bearing Area	Fastener Schedule[5]		Factored Resistance[1,2]		Concrete Bearing Strength[3,4]	
			W1	W2		Qty	Type	Lbs	kN	Lbs	kN
4 x 4	CPB44	CPS4	3-1/4	3-1/4	2.2	4	10d HDG	5235	23.29	6545	29.11
4 x 6	CPB46	CPS46	3-5/16	5-5/16	3.3	4	10d HDG	6810	30.29	9820	43.68
5 x 5	CPB55	CPS5	4-1/8	4-1/8	3.0	4	10d HDG	6295	28.00	8925	39.70
6 x 6	CPB66	CPS6	5-5/16	5-5/16	3.9	4	10d HDG	8570	38.12	11600	51.60
8 x 8	CPB88	CPS7	7-1/4	7-1/4	6.4	4	10d HDG	12490	55.56	19040	84.70

1) Loads shall not be increased for short-term loading.
2) Loads require a minimum 650 psi wood compressive strength.
3) Concrete Design Bearing Strength = Ø (0.85 f'_c A_1) with f'_c = 2,500 psi. ACI 318-02, Section 10.17.1.
4) Design Bearing Strength has been increased assuming $(A_2 / A_1)^{0.5}$ per ACI 318-02, Section 10.17.1.
5) **NAILS:** 10d nails are 0.148" dia. x 3" long.

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Secures nominal sized posts to wood surfaces for light-duty applications.

Materials: See chart

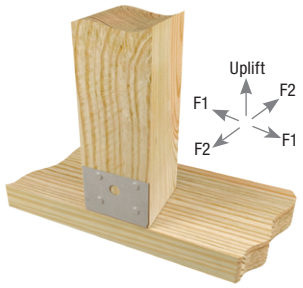
Finish: G90 galvanizing; D44-TZ & D46R-TZ - G-185 galvanizing; RSCH – Hot-dip galvanized

Options: See chart for Corrosion Finish Options

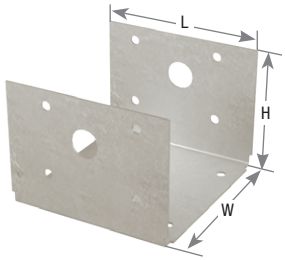
Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:

- Use all specified fasteners. See Product Notes, page 16.
- **Not recommended for fence posts or other unrestrained (not fixed or fastened at top) applications. These anchors are not designed to resist overturning (moment) loads.**
- While D series post anchors offer some lateral and uplift resistance, they are not recommended as a primary means of anchorage for posts in railings.



Typical D installation



D



RSCH

Post Size	MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in) W	H	L	Fastener Schedule[2] Post Qty	Post Nails	Beam Qty	Beam Nails	Unit	D Fir-L Factored Resistance[1] Uplift 115%	F1 115%	F2 115%	S-P-F Factored Resistance[1] Uplift 115%	F1 115%	F2 115%	Corrosion Finish
4 x 4	D44-TZ	BC40, BC40Z	18	3-9/16	2-1/2	3-3/8	8	16d HDG	4	16d HDG	Lbs	1345	1920	2065	955	1365	1465	
											kN	5.98	8.54	9.19	4.25	6.07	6.52	
	RSCH44	--	12	3-9/16	2-5/8	3-3/8	4	16d HDG	--	--	Lbs	--	--	--	--	--	--	
											kN							
4 x 4 Rough	D44R	BC40R	18	4	3	3-3/4	8	16d	4	16d	Lbs	1345	1920	2065	955	1365	1465	
											kN	5.98	8.54	9.19	4.25	6.07	6.52	
4 x 6	D46	BC460	18	3-9/16	3	5-3/8	10	16d	5	16d	Lbs	1345	1920	2065	955	1365	1465	
											kN	5.98	8.54	9.19	4.25	6.07	6.52	
4 x 6 Rough	D46R-TZ	--	18	4	3	5-3/8	10	16d HDG	5	16d HDG	Lbs	1345	1920	2065	955	1365	1465	
											kN	5.98	8.54	9.19	4.25	6.07	6.52	
6 x 6	D66	BC60	18	5-1/2	3	5-3/8	10	16d	5	16d	Lbs	1345	1920	2065	955	1365	1465	
											kN	5.98	8.54	9.19	4.25	6.07	6.52	
	RSCH66	--	12	5-9/16	2-7/8	5-3/8	4	16d HDG	--	--	Lbs	--	--	--	--	--	--	
											kN							
6 x 6 Rough	D66R	BC60R	18	6	3	5-3/8	10	16d	5	16d	Lbs	1345	1920	2065	955	1365	1465	
											kN	5.98	8.54	9.19	4.25	6.07	6.52	
8 x 8	D88	BC80	18	7-1/2	3	7-3/8	12	16d	5	16d	Lbs	1345	1920	2065	955	1365	1465	
											kN	5.98	8.54	9.19	4.25	6.07	6.52	

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.

2) **NAILS:** 16d nails are 0.162" dia. x 3-1/2" long.

Corrosion Finish Key Stainless Steel HDG Triple Zinc

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BC / BCS / C Post Caps

BC – One-piece design for double 2x's to a 4x post

BCS – One-piece design connects 2-ply or 3-ply beams to the tops of 4x4 or 6x6 post. Slant nailing reduces the amount of nails required

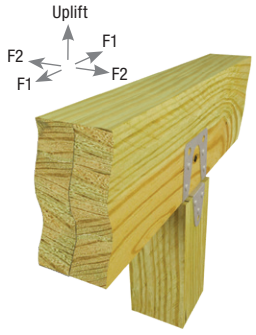
C – One-piece design

Materials: 18 gauge

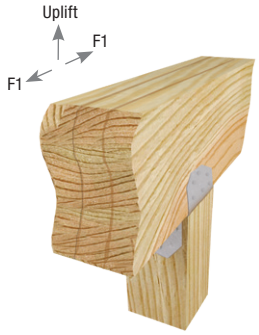
Finish: G90 galvanizing;
BC400-TZ – G-185 galvanizing

Options: See chart for Corrosion Finish Options

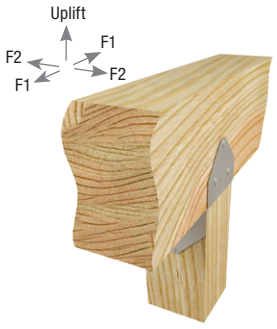
Codes: Load values are derived from data submitted to various North American building code evaluators



Typical BC400-TZ installation



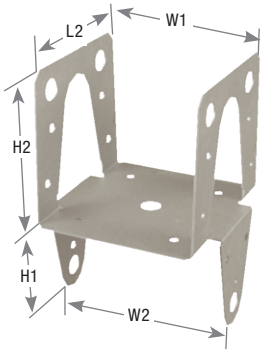
Typical BCS23-6 installation



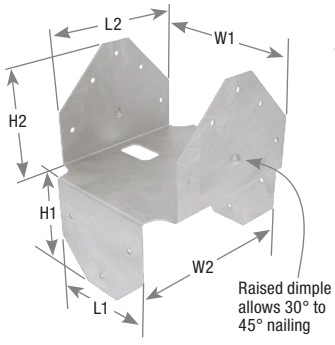
Typical C44 installation

Installation:

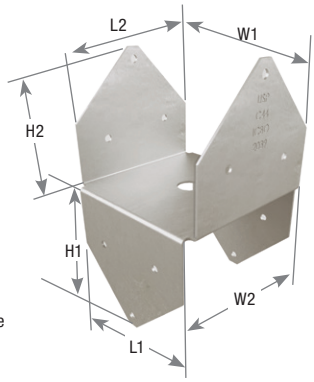
- Place post cap on top of post and fasten cap to post using specified nails.
- Place beam between top flanges of the cap and install all specified nails into beam.
- **BCS** - Slant nails must be installed through dimple holes at a 30° to 45° angle through the beam into the post to achieve listed loads. **Standard length "common" nails must be used to achieve listed load values.**



BC400-TZ



BCS23-6



C44

Post Size	MiTek Stock No.	Ref. No.	Dimensions (in) W1	W2	H1	H2	L1	L2	Fastener Schedule[2,3] Post Qty	Beam Qty	Type	Unit	D Fir-L Factored Resistance[1] Uplift 115%	F1 115%	F2 115%	S-P-F Factored Resistance[1] Uplift 115%	F1 115%	F2 115%	Corrosion	Finish
4 x 4	BCS22-4	BCS2-2/4	3-1/8	3-9/16	2-15/16	2-15/16	2-7/8	2-7/8	6	8	10d	Lbs	1265	1555	--	1150	1485	--		
												kN	5.63	6.92	--	5.12	6.61	--		
	BC400-TZ	--	3-1/8	3-9/16	2-3/8	3	--	3-5/16	10	8	10d x 1-1/2 HDG	Lbs	935	1185	840	800	1015	720		
												kN	4.16	5.27	3.74	3.56	4.51	3.20		
	C44	BC4	3-9/16	3-9/16	2-7/8	2-7/8	3-1/4	3-1/4	6	6	16d	Lbs	1885	2220	2220	1340	1575	1575		
												kN	8.39	9.88	9.88	5.96	7.01	7.01		
4 x 4 Rough	C44R	BC4R	4	4	2-5/8	2-5/8	3-1/4	3-1/4	8	8	16d	Lbs	1885	2220	2220	1340	1575	1575		
												kN	8.39	9.88	9.88	5.96	7.01	7.01		
4 x 6	C46	BC46	3-9/16	5-1/2	2-9/16	2-5/8	3-3/8	5-1/4	6	10	16d	Lbs	1885	2220	2220	1340	1575	1575		
												kN	8.39	9.88	9.88	5.96	7.01	7.01		
4 x 6 Rough	C46R	--	4	6	2-3/4	2-3/4	3-1/4	5-1/4	8	10	16d	Lbs	1885	2220	2220	1340	1575	1575		
												kN	8.39	9.88	9.88	5.96	7.01	7.01		
6 x 6	BCS23-6	BCS2-3/6	4-5/8	5-5/8	3	3-3/8	3-1/2	4-3/8	6	12	16d	Lbs	1460	2385	--	1315	2295	--		
												kN	6.49	10.61	--	5.85	10.21	--		
	C66	BC6	5-1/2	5-1/2	2-7/8	2-7/8	5-1/4	5-1/4	12	12	16d	Lbs	2270	4125	4125	1610	2925	2925		
												kN	10.10	18.35	18.35	7.16	13.01	13.01		
6 x 6 Rough	C66R	BC6R	6	6	2-13/16	2-13/16	5-1/4	5-1/4	12	12	16d	Lbs	2055	4360	4360	1455	3095	3095		
												kN	9.14	19.40	19.40	6.47	13.77	13.77		
8 x 8	C88	BC8	7-1/2	7-1/2	5	5	7-3/8	7-3/8	16	16	16d	Lbs	2120	4360	4360	1505	3095	3095		
												kN	9.43	19.40	19.40	6.69	13.77	13.77		

1) Short-term load duration factor K_D = 1.15 has been taken into consideration; no further increase allowed.

2) BCS23-6: Substituting 16d x 2-1/2" nails for 16d common nails is not permitted for slant nailing.

3) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long, 10d nails are 0.148" dia. x 3" long, 16d nails are 0.162" dia. x 3-1/2" long.

Corrosion Finish Key Stainless Steel HDG Triple Zinc

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PB – Two-piece design

PBES / PBS – Two-piece design with extended side plates and wrap around post design. Easy retrofit installations

Materials: 18 gauge

Finish: G90 galvanizing; PB44-6TZ & PB66-6TZ – G-185 galvanizing

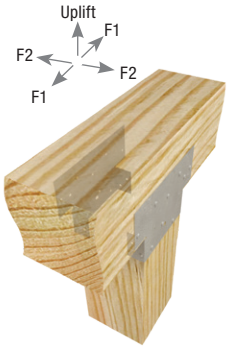
Options: See chart for Corrosion Finish Options

Codes: Load values are derived from data submitted to various North American building code evaluators

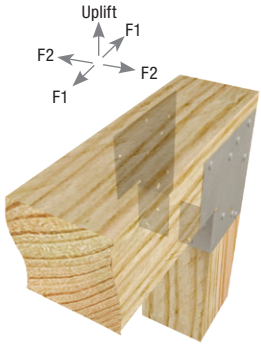
Installation:

- Use all specified fasteners. See Product Notes, page 16.
- These products are designed for single, solid-sawn beams with matching post width. Multi-ply beams must have same width as post. Use shims as required.
- **PB, PBES, PBS post caps are sold per piece and are to be installed in pairs to achieve factored resistances.**

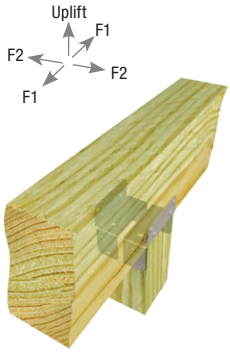
AVAILABLE IN GOLD COAT



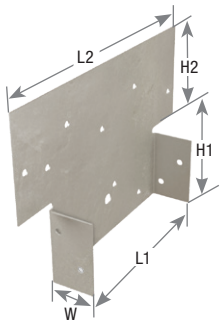
Typical PBS installation



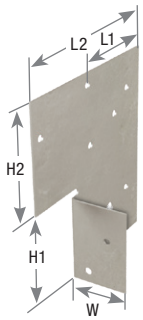
Typical PBES installation



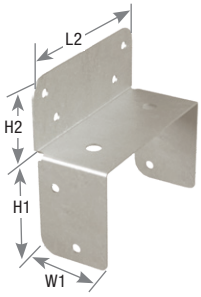
Typical PB-TZ installation



PBS



PBES



PB44-6TZ

Post Size	MiTek Stock No.	Ref. No.	Dimensions (in) W	H1	H2	L1	L2	Fastener Schedule[2,3] Post Qty	Post Type	Beam Qty	Beam Type	Unit	D Fir-L Factored Resistance[1,2] Uplift 115%	F1 115%	F2 115%	S-P-F Factored Resistance[1,2] Uplift 115%	F1 115%	F2 115%	Corrosion Finish
4 x 4	PB44-6TZ	LPC4Z	1-1/2	2-1/8	1-1/2	--	3-5/8	8	16d HDG	8	16d HDG	Lbs	1210	1885	665	855	1340	470	
												kN	5.38	8.39	2.96	3.80	5.96	2.09	
	PBS44	AC4	1-7/16	2-5/16	2-13/16	3-9/16	6-1/2	12	16d	12	16d	Lbs	5850	3800	2250	4150	2695	1600	
												kN	26.02	16.90	10.01	18.46	11.99	7.12	
	PBES44	ACE4, LCE4	1-1/2	2-3/8	2-3/4	3-1/4	4-3/4	8	16d	8	16d	Lbs	4150	1915	1050	2950	1355	745	
												kN	18.46	8.52	4.67	13.12	6.03	3.31	
4 x 4 Rough	PBS44R	AC4R	1-1/2	2-5/16	2-3/16	4	7	8	16d	8	16d	Lbs	4150	1915	1050	2950	1355	745	
												kN	18.46	8.52	4.67	13.12	6.03	3.31	
6 x 6	PB66-6TZ	LPC6Z	1-1/2	2-1/2	3	--	5-9/16	8	16d HDG	8	16d HDG	Lbs	1210	1885	665	855	1340	470	
												kN	5.38	8.39	2.96	3.80	5.96	2.09	
	PBES66	ACE6	1-1/2	2-3/8	2-1/8	5-1/2	7	8	16d	8	16d	Lbs	3480	2400	1685	2475	1700	1195	
												kN	15.48	10.68	7.50	11.01	7.56	5.32	
	PBS66	AC6	1-1/4	2-5/16	2-7/8	5-1/2	8	14	16d	12	16d	Lbs	4295	3785	2190	3045	2685	1560	
												kN	19.11	16.84	9.74	13.55	11.94	6.94	
6 x 6 Rough	PBS66R	AC6R	1-1/4	2-5/16	2-3/16	6	8-1/2	10	16d	10	16d	Lbs	3480	2400	1685	2475	1700	1195	
												kN	15.48	10.68	7.50	11.01	7.56	5.32	

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) Factored resistances and nail schedules for two-piece models are per pair of post caps.
3) **NAILS:** 16d nails are 0.162" dia. x 3-1/2" long.

Corrosion Finish Key Stainless Steel HDG Triple Zinc

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PCM – Provides a positive connection for medium-duty, post-to-beam applications

EPCM – End column caps

Materials: See chart

Finish: G90 galvanizing

Options: See chart for Corrosion Finish Options

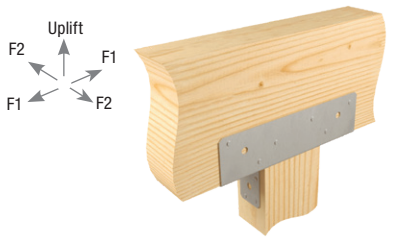
Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:

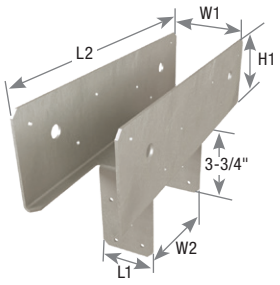
- Use all specified fasteners. See Product Notes, page 16.
- PCM 16 gauge post caps should not be substituted for PCM 12 gauge post caps unless approved by the Engineer of Record.

MiTek Series	Steel Gauge	Fastener Schedule[1]			
		Post		Beam	
		Qty	Type	Qty	Type
PCM_16	16	8	16d	12	16d
PCM	12	8	16d	12	16d
EPCM_16	16	8	16d	8	16d
EPCM	12	8	16d	8	16d

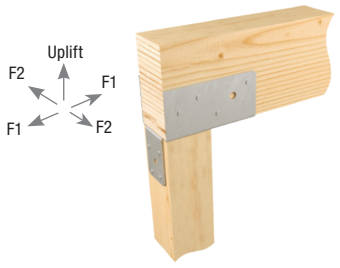
1) **NAILS:** 16d nails are 0.162" dia. x 3-1/2" long.



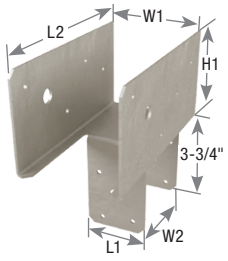
Typical PCM46 center cap installation



PCM



Typical EPCM end cap installation



EPCM

MiTek Stock No.	Ref. No.	Beam	Post	Dimensions (in)					Unit	D Fir-L Factored Resistance (115%)[1]			S-P-F Factored Resistance (115%)[1]			Corrosion Finish
				W1	W2	H1	L1	L2		Uplift	F1	F2	Uplift	F1	F2	
Centre Column Caps																
PCM4416	PC44-16	4x	4x	3-9/16	3-9/16	3-9/16	2-7/16	11	Lbs	1140	1345	1530	960	1130	1285	
									kN	5.07	5.98	6.81	4.27	5.03	5.72	
PCM44	PC44	4x	4x	3-9/16	3-9/16	3-9/16	2-7/16	11	Lbs	1965	1600	1915	1650	1345	1610	
									kN	8.74	7.12	8.52	7.34	5.98	7.16	
PCM46	PC46	4x	6x	3-9/16	5-9/16	3-9/16	2-7/16	13	Lbs	1965	1600	1915	1650	1345	1610	
									kN	8.74	7.12	8.52	7.34	5.98	7.16	
PCM4616	PC46-16	4x	6x	3-9/16	5-9/16	3-9/16	2-7/16	13	Lbs	1140	1345	1530	960	1130	1285	
									kN	5.07	5.98	6.81	4.27	5.03	5.72	
PCM4816	PC48-16	4x	8x	3-9/16	7-9/16	3-9/16	2-7/16	15	Lbs	1140	1345	1530	960	1130	1285	
									kN	5.07	5.98	6.81	4.27	5.03	5.72	
PCM48	PC48	4x	8x	3-9/16	7-9/16	3-9/16	2-7/16	15	Lbs	1965	1600	1915	1650	1345	1610	
									kN	8.74	7.12	8.52	7.34	5.98	7.16	
PCM6416	PC64-16	6x	4x	5-1/2	3-9/16	3-1/2	3-13/16	11	Lbs	1160	1825	1825	975	1535	1535	
									kN	5.16	8.12	8.12	4.34	6.83	6.83	
PCM64	PC64	6x	4x	5-1/2	3-9/16	3-1/2	3-13/16	11	Lbs	1860	2190	1970	1560	1840	1655	
									kN	8.27	9.74	8.76	6.94	8.19	7.36	
PCM6616	PC66-16	6x	6x	5-1/2	5-9/16	3-1/2	3-13/16	13	Lbs	1160	1825	1825	975	1535	1535	
									kN	5.16	8.12	8.12	4.34	6.83	6.83	
PCM66	PC66	6x	6x	5-1/2	5-9/16	3-1/2	3-13/16	13	Lbs	1860	2190	1970	1560	1840	1655	
									kN	8.27	9.74	8.76	6.94	8.19	7.36	
PCM6816	--	6x	8x	5-1/2	7-9/16	3-1/2	3-13/16	15	Lbs	1160	1825	1825	975	1535	1535	
									kN	5.16	8.12	8.12	4.34	6.83	6.83	
PCM68	PC68	6x	8x	5-1/2	7-9/16	3-1/2	3-13/16	15	Lbs	1860	2190	1970	1560	1840	1655	
									kN	8.27	9.74	8.76	6.94	8.19	7.36	
PCM77	--	7-1/8	7-1/8	7-1/8	7-1/8	3-11/16	5-5/8	14-9/16	Lbs	1860	2190	1970	1560	1840	1655	
									kN	8.27	9.74	8.76	6.94	8.19	7.36	

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.

Corrosion Finish Key Stainless Steel HDG Triple Zinc

Continued on next page

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MiTek Stock No.	Ref. No.	Beam	Post	Dimensions (in) W1	W2	H1	L1	L2	Unit	D Fir-L Factored Resistance (115%)[1] Uplift	F1	F2	S-P-F Factored Resistance (115%)[1] Uplift	F1	F2	Corrosion Finish
Centre Column Caps																
PCM8416	--	8x	4x	7-1/2	3-9/16	3-1/2	5-5/8	11	Lbs	1160	1825	1825	975	1535	1535	
									kN	5.16	8.12	8.12	4.34	6.83	6.83	
PCM84	PC84	8x	4x	7-1/2	3-9/16	3-1/2	5-5/8	11	Lbs	1860	2190	1970	1560	1840	1655	
									kN	8.27	9.74	8.76	6.94	8.19	7.36	
PCM8616	--	8x	6x	7-1/2	5-9/16	3-3/8	5-5/8	13	Lbs	1160	1825	1825	975	1535	1535	
									kN	5.16	8.12	8.12	4.34	6.83	6.83	
PCM86	PC86	8x	6x	7-1/2	5-9/16	3-1/2	5-5/8	13	Lbs	1860	2190	1970	1560	1840	1655	
									kN	8.27	9.74	8.76	6.94	8.19	7.36	
PCM8816	--	8x	8x	7-1/2	7-9/16	3-1/2	5-5/8	15	Lbs	1160	1825	1825	975	1535	1535	
									kN	5.16	8.12	8.12	4.34	6.83	6.83	
PCM88	PC88	8x	8x	7-1/2	7-9/16	3-1/2	5-5/8	15	Lbs	1860	2190	1970	1560	1840	1655	
									kN	8.27	9.74	8.76	6.94	8.19	7.36	
End Column Caps																
EPCM4416	EPC44-16	4x	4x	3-9/16	3-9/16	3-9/16	2-7/16	7-1/4	Lbs	1140	1345	1530	960	1130	1285	
									kN	5.07	5.98	6.81	4.27	5.03	5.72	
EPCM44	EPC44	4x	4x	3-9/16	3-9/16	3-9/16	2-7/16	7-1/4	Lbs	1965	1600	1915	1650	1345	1610	
									kN	8.74	7.12	8.52	7.34	5.98	7.16	
EPCM46	EPC46	4x	6x	3-9/16	5-9/16	3-9/16	2-7/16	9-1/4	Lbs	1965	1600	1915	1650	1345	1610	
									kN	8.74	7.12	8.52	7.34	5.98	7.16	
EPCM4616	EPC46-16	4x	6x	3-9/16	5-9/16	3-9/16	2-7/16	9-1/4	Lbs	1140	1345	1530	960	1130	1285	
									kN	5.07	5.98	6.81	4.27	5.03	5.72	
EPCM4816	EPC48-16	4x	8x	3-9/16	7-9/16	3-9/16	2-7/16	11-1/4	Lbs	1140	1345	1530	960	1130	1285	
									kN	5.07	5.98	6.81	4.27	5.03	5.72	
EPCM48	EPC48	4x	8x	3-9/16	7-9/16	3-9/16	2-7/16	11-1/4	Lbs	1965	1600	1915	1650	1345	1610	
									kN	8.74	7.12	8.52	7.34	5.98	7.16	
EPCM6416	EPC64-16	6x	4x	5-1/2	3-9/16	3-1/2	3-13/16	7-1/4	Lbs	1160	1825	1825	975	1535	1535	
									kN	5.16	8.12	8.12	4.34	6.83	6.83	
EPCM64	EPC64	6x	4x	5-1/2	3-9/16	3-1/2	3-13/16	7-1/4	Lbs	1860	1970	1970	1560	1655	1655	
									kN	8.27	8.76	8.76	6.94	7.36	7.36	
EPCM6616	EPC66-16	6x	6x	5-1/2	5-9/16	3-1/2	3-13/16	9-1/4	Lbs	1160	1825	1825	975	1535	1535	
									kN	5.16	8.12	8.12	4.34	6.83	6.83	
EPCM66	EPC66	6x	6x	5-1/2	5-9/16	3-1/2	3-13/16	9-1/4	Lbs	1860	1970	1970	1560	1655	1655	
									kN	8.27	8.76	8.76	6.94	7.36	7.36	
EPCM6816	--	6x	8x	5-1/2	7-9/16	3-1/2	3-13/16	11-1/4	Lbs	1160	1825	1825	975	1535	1535	
									kN	5.16	8.12	8.12	4.34	6.83	6.83	
EPCM68	EPC68	6x	8x	5-1/2	7-9/16	3-1/2	3-13/16	11-1/4	Lbs	1860	1970	1970	1560	1655	1655	
									kN	8.27	8.76	8.76	6.94	7.36	7.36	
EPCM77	--	7-1/8	7-1/8	7-1/8	7-1/8	3-11/16	5-5/8	10-13/16	Lbs	1860	1970	1970	1560	1655	1655	
									kN	8.27	8.76	8.76	6.94	7.36	7.36	
EPCM8416	--	8x	4x	7-1/2	3-9/16	3-1/2	5-5/8	7-1/4	Lbs	1160	1825	1825	975	1535	1535	
									kN	5.16	8.12	8.12	4.34	6.83	6.83	
EPCM84	EPC84	8x	4x	7-1/2	3-9/16	3-1/2	5-5/8	7-1/4	Lbs	1860	1970	1970	1560	1655	1655	
									kN	8.27	8.76	8.76	6.94	7.36	7.36	
EPCM8616	--	8x	6x	7-1/2	5-9/16	3-3/8	5-5/8	9-1/4	Lbs	1160	1825	1825	975	1535	1535	
									kN	5.16	8.12	8.12	4.34	6.83	6.83	
EPCM86	EPC86	8x	6x	7-1/2	5-9/16	3-1/2	5-5/8	9-1/4	Lbs	1860	1970	1970	1560	1655	1655	
									kN	8.27	8.76	8.76	6.94	7.36	7.36	
EPCM8816	--	8x	8x	7-1/2	7-9/16	3-1/2	5-5/8	11-1/4	Lbs	1160	1825	1825	975	1535	1535	
									kN	5.16	8.12	8.12	4.34	6.83	6.83	
EPCM88	EPC88	8x	8x	7-1/2	7-9/16	3-1/2	5-5/8	11-1/4	Lbs	1860	1970	1970	1560	1655	1655	
									kN	8.27	8.76	8.76	6.94	7.36	7.36	

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.

Corrosion Finish Key Stainless Steel HDG Triple Zinc

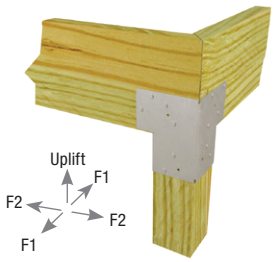
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PBC Post Beam Corner Connectors

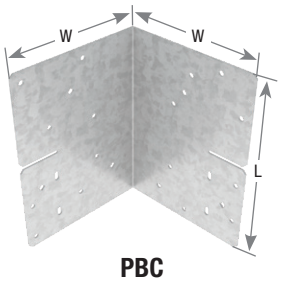
The PBC series is a one-piece connector designed to secure two mitered beams on a corner post while providing uplift capacity.

Materials: 18 gauge
Finish: G-185 galvanizing

Installation:
- Use all specified fasteners. See Product Notes, page 16.
- Install PBC on outside corner of post forming tabs to inner side of post.
- Assumes beam members are bevel cut at corner.



Typical PBC installation



PBC

Post Size	MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in) W	Dimensions (in) L	Fastener Schedule[2] Post Qty	Post Type	Beam Qty	Beam Type	Unit	D Fir-L Factored Resistance[1] Uplift 115%	D Fir-L F1 115%	D Fir-L F2 115%	S-P-F Factored Resistance[1] Uplift 115%	S-P-F F1 115%	S-P-F F2 115%	Corrosion Finish
4 x 4	PBC44-TZ	--	18	4-15/16	6-1/2	8	16d HDG	8	16d HDG	Lbs	1800	900	900	1555	775	775	
										kN	8.01	4.00	4.00	6.92	3.45	3.45	
6 x 6	PBC66-TZ	--	18	6-15/16	6-1/2	8	16d HDG	8	16d HDG	Lbs	1800	900	900	1555	775	775	
										kN	8.01	4.00	4.00	6.92	3.45	3.45	

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) **NAILS:** 16d nails are 0.162" dia. x 3-1/2" long.

Corrosion Finish Key Stainless Steel HDG Triple Zinc

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KCCQ / KECCQ Column Caps

Designed to be installed without the need to drill bolt holes, simplifying installation and maintaining the wood cross section. Installs with MiTek's WS structural wood screws offering high uplift capacity.

KCCQ — Standard column cap

KECCQ — End column cap

Materials: See chart

Finish: Primer

Options: See chart for Corrosion Finish Options and Specialty Options on page 103



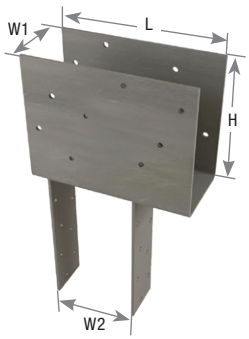
Typical KECCQ44 end cap installation



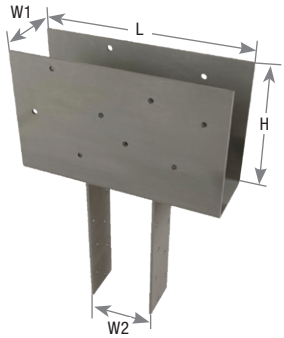
Typical KCCQ44 center cap installation

Installation:

- Use all specified fasteners. See Product Notes, page 16.
- MiTek's WS3 structural wood screws, 1/4" dia. x 3" long, are supplied with Column Caps.
- Beams shall be designed to support the required loads. Beam shear may limit loads to less than listed loads for device. A design professional shall determine the adequacy of the post to resist published loads.



KECCQ44



KCCQ44

MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in)				Fastener Schedule[2]				D Fir-L Factored Resistance				S-P-F Factored Resistance				Corrosion Finish
							Beam		Column or Post		Bearing 100%		Uplift 115%[1,6]		Bearing 100%		Uplift 115%[1,6]		
			W1	W2	H	L	Qty	Type	Qty	Type	Lbs	kN	Lbs	kN	Lbs	kN	Lbs	kN	
Centre Column Caps																			
KCCQ325-4	CCQ3-4SDS2.5	7	3-1/4	3-5/8	6-1/2	11	16	WS3	14	WS3	30940	137.63	12920	57.47	21040	93.59	9170	40.79	
KCCQ325-6	CCQ3-6SDS2.5	7	3-1/4	5-1/2	6-1/2	11	16	WS3	14	WS3	30940	137.63	12920	57.47	21040	93.59	9170	40.79	
KCCQ44	CCQ44SDS2.5	7	3-5/8	3-5/8	6-1/2	11	16	WS3	14	WS3	34655	154.15	12575	55.94	23565	104.82	8930	39.72	
KCCQ45	--	7	3-5/8	5-3/8	6-1/2	11	16	WS3	14	WS3	34655	154.15	12575	55.94	23565	104.82	8930	39.72	
KCCQ46	CCQ46SDS2.5	7	3-5/8	5-1/2	6-1/2	11	16	WS3	14	WS3	34655	154.15	12920	57.47	23565	104.82	9170	40.79	
KCCQ47	--	7	3-5/8	5-1/2	6-1/2	11	16	WS3	14	WS3	34655	154.15	12575	55.94	23565	104.82	8930	39.72	
KCCQ47X	--	7	3-5/8	7-1/8	8	13	16	WS3	14	WS3	40955	182.18	12575	55.94	27850	123.88	8930	39.72	
KCCQ48	CCQ48SDS2.5	7	3-5/8	7-1/2	6-1/2	11	16	WS3	14	WS3	34655	154.15	12920	57.47	23565	104.82	9170	40.79	
KCCQ45-6	--	7	4-5/8	5-1/2	6-1/2	11	16	WS3	14	WS3	34655	154.15	12920	57.47	23565	104.82	9170	40.79	
KCCQ525-4	CCQ5-4SDS2.5	3	5-1/4	3-5/8	8	13	16	WS3	14	WS3	59960	266.72	12920	57.47	40775	181.38	9170	40.79	
KCCQ525-6	CCQ5-6SDS2.5	3	5-1/4	5-1/2	8	13	16	WS3	14	WS3	59960	266.72	12920	57.47	40775	181.38	9170	40.79	
KCCQ525-8	CCQ5-8SDS2.5	3	5-1/4	7-1/2	8	13	16	WS3	14	WS3	59960	266.72	12920	57.47	40775	181.38	9170	40.79	
KCCQ57	--	7	5-3/8	7-1/8	6-1/2	11	16	WS3	14	WS3	51975	231.20	12920	57.47	35345	157.22	9170	40.79	
KCCQ64	CCQ64SDS2.5	7	5-1/2	3-5/8	6-1/2	11	16	WS3	14	WS3	54455	242.23	12920	57.47	37030	164.72	9170	40.79	
KCCQ66	CCQ66SDS2.5	7	5-1/2	5-1/2	6-1/2	11	16	WS3	14	WS3	54455	242.23	12920	57.47	37030	164.72	9170	40.79	
KCCQ67X	CCQ6-7.13SDS2.5	7	5-1/2	7-1/8	6-1/2	11	16	WS3	14	WS3	54455	242.23	12920	57.47	37030	164.72	9170	40.79	
KCCQ68	CCQ68SDS2.5	7	5-1/2	7-1/2	6-1/2	11	16	WS3	14	WS3	54455	242.23	12920	57.47	37030	164.72	9170	40.79	
KCCQ60-6	--	7	6-1/8	5-1/2	6-1/2	11	16	WS3	14	WS3	54455	242.23	12920	57.47	37030	164.72	9170	40.79	
KCCQ74	CCQ74SDS2.5	3	6-7/8	3-5/8	6-1/2	11	16	WS3	14	WS3	66825	297.25	12920	57.47	45440	202.13	9170	40.79	
KCCQ76	CCQ76SDS2.5	3	6-7/8	5-1/2	6-1/2	11	16	WS3	14	WS3	66825	297.25	12920	57.47	45440	202.13	9170	40.79	

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) MiTek's WS3 structural wood screws are 1/4" dia. x 3" long and are included with KCCQ and KECCQ column caps.
3) Beams shall be designed to support the required loads. Beam shear may limit loads to less than listed loads for device.
4) The designer shall check post for required loads.
5) Spliced conditions must be detailed by the specifier to transfer tension loads between spliced members by means other than the column cap.
6) Uplift loads do not apply to splice conditions.
New products or updated product information are designated in blue font.

Corrosion Finish Key Stainless Steel HDG Triple Zinc

Continued on next page

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MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in)				Fastener Schedule[2]				D Fir-L Factored Resistance				S-P-F Factored Resistance				Corrosion Finish
							Beam		Column or Post		Bearing 100%		Uplift 115%[1,6]		Bearing 100%		Uplift 115%[1,6]		
			W1	W2	H	L	Qty	Type	Qty	Type	Lbs	kN	Lbs	kN	Lbs	kN	Lbs	kN	
Centre Column Caps																			
KCCQ77	CCQ77SDS2.5	3	6-7/8	6-7/8	6-1/2	11	16	WS3	14	WS3	66825	297.25	12920	57.47	45440	202.13	9170	40.79	
KCCQ78	CCQ78SDS2.5	3	6-7/8	7-1/2	6-1/2	11	16	WS3	14	WS3	66825	297.25	12920	57.47	45440	202.13	9170	40.79	
KCCQ71-4	CCQ7.1-4SDS2.5	3	7-1/4	3-5/8	6-1/2	11	16	WS3	14	WS3	69300	308.26	12920	57.47	47125	209.62	9170	40.79	
KCCQ71-6	CCQ7.1-6SDS2.5	3	7-1/4	5-1/2	6-1/2	11	16	WS3	14	WS3	69300	308.26	12920	57.47	47125	209.62	9170	40.79	
KCCQ71-71	CCQ7.1-7.1SDS2.5	3	7-1/4	7-1/4	6-1/2	11	16	WS3	14	WS3	69300	308.26	12920	57.47	47125	209.62	9170	40.79	
KCCQ71-8	CCQ7.1-8SDS2.5	3	7-1/4	7-1/2	6-1/2	11	16	WS3	14	WS3	69300	308.26	12920	57.47	47125	209.62	9170	40.79	
KCCQ84	CCQ84SDS2.5	7	7-1/2	3-5/8	6-1/2	11	16	WS3	14	WS3	74255	330.30	12920	57.47	50495	224.61	9170	40.79	
KCCQ86	CCQ86SDS2.5	7	7-1/2	5-1/2	6-1/2	11	16	WS3	14	WS3	66990	297.99	12920	57.47	50735	225.68	9170	40.79	
KCCQ88	CCQ88SDS2.5	7	7-1/2	7-1/2	6-1/2	11	16	WS3	14	WS3	74255	330.30	12920	57.47	50495	224.61	9170	40.79	
KCCQ94	CCQ94SDS2.5	7	8-7/8	3-5/8	6-1/2	11	16	WS3	14	WS3	86625	385.33	12920	57.47	58905	262.02	9170	40.79	
KCCQ96	CCQ96SDS2.5	7	8-7/8	5-1/2	6-1/2	11	16	WS3	14	WS3	86625	385.33	12920	57.47	58905	262.02	9170	40.79	
KCCQ98	CCQ98SDS2.5	7	8-7/8	7-1/2	6-1/2	11	16	WS3	14	WS3	86625	385.33	12920	57.47	58905	262.02	9170	40.79	
KCCQ106	CCQ106SDS2.5	7	9-1/2	5-1/2	6-1/2	11	16	WS3	14	WS3	94055	418.38	12920	57.47	63960	284.51	9170	40.79	
End Column Caps																			
KECCQ325-4	ECCQ3-4SDS2.5	7	3-1/4	3-5/8	6-1/2	7-1/2	16	WS3	14	WS3	21095	93.84	11785	52.42	14340	63.79	8370	37.23	
KECCQ325-6	ECCQ3-6SDS2.5	7	3-1/4	5-1/2	6-1/2	7-1/2	16	WS3	14	WS3	21095	93.84	11785	52.42	14340	63.79	8370	37.23	
KECCQ44	ECCQ44SDS2.5	7	3-5/8	3-5/8	6-1/2	8-1/2	16	WS3	14	WS3	24430	108.67	13385	59.54	18210	81.00	9505	42.28	
KECCQ45	--	7	3-5/8	5-3/8	6-1/2	7-1/2	16	WS3	14	WS3	23625	105.09	13385	59.54	16065	71.46	9505	42.28	
KECCQ46	ECCQ46SDS2.5	7	3-5/8	5-1/2	6-1/2	8-1/2	16	WS3	14	WS3	26775	119.10	11785	52.42	18210	81.00	8370	37.23	
KECCQ47	--	7	3-5/8	7-1/8	6-1/2	9-1/2	16	WS3	14	WS3	29925	133.11	13385	59.54	20345	90.50	9505	42.28	
KECCQ47X	--	7	3-5/8	7-1/8	8	9-1/2	16	WS3	14	WS3	29925	133.11	13385	59.54	20345	90.50	9505	42.28	
KECCQ48	ECCQ48SDS2.5	7	3-5/8	7-1/2	6-1/2	8-1/2	16	WS3	14	WS3	26775	119.10	11785	52.42	18210	81.00	8370	37.23	
KECCQ45-6	--	7	4-5/8	5-1/2	6-1/2	8-1/2	16	WS3	14	WS3	26775	119.10	11785	52.42	18210	81.00	8370	37.23	
KECCQ525-4	ECCQ5-4SDS2.5	3	5-1/4	3-5/8	8	9-1/2	16	WS3	14	WS3	32155	143.03	11785	52.42	24350	108.31	8370	37.23	
KECCQ525-6	ECCQ5-6SDS2.5	3	5-1/4	5-1/2	8	9-1/2	16	WS3	14	WS3	39310	174.86	11785	52.42	28985	128.93	8370	37.23	
KECCQ525-8	ECCQ5-8SDS2.5	3	5-1/4	7-1/2	8	9-1/2	16	WS3	14	WS3	43820	194.92	11785	52.42	29795	132.53	8370	37.23	
KECCQ57	--	7	5-3/8	7-1/8	6-1/2	9-1/2	16	WS3	14	WS3	40160	178.64	11785	52.42	27310	121.48	8370	37.23	
KECCQ64	ECCQ64SDS2.5	7	5-1/2	3-5/8	6-1/2	8-1/2	16	WS3	14	WS3	33890	150.75	11785	52.42	25605	113.90	8370	37.23	
KECCQ66	ECCQ66SDS2.5	7	5-1/2	5-1/2	6-1/2	8-1/2	16	WS3	14	WS3	41630	185.18	11785	52.42	28615	127.29	8370	37.23	
KECCQ67X	ECCQ6-7.13SDS2.5	7	5-1/2	7-1/8	6-1/2	8-1/2	16	WS3	14	WS3	42075	187.16	11785	52.42	28615	127.29	8370	37.23	
KECCQ68	ECCQ68SDS2.5	7	5-1/2	7-1/2	6-1/2	8-1/2	16	WS3	14	WS3	42075	187.16	11785	52.42	28615	127.29	8370	37.23	
KECCQ60-6	--	7	6-1/8	5-1/2	6-1/2	8-1/2	16	WS3	14	WS3	42075	187.16	11785	52.42	28615	127.29	8370	37.23	
KECCQ74	ECCQ74SDS2.5	3	6-7/8	3-5/8	6-1/2	8-1/2	16	WS3	14	WS3	39550	175.93	11785	52.42	29665	131.96	8370	37.23	
KECCQ76	ECCQ76SDS2.5	3	6-7/8	5-1/2	6-1/2	8-1/2	16	WS3	14	WS3	51640	229.71	11785	52.42	35115	156.20	8370	37.23	
KECCQ77	ECCQ77SDS2.5	3	6-7/8	6-7/8	6-1/2	8-1/2	16	WS3	14	WS3	51640	229.71	11785	52.42	35115	156.20	8370	37.23	
KECCQ78	ECCQ78SDS2.5	3	6-7/8	7-1/2	6-1/2	8-1/2	16	WS3	14	WS3	51640	229.71	11785	52.42	35115	156.20	8370	37.23	
KECCQ71-4	ECCQ7.1-4SDS2.5	3	7-1/4	3-5/8	6-1/2	8-1/2	16	WS3	14	WS3	40665	180.89	11785	52.42	30455	135.47	8370	37.23	
KECCQ71-6	ECCQ7.1-6SDS2.5	3	7-1/4	5-1/2	6-1/2	8-1/2	16	WS3	14	WS3	50810	226.01	11785	52.42	36420	162.00	8370	37.23	
KECCQ71-71	ECCQ7.1-7.1SDS2.5	3	7-1/4	7-1/4	6-1/2	8-1/2	16	WS3	14	WS3	53555	238.22	11785	52.42	36420	162.00	8370	37.23	
KECCQ71-8	ECCQ7.1-8SDS2.5	3	7-1/4	7-1/2	6-1/2	8-1/2	16	WS3	14	WS3	53555	238.22	11785	52.42	36420	162.00	8370	37.23	
KECCQ84	ECCQ84SDS2.5	7	7-1/2	3-5/8	6-1/2	8-1/2	16	WS3	14	WS3	42890	190.78	11785	52.42	39015	173.55	8370	37.23	
KECCQ86	ECCQ86SDS2.5	7	7-1/2	5-1/2	6-1/2	8-1/2	16	WS3	14	WS3	53840	239.49	11785	52.42	39015	173.55	8370	37.23	
KECCQ88	ECCQ88SDS2.5	7	7-1/2	7-1/2	6-1/2	8-1/2	16	WS3	14	WS3	57375	255.22	11785	52.42	39015	173.55	8370	37.23	
KECCQ94	ECCQ94SDS2.5	7	8-7/8	3-5/8	6-1/2	8-1/2	16	WS3	14	WS3	48375	215.18	11785	52.42	35940	159.87	8370	37.23	
KECCQ96	ECCQ96SDS2.5	7	8-7/8	5-1/2	6-1/2	8-1/2	16	WS3	14	WS3	61385	273.05	11785	52.42	44395	197.48	8370	37.23	
KECCQ98	ECCQ98SDS2.5	7	8-7/8	7-1/2	6-1/2	8-1/2	16	WS3	14	WS3	66940	297.76	11785	52.42	45520	202.48	8370	37.23	
KECCQ106	ECCQ106SDS2.5	7	9-1/2	5-1/2	6-1/2	8-1/2	16	WS3	14	WS3	65895	293.12	11785	52.42	47520	211.38	8370	37.23	

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) MiTek's WS3 structural wood screws are 1/4" dia. x 3" long and are included with KCCQ and KECCQ column caps.
3) Beams shall be designed to support the required loads. Beam shear may limit loads to less than listed loads for device.
4) The designer shall check post for required loads.
5) Spliced conditions must be detailed by the specifier to transfer tension loads between spliced members by means other than the column cap.
6) Uplift loads do not apply to splice conditions.
New products or updated product information are designated in blue font.

Corrosion Finish Key Stainless Steel HDG Triple Zinc

Continued on next page

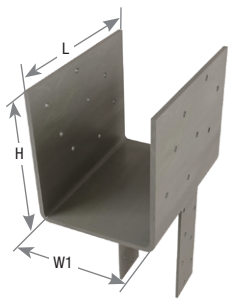
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Specialty Options:

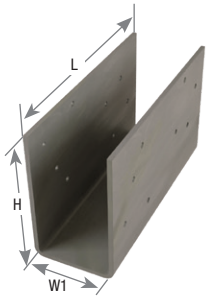
- **KECCQ** – Straps may be rotated 90° with no reduction in published capacity on special orders where the W2 dimension is less than or equal to the W1 dimension. When W2 is greater than W1 uplift loads may be reduced, consult MiTek Engineering support.
- **KCCQO/KECCQO** – Cap only, no strap design for field welding to pipe or other columns.
- **KCCQOB** – For cross beam connections. Any two buckets can be welded together for a wide variety of applications. Factored resistance shall be the lesser of the two components.
- **KCCQT** – For T beam intersections, consult MiTek. Specify beam/column conditions, dimensions, and loading requirements.
- **KCCQC** – For X beam intersections, consult MiTek. Specify beam/column conditions, dimensions, and loading requirements.
- **KECCQLL/R** – For L beam intersections, consult MiTek. Specify left (L) or right (R) beam/column conditions, dimensions, and loading requirements.

Dimension call-outs not shown in the table must be specified at time of ordering for specialty options, non-catalog, or rough/full size lumber sizes.

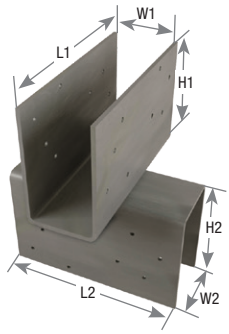
Refer to Options for Multiple-Beam Bolted Column Caps Special Order Worksheet for ordering instructions at MiTek.ca on the KCCQ/KECCQ Column Caps web page.



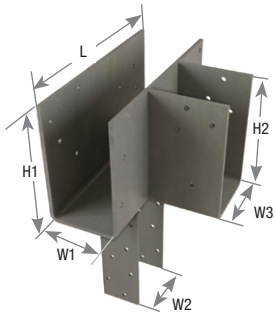
Optional KECCQ rotated straps 90°



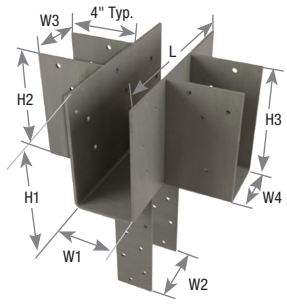
KCCQO



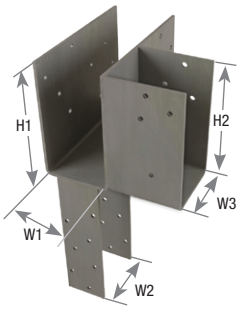
KCCQOB



KCCQT



KCCQC



KECCQLL left shown

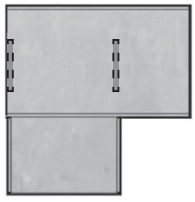
Top View of Specialty Options Column Cap Configurations



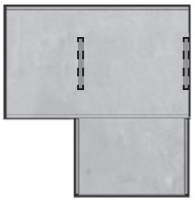
KECCQLL rotated 90°



KECCQLR rotated 90°



KECCQLL



KECCQLR



KECCQ offset left



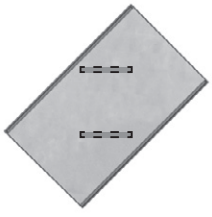
KECCQ offset right



KCCQ offset left



KCCQ offset right



KCCQ rotated 45° left



KCCQ rotated 45° right

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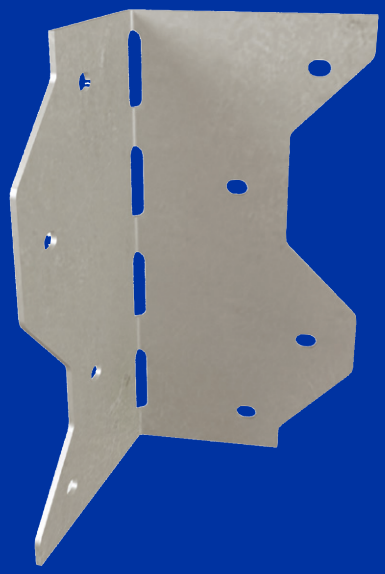
ANGLES & STRAPS



MiTek®

ANGLES & STRAPS 104-129

Angles	106-107, 109-112
Clips	108, 114
Header Hangers	114
Lateral Joist Connectors	116
Ornamental Connectors	113
Straps	113, 115, 119-129
Stud Plate Ties	117-118



MP34 – Framing angle without tabs

MPA1 – Tabs enable two and three-way connections

MP4F – Connects 2x framing with floor sheathing up to 5/8"

MP6F – Connects 3x framing with floor sheathing up to 3/4". Better choice for connections where floor sheathing is between sole plate and rim board.

Materials: See chart
Finish: G90 galvanizing
Options: See chart for Corrosion Finish Options on page 107
Codes: Load values are derived from data submitted to various North American building code evaluators

AVAILABLE IN GOLD COAT



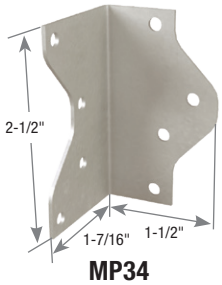
MPA1



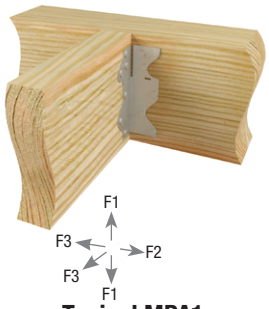
Typical MP34 installation



MPA1-GC

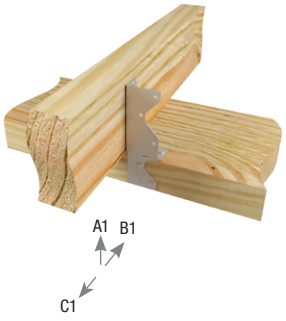


MP34



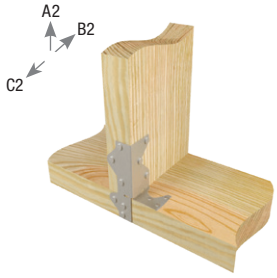
Typical MPA1
joist / header installation

Figure 1



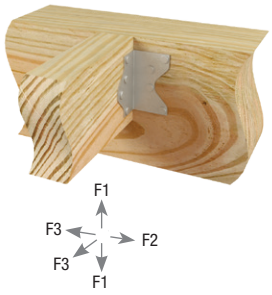
Typical MPA1
rafter / plate installation

Figure 2



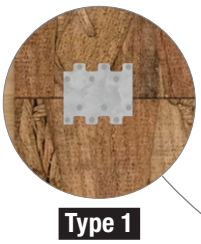
Typical MPA1
stud / plate installation

Figure 3

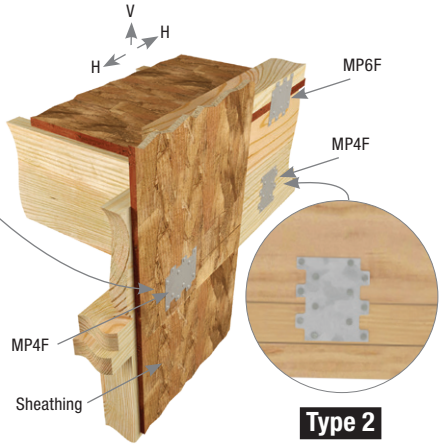


Typical MP34
joist / header installation

Figure 4

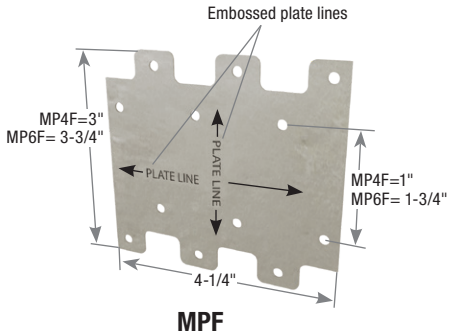


Type 1



Type 2

Typical MPF installation



MPF

Continued on next page

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Installation:

- Use all specified fasteners. See Product Notes, page 16.
- **Bend tabs only once.**

MiTek Stock No.	Ref. No.	Steel Gauge	Installation Type[2]	Fastener Schedule[3,5]				Direction of Load[2]	D Fir-L Factored Resistance[3,4]				S-P-F Factored Resistance[3,4]				Corrosion Finish
				Header or Stud		Joist or Plate			Lbs		kN		Lbs		kN		
				Qty	Type	Qty	Type		100%	115%[1]	100%	115%[1]	100%	115%[1]	100%	115%[1]	
MPA1	A35	18	Figure 1	6	8d x 1-1/2	6	8d x 1-1/2	F1	1115	1280	4.96	5.69	790	910	3.51	4.05	
								F2	1300	1300	5.78	5.78	925	925	4.11	4.11	
			Figure 2	6	8d x 1-1/2	3	8d x 1-1/2	A1	685	785	3.05	3.49	485	555	2.16	2.47	
								B1	510	585	2.27	2.60	360	415	1.60	1.85	
								C1	525	600	2.34	2.67	370	425	1.65	1.89	
			Figure 3	6	8d x 1-1/2	6	8d x 1-1/2	A2	830	955	3.69	4.25	590	675	2.62	3.00	
								B2	460	525	2.05	2.34	325	375	1.45	1.67	
								C2	610	705	2.71	3.14	435	500	1.94	2.22	
MP34	A34	18	Figure 4	4	8d x 1-1/2	4	8d x 1-1/2	F1	855	985	3.80	4.38	675	775	3.00	3.45	
								F2	1025	1175	4.56	5.23	805	925	3.58	4.11	
								F3	555	555	2.47	2.47	435	435	1.93	1.93	
MP4F	LTP4	20	Type 1	6	8d x 1-1/2	6	8d x 1-1/2	V	1380	1585	6.14	7.05	980	1125	4.36	5.00	
								H	1380	1585	6.14	7.05	980	1125	4.36	5.00	
			Type 2	6	8d x 1-1/2	6	8d x 1-1/2	V	1380	1585	6.14	7.05	980	1125	4.36	5.00	
								H	1380	1585	6.14	7.05	980	1125	4.36	5.00	
			Type 1	6	8d	6	8d	V	1380	1585	6.14	7.05	980	1125	4.36	5.00	
								H	1380	1585	6.14	7.05	980	1125	4.36	5.00	
			Type 2	6	8d	6	8d	V	1380	1585	6.14	7.05	980	1125	4.36	5.00	
								H	1380	1585	6.14	7.05	980	1125	4.36	5.00	
MP6F	LTP5	20	Type 1	6	8d x 1-1/2	6	8d x 1-1/2	V	995	1145	4.43	5.09	705	815	3.14	3.63	
								H	995	1145	4.43	5.09	705	815	3.14	3.63	
			Type 2	6	8d x 1-1/2	6	8d x 1-1/2	V	995	1145	4.43	5.09	705	815	3.14	3.63	
								H	995	1145	4.43	5.09	705	815	3.14	3.63	
			Type 1	6	8d	6	8d	V	995	1145	4.43	5.09	705	815	3.14	3.63	
								H	995	1145	4.43	5.09	705	815	3.14	3.63	
			Type 2	6	8d	6	8d	V	995	1145	4.43	5.09	705	815	3.14	3.63	
								H	995	1145	4.43	5.09	705	815	3.14	3.63	

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; no further increase allowed.
2) Refer to drawings for installation type and definition of the various load directions.
3) If installing MP4F or MP6F over plywood, use 8d common nails for 100% of table load.
4) Factored resistances shown are per angle. When using a single anchor, joist must be constrained from rotation.
5) **NAILS:** 8d x 1-1/2 nails are 0.131" dia. x 1-1/2" long, 8d nails are 0.131" x 2-1/2" long.

Corrosion Finish Key Stainless Steel HDG Triple Zinc

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RBC Roof Boundary Clip

Framing plate designed to connect roof blocking to a wall top plate.

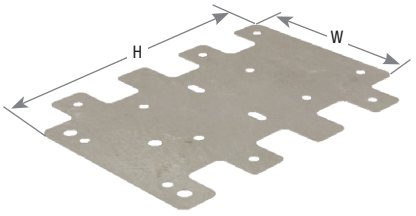
Materials: 20 gauge

Finish: G90 galvanizing

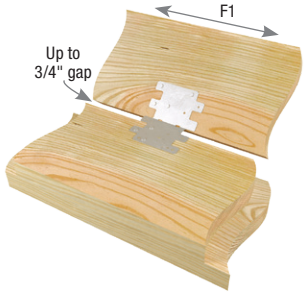
Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:

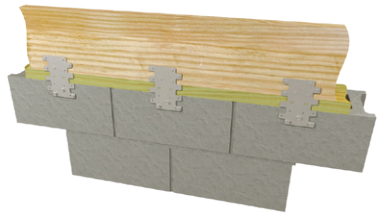
- Use all specified fasteners. See Product Notes, page 16.
- Field adjustable from 0º to 45º.
- **Bend angle only once.**



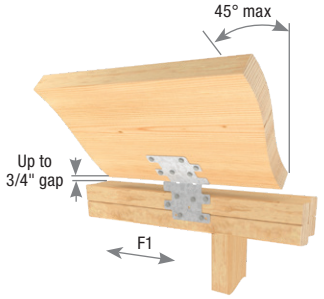
RBC



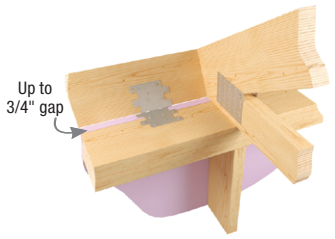
Typical RBC top-plate to inside of blocking installation



Typical RBC concrete block wall to blocking installation



Typical RBC top-plate to outside of blocking installation



Typical RBC 1" foamboard installation

MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in)		Installation Type	Fastener Schedule[2,3]				D Fir-L Factored Resistance[1]		S-P-F Factored Resistance[1]	
						Top Plate		Blocking		F1 115%		F1 115%	
			W	H		Qty	Type[2]	Qty	Type[2]	Lbs	kN	Lbs	kN
RBC	RBC	20	4-1/4	6	Wood to Wood	6	10d x 1-1/2	6	10d x 1-1/2	990	4.40	615	2.74
					Wood to CMU	3	1/4" Tapcon	6	10d x 1-1/2	735	3.27	525	2.34

1) Loads shown are for a single roof boundary clip.
2) Use ITW Buildex 1/4" x 2-1/4" Tapcon fasteners; or equal, installed in accordance with manufacturer's specification.
3) **NAILS:** 10d x 1-1/2 nails are 0.148" diameter by 1-1/2" long.

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ML Angles

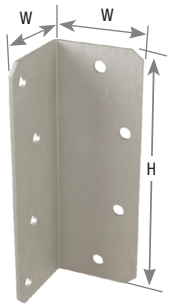
ML angles are multi-purpose angles that install easily with MiTek's WS15 structural wood screws. The staggered fastener pattern allows for back-to-back installations.

Materials: 12 gauge
Finish: G-185 galvanizing

Installation:
- Use all specified fasteners. See Product Notes, page 16.
- MiTek's WS15 (1/4" dia. x 1-1/2" long) structural wood screws are not supplied with ML angles.



Typical ML26-TZ installation
(ML24-TZ similar)



ML26-TZ
(ML24-TZ similar)

MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in)		Fastener Schedule[2,3]				Unit	D Fir-L Factored Resistance[1]		S-P-F Factored Resistance[1]		Corrosion Finish
					Header		Joist							
			W	H	Qty	Type	Qty	Type		100%	115%	100%	115%	
ML24-TZ	ML24Z	12	2	4	3	WS15	3	WS15	Lbs	1100	1265	780	900	
									kN	4.89	5.63	3.47	4.00	
ML26-TZ	ML26Z	12	2	6	4	WS15	4	WS15	Lbs	1890	2175	1340	1545	
									kN	8.41	9.68	5.96	6.87	

1) Factored resistances have been increased 15% for short-term, duration loading; no further increase allowed.
2) MiTek's WS15 structural wood screws are 1/4" dia. x 1-1/2" long and are not included with angles.
3) For exterior applications use MiTek's WS15-EXT (1/4" dia. x 1-1/2") structural wood screws with the exterior coat finish.

Corrosion Finish Key Stainless Steel HDG Triple Zinc

TDL Concrete Angles

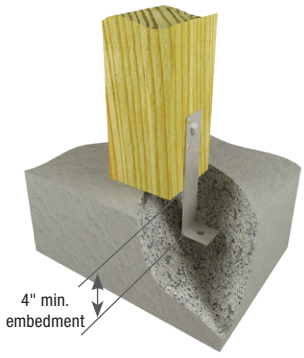
These angles secure wood posts to concrete or wood floors in light-duty applications.

Materials: 12 gauge
Finish: G90 galvanizing
Options: See Chart for Corrosion Finish Options.
Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:
- Use specified fasteners. See Product Notes, page 16.
- The TDL10 can be embedded into concrete. Minimum embedment depth is 4" to achieve factored resistances.
- **Moisture barrier may be required.**



Typical TDL5 nail installation



Typical TDL10 embedded bolt installation



TDL10

MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in)			Fastener Schedule[4,5]				D Fir-L Factored Resistance[1,2,3]		S-P-F Factored Resistance[1,2,3]		Corrosion Finish
						Anchor Bolts		Strap		Uplift 115%		Uplift 115%		
			W	H	D	Qty	Dia. (in)	Qty	Type	Lbs	kN	Lbs	kN	
TDL5	A24	12	2	5-3/16	2-1/4	1	1/2	4	16d	975	4.34	840	3.74	
								1	1/2	1140	5.07	980	4.36	
TDL10	A311	12	2	9-3/4	2-1/4	1	1/2	4	16d	975	4.34	840	3.74	
								1	1/2	1140	5.07	980	4.36	

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) Values given are based on the use of either nails or bolts; nail and bolt values cannot be combined.
3) The bolt values are based on single shear with a minimum member thickness of 3-1/2-inch.
4) Designer must specify anchor bolt type, length, and embedment.
5) **NAILS:** 16d nails are 0.162" dia. x 3-1/2" long.

Corrosion Finish Key Stainless Steel HDG Triple Zinc

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A / AC / JA / MP Framing Angles

MP – 18 gauge. Field adjustable from 45° to 180° (flat)

A3 – 18 gauge. Eliminates toenailing and increases strength

AC – 16 gauge. Features staggered nail patterns which reduces wood splitting and allows installation on both sides of the supported member

JA – 14 or 16 gauge. Heavier capacity framing angle for joist support

Materials: See chart

Finish: G90 galvanizing

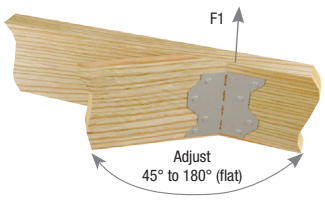
Options: See chart for Corrosion Finish Options

Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:

- Use all specified fasteners. See Product Notes, page 16.
- MP Framing Angles are fabricated at 100° and may be field adjusted by hand from 45° to 180° (flat). Bend angle only once.

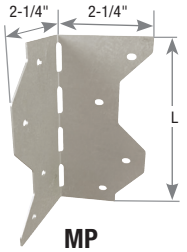
AVAILABLE IN GOLD COAT



Typical MP installation



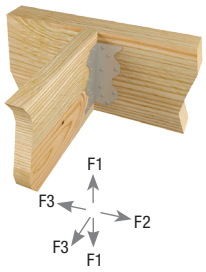
Typical MP rafter support installation



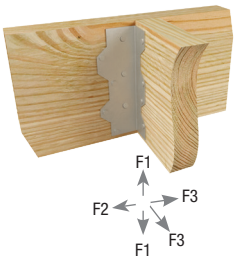
MP



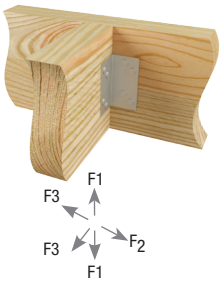
Typical JA1 installation



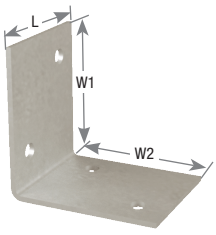
Typical JA7 installation



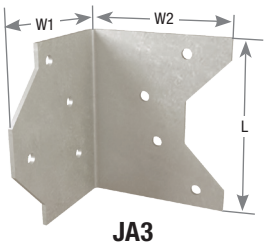
Typical AC installation



Typical A3 installation



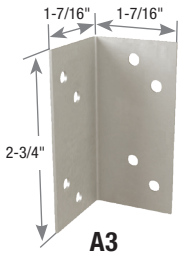
JA1



JA3



AC



A3

MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in)			Fastener Schedule[2,3]				Direction of Load	D Fir-L Factored Resistance[1]				S-P-F Factored Resistance[1]				Corrosion Finish
						Header		Joist			Lbs		kN		Lbs		kN		
			W1	W2	L	Qty	Type	Qty	Type		100%	115%	100%	115%	100%	115%	100%	115%	
A3	A23, GA1, GA2, L30	18	1-7/16	1-7/16	2-3/4	4	10d x 1-1/2	4	10d x 1-1/2	F1	970	1115	4.31	4.96	690	792	3.07	3.52	
										F2	985	1130	4.38	5.03	700	802	3.11	3.57	
MP3	LS30	18	2-1/4	2-1/4	3-3/8	3	10d	3	10d	F1	715	715	3.18	3.18	610	610	2.71	2.71	
MP5	LS50	18	2-1/4	2-1/4	4-5/8	4	10d	4	10d	F1	1010	1010	4.49	4.49	865	865	3.85	3.85	
MP7	LS70	18	2-1/4	2-1/4	5-7/8	5	10d	5	10d	F1	1315	1315	5.85	5.85	1125	1125	5.00	5.00	
MP9	LS90	18	2-1/4	2-1/4	6-7/8	6	10d	6	10d	F1	1410	1410	6.27	6.27	1210	1210	5.38	5.38	
AC5	L50	16	1-5/16	2-3/8	4-7/8	3	10d	3	10d	F1	995	1145	4.43	5.09	705	815	3.14	3.63	
										F2	930	1070	4.14	4.76	660	760	2.94	3.38	
AC7	L70	16	1-5/16	2-3/8	6-15/16	4	10d	4	10d	F1	1120	1285	4.98	5.72	795	910	3.54	4.05	
										F2	1335	1535	5.94	6.83	950	1090	4.23	4.85	
AC9	L90	16	1-5/16	2-3/8	8-7/8	5	10d	5	10d	F1	1860	2135	8.27	9.50	1320	1515	5.87	6.74	
										F2	1335	1535	5.94	6.83	950	1090	4.23	4.85	
JA1	A21	16	1-1/2	1-1/2	1-1/4	2	10d x 1-1/2	2	10d x 1-1/2	F1	421	484	1.87	2.15	299	344	1.33	1.53	
										F2	562	647	2.50	2.88	399	459	1.78	2.04	
JA3	--	14	2-1/2	2-1/2	3	4	16d	4	10d x 1-1/2	F1	963	1108	4.28	4.93	684	786	3.04	3.50	
										F2	874	1005	3.89	4.47	620	713	2.76	3.17	
JA5	--	14	2-1/2	2-1/2	5	6	16d	6	10d x 1-1/2	F1	1556	1790	6.92	7.96	1105	1271	4.91	5.65	
										F2	1665	1915	7.41	8.52	1182	1360	5.26	6.05	
JA7	--	14	2-1/2	2-1/2	7	8	16d	8	10d x 1-1/2	F1	3058	3517	13.60	15.64	2171	2497	9.66	11.11	
										F2	2664	3064	11.85	13.63	1892	2176	8.42	9.68	
JA9	--	14	2-1/2	2-1/2	9	10	16d	10	10d x 1-1/2	F1	3767	4333	16.76	19.27	2675	3076	11.90	13.68	
										F2	2697	3102	12.00	13.80	1915	2202	8.52	9.80	

1) Factored resistances are shown per angle, and may be doubled if installed in pairs. When using a single angle, joist must be constrained from rotation.
2) For 1-1/2" lumber where 10d nails are specified, use 10d x 1-1/2" nails and apply 0.90 adjustment factor to the table value.
3) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long, 10d nails are 0.148" dia. x 3" long, 16d nails are 0.162" dia. x 3-1/2" long.

Corrosion Finish Key
Stainless Steel
HDG Triple Zinc

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B / BL Corner Braces

These multi-purpose braces are designed to provide reinforcement for 90° wood-to-wood connections.

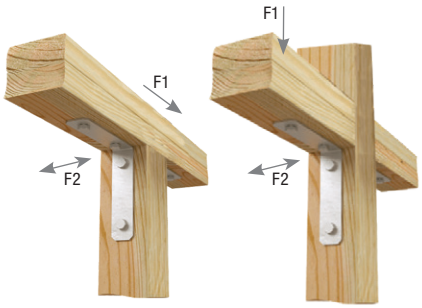
Materials: 12 gauge
Finish: G90 galvanizing

Some model designs may vary from illustration shown

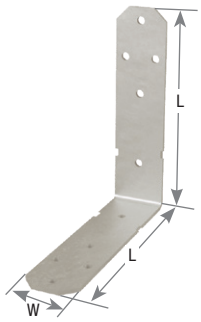
Installation:
- Use all specified fasteners.

MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in)		Fastener Schedule			
					Nails[2]		Bolts[1]	
			W	L	Qty	Type	Qty	Dia (in)
B23	--	12	2	2-5/8	6	16d	--	--
B24	--	12	2	3-5/8	8	16d	--	--
BL3	A33	12	1-1/4	3-1/16	8	16d	--	--
BL4	A44	12	1-1/4	4-13/16	10	16d	--	--
BL6	--	12	1-1/4	6-9/16	12	16d	--	--
BL8	--	12	1-1/4	8-5/16	14	16d	--	--
B66	A66	12	1-1/2	6	--	--	4	3/8
B88	A88	12	2	8	--	--	6	3/8

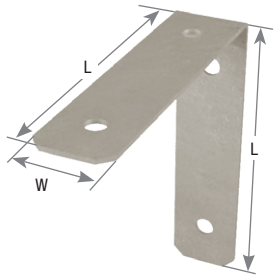
1) Bolts shall conform to ASTM A 307 or better.
2) **NAILS:** 16d nails are 0.162" dia. x 3-1/2" long.



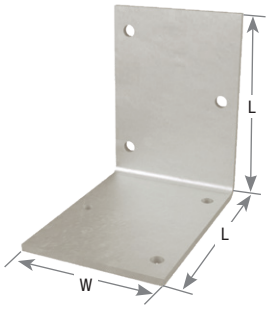
Typical B66 installation



BL4



B66



B23

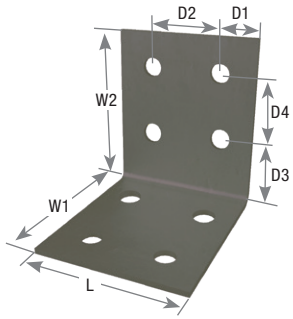
KHL Heavy Angles

Designed for heavy-duty reinforcement of 90° framing intersections.

Materials: See chart
Finish: Primer
Options: See chart for Corrosion Finish Options

Installation:
- Use all specified fasteners. See Product Notes, page 16.
- **Connectors are not load rated.**


Typical KHL35 installation



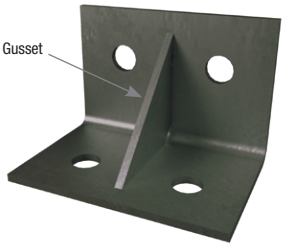
KHL55

MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in)							Fastener Schedule			Corrosion Finish
										Bolts[1]		Gussets	
			W1	W2	L	D1	D2	D3	D4	Qty	Dia (in)	Qty	
KHL33	HL33	7	3-1/4	3-1/4	2-1/2	1-1/4	--	2	--	2	5/8	--	
KHL35	HL35	7	3-1/4	3-1/4	5	1-1/4	2-1/2	2	--	4	5/8	--	
KHL35G	HL35G	7	3-1/4	3-1/4	5	1-1/4	2-1/2	2	--	4	5/8	1	
KHL37	HL37	7	3-1/4	3-1/4	7-1/2	1-1/4	2-1/2	2	--	6	5/8	--	
KHL335	SPECANGLE	3	3-1/2	5-1/4	3-1/2	--	--	--	--	4	1/2	--	
KHL43	HL43	3	4-1/4	4-1/4	3	1-1/2	--	2-3/4	--	2	3/4	--	
KHL46	HL46	3	4-1/4	4-1/4	6	1-1/2	3	2-3/4	--	4	3/4	--	
KHL49	HL49	3	4-1/4	4-1/4	9	1-1/2	3	2-3/4	--	6	3/4	--	
KHL53	HL53	7	5-3/4	5-3/4	2-1/2	1-1/4	--	2	2-1/2	4	5/8	--	
KHL55	HL55	7	5-3/4	5-3/4	5	1-1/4	2-1/2	2	2-1/2	8	5/8	--	
KHL57	HL57	7	5-3/4	5-3/4	7-1/2	1-1/4	2-1/2	2	2-1/2	12	5/8	--	
KHL73	HL73	3	7-1/4	7-1/4	3	1-1/2	--	2-3/4	3	4	3/4	--	
KHL76	HL76	3	7-1/4	7-1/4	6	1-1/2	3	2-3/4	3	8	3/4	--	
KHL79	HL79	3	7-1/4	7-1/4	9	1-1/2	3	2-3/4	3	12	3/4	--	

1) All bolts shall meet or exceed the specifications of ASTM A 307.

Corrosion Finish Key Stainless Steel HDG Triple Zinc


KHL335



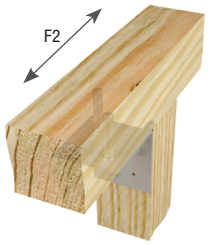
KHL35G

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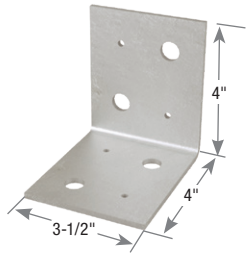
ANJ Heavy Angle

Materials: 7 gauge
Finish: Hot-dip galvanized

Installation:
- Install with (2) 1/2" x 2-1/2" HDG lag screws into each leg.



Typical ANJ44S-HDG installation



ANJ44S-HDG

MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in) W	H	L	Fastener Schedule[1] Header Qty	Header Lag Screw	Joist Qty	Joist Lag Screw	D Fir-L Factored Resistance F2 (115%) Lbs	D Fir-L F2 (115%) kN	S-P-F Factored Resistance F2 (115%) Lbs	S-P-F F2 (115%) kN	Corrosion	Finish
ANJ44S-HDG	--	7	3-1/2	4	4	2	1/2" HDG	2	1/2" HDG	845	3.76	600	2.67		

Corrosion Finish Key
Stainless Steel
HDG
Triple Zinc

1) Loads based on use of (2) 1/2" x 2-1/2" lag screws, loaded parallel to grain.

SCA Stair Angles

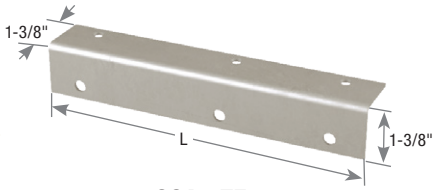
Stair angles simplify stair construction. There is no need to calculate and notch stair stringers. Stronger and safer than wood blocking, and the angle and fasteners are hidden from view.

Materials: 12 gauge
Finish: G-185 galvanizing
Options: See chart for Corrosion Finish Options

Installation:
- Use all specified fasteners. See Product Notes, page 16.
- MiTek's WS15-EXT (1/4" dia x 1-1/2" long) structural wood screws are not supplied with SCA angles.
- Use the SCA9-TZ for single 2x10 stair treads. Use the SCA10-TZ for double 2 x 6 stair treads.
- To calculate stair construction do the following:
  1. Find the number of steps needed by dividing the vertical drop from the deck surface to grade by 7. Round to the nearest whole number. (Ex: Vertical drop of 39" divided by 7" equals 5.57 rounded off is 6)
  2. Find the step rise by dividing the vertical drop by the number of steps (39" divided by 6 = 6.5")
  3. Find the step run by measuring the depth of your tread board (Ex: (2) 2x6s with 1/4" gap will have a run of 11-1/4")
  4. Find the stairway span by multiplying the run by the number of treads minus one (Ex: 11-1/4" x 5 = 56-1/4")
- Using the above calculations, mark stair angle locations on each stringer. Attach a stair angle to the inside of each stringer at the marked locations. Attach stringers to deck rim joist and railing posts. Position treadboards on angles and fasten from below.



Typical SCA9-TZ installation



SCA9-TZ



Typical SCA10-TZ installation

AVAILABLE IN GOLD COAT

MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in) w	L	Fastener Schedule[2,3] Qty	Type	D Fir-L Factored Resistance Down 100%[1] Lbs	D Fir-L Down 100%[1] kN	S-P-F Factored Resistance Down 100%[1] Lbs	S-P-F Down 100%[1] kN	Corrosion	Finish
SCA9-TZ	TA9Z	12	1-3/8	9	6	WS15-EXT	1925	8.56	1365	6.07		
SCA10-TZ	TA10Z	12	1-3/8	10	8	WS15-EXT	1925	8.56	1365	6.07		

Corrosion Finish Key
Stainless Steel
HDG
Triple Zinc

1) Loads assume rise over run of 7/11.
2) MiTek's WS15-EXT structural wood screws are 1/4" dia. x 1-1/2" long and are not included with SCA angles.
3) HDG lag screws may be substituted for specified MiTek WS15-EXT screws with no load reduction.

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L / LH / T / TH Straps

L / T – 14 gauge medium-capacity straps fasten with either nails or bolts

LH / TH – 7 gauge heavy-capacity bolt-on strap

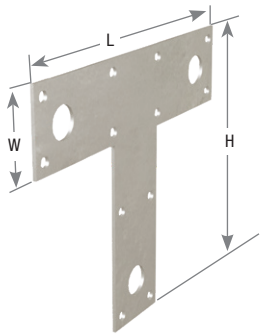
Materials: See chart
Finish: G90 galvanizing; LH / TH – Primer; TH12-HDG – Hot-dip galvanized
Options: See chart for Corrosion Finish Options. Available for special order in black primer coated finish.

Installation:
- Use all specified fasteners. See Product Notes, page 16.
- **Straps are not load rated.**

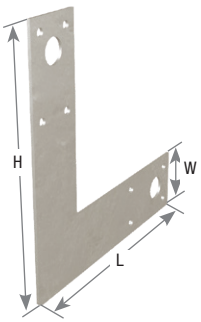
MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in)			Fastener Schedule				Corrosion Finish
						Bolts[1]		Nails[2]		
			W	H	L	Qty	Dia (in)	Qty	Type	
T6	66T	14	1-1/2	5	6	3	1/2	12	16d	
T8	--	14	2	8	8-1/2	3	1/2	12	16d	
T12	128T	14	2	8	12	3	1/2	12	16d	
T1212	1212T	14	2	12	12	3	1/2	12	16d	
L6	66L	14	1-1/2	6	6	2	1/2	8	16d	
L8	88L	14	2	8	8	2	1/2	8	16d	
L12	1212L	14	2	12	12	3	1/2	12	16d	
TH12-HDG	1212HT, 1212HTHDG	7	2-1/2	12	12	6	5/8	--	--	
TH16	1616HT	7	2-1/2	16	16-1/4	6	5/8	--	--	
LH12	1212HL	7	3	12	12	5	5/8	--	--	
LH16	1616HL	7	2-1/2	16	16	7	5/8	--	--	

1) All bolts shall meet or exceed the specifications of ASTM A 307.
2) **NAILS:** 16d nails are 0.162" dia. x 3-1/2" long.

Corrosion Finish Key
Stainless Steel
HDG Triple Zinc



T6



L6


TH16

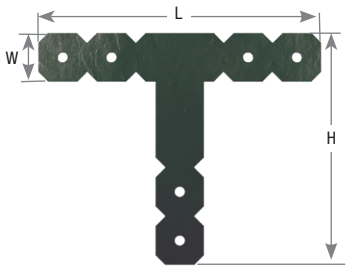

LH12

Ornamental

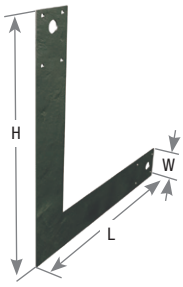
Ornamental notching provides architectural appearance for exposed applications.

Materials: See chart
Finish: Primer

Installation:
- Use all specified fasteners. See Product Notes, page 16.
- Connectors are not load rated.



T1212-0

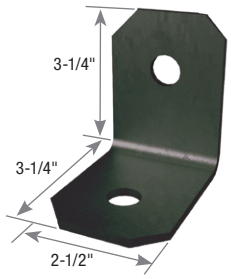


L12-0

Description	MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in)			Bolt Schedule[1]	
				W	H	L	Qty	Dia (in)
Heavy Angle	KHL33-0	OHA33	7	3-1/4	--	2-1/2	2	5/8
	KHL36-0	OHA36	7	3-1/4	--	6	4	5/8
Strap Tie	KHST64-0	OHS135	7	6	--	13-1/2	4	3/4
	ST12-0	OS	12	2	--	12	4	1/2
'L' Strap	L12-0	OL	12	2-1/2	11-7/8	11-7/8	5	1/2
	LH12-0	OHL	7	2-1/2	11-7/8	11-7/8	5	5/8
'T' Strap	T1212-0	OT	12	2-1/2	11-7/8	14-1/2	6	1/2
	TH12-0	OHT	7	2-1/2	11-7/8	11-1/8	4	5/8
	TH16-0	--	7	2-1/2	11-7/8	16-1/8	6	5/8

1) All bolts shall meet or exceed the specifications of ASTM A 307.

Some model designs may vary from illustration shown



KHL33-0

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SFC Framing Clips

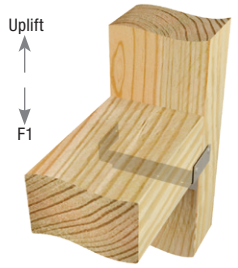
Framing clips replace end cripples under window sills.

Materials: 16 gauge
Finish: G90 galvanizing

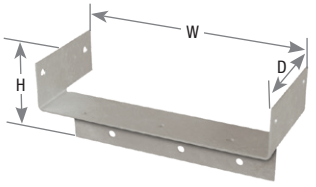
Installation:
• Use all specified fasteners. See Product Notes, page 16.

MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in)			Fastener Schedule[2]				D Fir-L Factored Resistance[1]			SPF Factored Resistance[1]		
						Header		Joist			F1			F1	
			W	H	D	Qty	Type	Qty	Type	Uplift 115%	100%	115%	Uplift 115%	100%	115%
SFC6	FC6	16	5-1/2	2-1/2	2-1/2	5	16d	5	16d	775	995	1145	650	835	960

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) **NAILS:** 16d nails are 0.162" dia. x 3-1/2" long.



Typical SFC6 installation



SFC6

HH Header Hangers

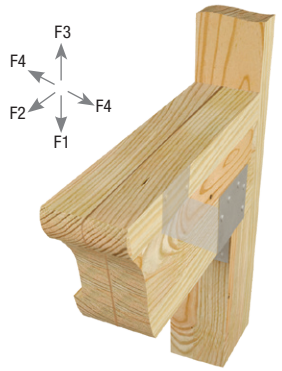
Header Hangers support headers in door and window framing. Helps to eliminate cracks in drywall, plaster, or stucco over windows and doors. These products also provide anchorage and support for heavy fence rails, struts, or gate post cross brackets.

Materials: 16 gauge
Finish: G90 galvanizing
Codes: Load values are derived from data submitted to various North American building code evaluators

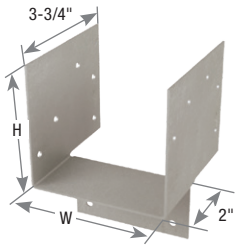
Installation:
• Use all specified fasteners. See Product Notes, page 16.

MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in)		Fastener Schedule[2]				Unit	D Fir-L Factored Resistance[1]			S-P-F Factored Resistance[1]		
					Header		Stud			F1	F2	F3	F1	F2	F3
			W	H	Qty	Type	Qty	Type		100%	115%	115%	100%	115%	115%
HH44	HH4	16	3-9/16	3-1/4	4	16d	9	16d	Lbs	1785	915	850	1500	590	715
									kN	7.94	4.07	3.78	6.67	2.62	3.18
HH66	HH6	16	5-1/2	5-1/4	6	16d	12	16d	Lbs	2385	1365	1365	2000	885	1150
									kN	10.61	6.07	6.07	8.90	3.94	5.12

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) **NAILS:** 16d nails are 0.162" dia. x 3-1/2" long.



Typical HH44 installation



HH44

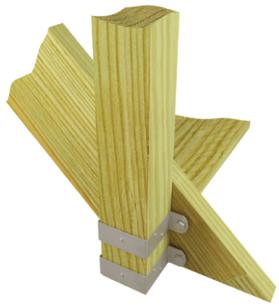
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SDPT Strap Post Ties

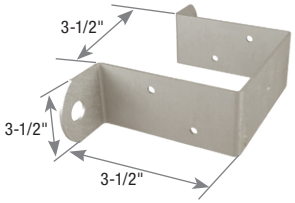
Connects 2x4 stair posts and 4x4 posts to deck rim joist or stair stringers.

Materials: 14 gauge
Finish: G-185 galvanizing

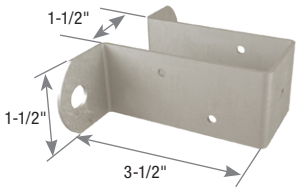
Installation:
- Use all specified fasteners. See Product Notes, page 16.
- Install units in pairs on 2x4 (SDPT5-TZ) or 4x4 (SDPT7-TZ) post. Space the connectors 5" apart from center to center on the post. Use through bolts to fasten connectors to rim joist or stringer. Do not use lag bolts. Fasten to post with specified nails (see chart).



Typical SDPT7-TZ installation



SDPT7-TZ



SDPT5-TZ

Post Size	MiTek Stock No.	Ref. No.	Steel Gauge	Fastener Schedule[1,2] Qty	Type	Qty	Type	Corrosion	Finish
2 x 4	SDPT5-TZ	DPT5Z	14	5	10d x 1-1/2 HDG	2	3/8 HDG		
4 x 4	SDPT7-TZ	DPT7Z	14	5	10d x 1-1/2 HDG	2	3/8 HDG		

1) Bolts shall conform to ASTM A 307 or better.
2) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long.

Corrosion Finish Key Stainless Steel HDG Triple Zinc

SDJT Joist Tie

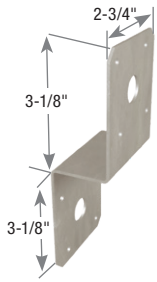
Secures 2x joists to posts.

Materials: 14 gauge
Finish: G-185 galvanizing

Installation:
- Use all specified fasteners. See Product Notes, page 16.
- Use with 2x lumber for joists (minimum height is 2x4). Install with either specified nails or through bolts. Do not use lag bolts. To ease installation, attach to 4x4 post first.



Typical SDJT14-TZ installation



SDJT14-TZ

Post Size	MiTek Stock No.	Ref. No.	Steel Gauge	Fastener Schedule[1,2] Qty	Type	Unit	D Fir-L Factored Resistance 100%	S-P-F Factored Resistance 100%	Corrosion	Finish
4 x 4	SDJT14-TZ	DJT14Z	14	8	16d HDG	Lbs	1615	1355		
						kN	7.18	6.03		
				2	3/8 HDG	Lbs	2015	1695		
						kN	8.96	7.54		

1) Bolts shall conform to ASTM A 307 or better.
2) **NAILS:** 16d nails are 0.162" dia. x 3-1/2" long.

Corrosion Finish Key Stainless Steel HDG Triple Zinc

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LJC / LJQ Lateral Joist Connectors

The LJC-TZ and LJQ-TZ Lateral Joist Connectors transfer lateral loads at the top foundation to the floor joists. The fastening patterns meet I-joist manufacturer recommendations.

LJC-TZ – fastens the top side of the sill plate to the underside of the floor joist preventing splitting of the bottom chord flanges, and can be installed after the floor system has been installed. The product is load rated for use with dimension lumber floor joists as well as I-joist. It can also be used with cantilevered floor joists.

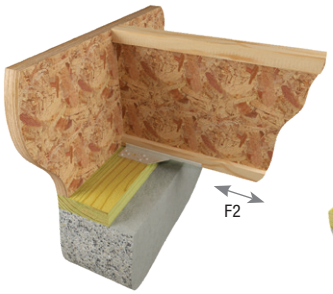
LJQ-TZ – is a higher capacity connector designed for higher loads. It is similar in design to a joist hanger with a seat for the floor joist to bear against and utilizes wood screws to fasten to the sill plate. MiTek's WS15-EXT structural wood screws (included) provide quick installation without the need to predrill holes.

Materials: See chart

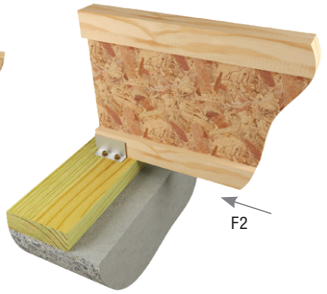
Finish: G-185 galvanizing

Installation:

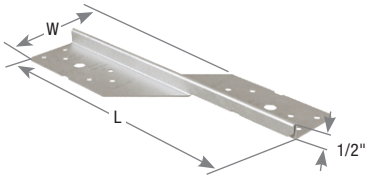
- Use all specified fasteners. See Product Notes, page 16.
- **LJC-TZ** – Installs after the floor joist has been placed with a minimum of (12) 8d (0.131") x 1-1/2" HDG nails.
- **LJQ-TZ** – Installs with (4) WS15-EXT (1/4" dia. x 1-1/2" long) structural wood screws and are included with LJQ-TZ connectors.



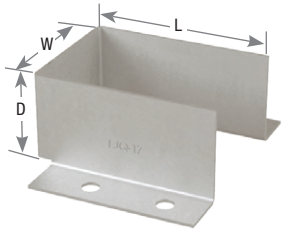
Typical LJC-TZ installation



Typical LJQ-TZ installation



LJC-TZ



LJQ-TZ

MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in) W	L	D	Fastener Schedule[1,2] Qty	Type	D Fir-L Factored Resistance (100%) 2x Lbs	2x kN	I-Joist Lbs	I-Joist kN	S-P-F Factored Resistance (100%) 2x Lbs	2x kN	I-Joist Lbs	I-Joist kN	Corrosion Finish
LJC-TZ	--	18	3-3/16	8	--	12	8d x 1-1/2 HDG	1310	5.83	1310	5.83	930	4.14	930	4.14	
LJQ35-TZ	--	16	3-9/16	3	1-1/2	4	WS15-EXT	2205	9.81	2205	9.81	1565	6.96	1565	6.96	

1) MiTek's WS15-EXT structural wood screws are 1/4" dia. x 1-1/2" long and are included with LJQ-TZ connector.
2) **NAILS:** 8d x 1-1/2 nails are 0.131" dia. x 1-1/2" long.

Corrosion Finish Key Stainless Steel HDG Triple Zinc

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RSPT / SPT / TSP Stud Plate Ties

RSPT – 18 or 20 gauge

SPT – 20 gauge

TSP – 16 gauge. Optional diamond holes for various uplift capacities with Min and Max nailing configurations

Materials: See chart

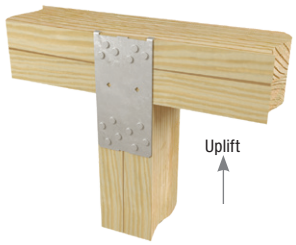
Finish: G90 galvanizing

Options: See chart for Corrosion Finish Options

Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:

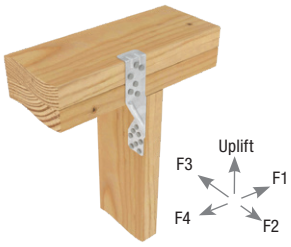
- Use all specified fasteners. See Product Notes, page 16.
- **TSP Min Nailing** – Fill all round holes.
- **TSP Max Nailing** – Fill all round and diamond holes.



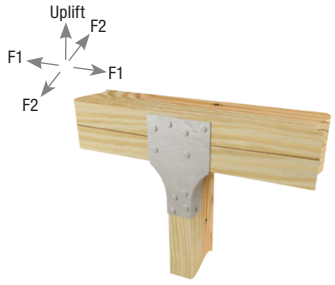
Typical RSPT6-2 installation



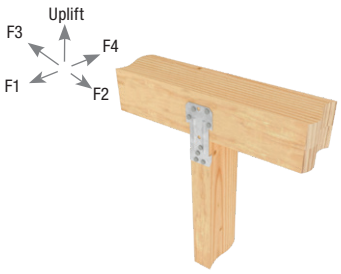
Typical RSPT4 single plate installation



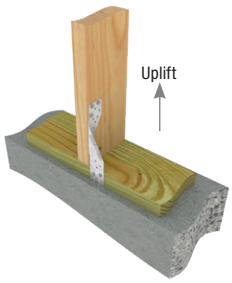
Typical TSP top plate installation (max nailing)



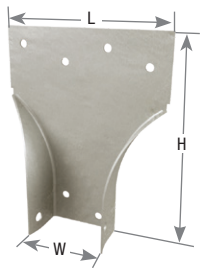
Typical SPT24 installation



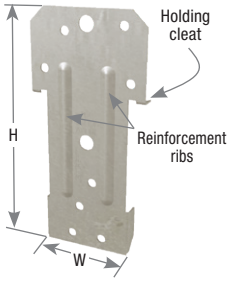
Typical RSPT4 double plate installation



Typical TSP mudsill installation (min nailing)



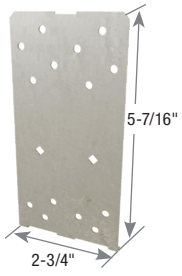
SPT22



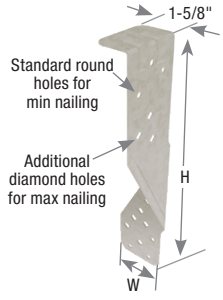
RSPT4



RSPT6



RSPT6-2



TSP

MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in)			Fastener Schedule[2,4]				Unit	D Fir-L Factored Resistance[1]			SPF Factored Resistance[1]			Corrosion Finish
						Stud		Plate									
			W	H	L	Qty	Type	Qty	Type		Uplift 115%	F1 115%	F2 115%	Uplift 115%	F1 115%	F2 115%	
RSPT4	RSP4	20	1-1/2	4-1/8	--	4	8d x 1-1/2	4	8d x 1-1/2	Lbs	585	285	315	505	245	270	
										kN	2.60	1.27	1.40	2.25	1.09	1.20	
SPT22	SP1	20	1-9/16	4-3/8	3-1/2	4	10d	4	10d	Lbs	755	695	325	650	600	280	
										kN	3.36	3.09	1.45	2.89	2.67	1.25	
SPT24	SP2	20	1-9/16	5-5/8	3-1/2	6	10d	6	10d	Lbs	1125	695	325	970	600	280	
										kN	5.00	3.09	1.45	4.31	2.67	1.25	
SPT44	--	20	3-9/16	6-3/4	6-1/2	6	16d	6	16d	Lbs	1355	845	310	1165	725	265	
										kN	6.03	3.76	1.38	5.18	3.23	1.18	
RSPT6	SSP	18	1-1/2	5-7/16	--	4	10d x 1-1/2	4	10d x 1-1/2	Lbs	740	--	--	635	--	--	
										kN	3.29			2.82			
RSPT6-2	DSP	18	2-3/4	5-7/16	--	8	10d x 1-1/2	6	10d x 1-1/2	Lbs	1115	--	--	960	--	--	
										kN	4.96			4.27			
TSP [3]	TSP	16	1-5/8	7-7/8	--	3	10d x 1-1/2	3	10d x 1-1/2	Lbs	740	--	--	675	--	--	
										kN	3.29			3.00			
						9	10d x 1-1/2	6	10d x 1-1/2	Lbs	1300	565	295	1170	520	270	
										kN	5.78	2.51	1.31	5.20	2.31	1.20	
								6	10d	Lbs	1345	565	295	1235	520	270	
										kN	5.98	2.51	1.31	5.49	2.31	1.20	

Corrosion Finish Key
- Stainless Steel
- HDG
- Triple Zinc

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) SPT22, SPT24, and SPT44: the nails fastened to the wide face of the stud must be driven 30° from the perpendicular on the horizontal plane.
3) TSP factored lateral resistance for DF: F3 = 315 lb (1.40 kN), F4 = 365 lb (1.62 kN). For SPF: F3 = 290 lb (1.29 kN), F4 = 335 lb (1.49 kN).
4) **NAILS:** 8d x 1-1/2 nails are 0.131" dia. x 1-1/2" long, 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long, 10d nails are 0.148" dia. x 3" long, 16d nails are 0.162" dia. x 3-1/2" long.

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SPT / SPTH / SPTHW Stud Plate Ties

SPT – 20 gauge. Ties single and double plates to studs

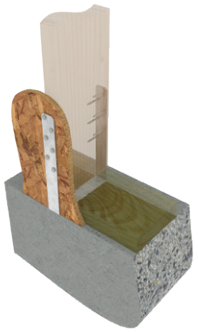
SPTH – Heavier 18 gauge version of SPT

SPTHW – 18 gauge. Attaches plate to studs over 1/2" sheathing

Materials: See chart
Finish: G90 galvanizing
Options: See chart for Corrosion Finish Options
Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:

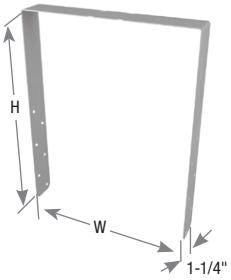
- Use all specified fasteners. See Product Notes, page 16.



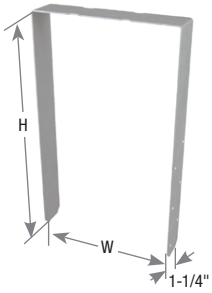
Typical SPTHW installation



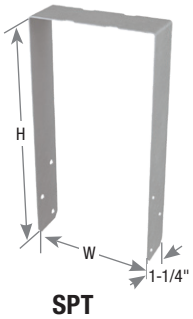
Typical SPT4 installation



SPTHW



SPTH



SPT

Stud Size	MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in)		Fastener Schedule[2]		D Fir-L Factored Resistance		S-P-F Factored Resistance		Corrosion Finish
								Uplift 115%[1]		Uplift 115%[1]		
				W	H	Qty	Type	Lbs	kN	Lbs	kN	
4x	SPT4	SP4	20	3-9/16	6-7/8	6	10d x 1-1/2	960	4.27	825	3.67	
	SPTH4	SPH4	18	3-9/16	8-5/8	12	10d x 1-1/2	1275	5.67	1095	4.87	
	SPTHW4	SPH4R	18	4-1/16	8-3/8	12	10d x 1-1/2	1275	5.67	1095	4.87	
6x	SPT6	SP6	20	5-9/16	7-5/8	6	10d x 1-1/2	960	4.27	825	3.67	
	SPTH6	SPH6	18	5-9/16	9-3/8	12	10d x 1-1/2	1275	5.67	1095	4.87	
	SPTHW6	SPH6R	18	6-1/16	9-1/8	12	10d x 1-1/2	1275	5.67	1095	4.87	
8x	SPT8	SP8	20	7-5/16	8-1/2	6	10d x 1-1/2	960	4.27	825	3.67	
	SPTH8	SPH8	18	7-5/16	8-1/2	12	10d x 1-1/2	1275	5.67	1095	4.87	

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) **NAILS:** 10d x 1-1/2" nails are 0.148" dia. x 1-1/2" long.

Corrosion Finish Key
Stainless Steel
HDG Triple Zinc

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HRS – 12 gauge, 1-3/8" or 3-1/4" wide strapping

LSTA – 20 or 18 gauge, light-capacity 1-1/4" wide strapping

LSTI – 3-3/4" wide strap ties provide tension load path for truss top chords. The nail pattern accommodates open web trusses with double top chord

MSTA – 18 or 16 gauge, medium-capacity 1-1/4" wide strapping

HTP – 16 gauge, medium-capacity 3" wide strapping

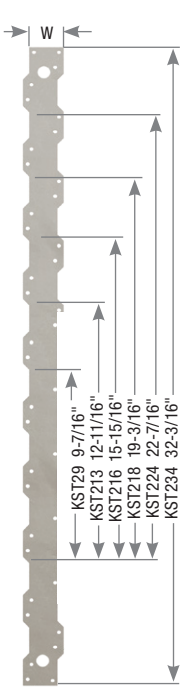
ST – 16 gauge, medium-capacity 1-1/4" wide strapping

MSTC – 3" wide strapping. Slotted hole design allows for higher load capacities and reduces splitting of lumber when attached to multiple 2x members

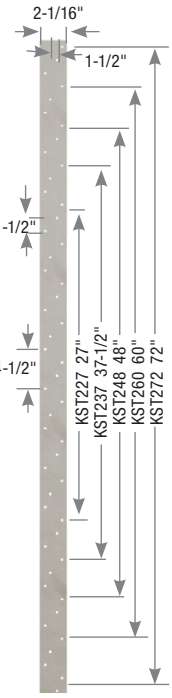
KST – 3/4", 1-3/4", or 2-1/16" wide strapping. Straps can be fastened using either nails or bolts. Some KST straps install only with nails

KSTI – 2-1/16" wide strapping. Straps are designed for installation to wood I-Joist flanges

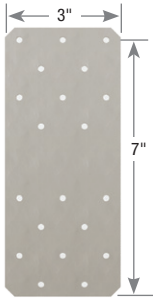
Some model designs may vary from illustration shown



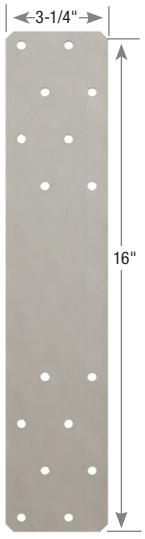
KST scalloped design



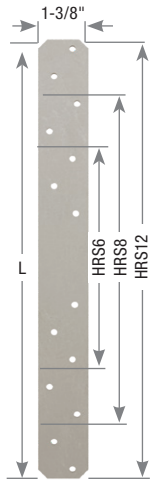
KST straight edge design



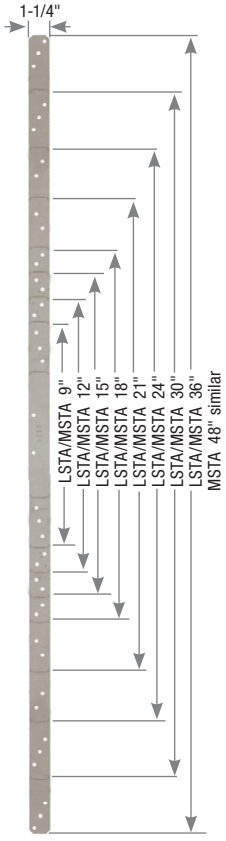
HTP37-TZ



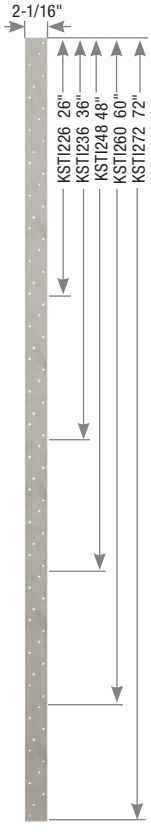
HRS416-TZ



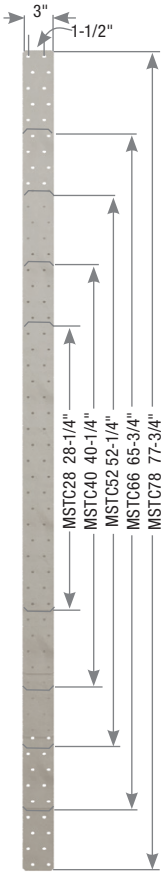
HRS



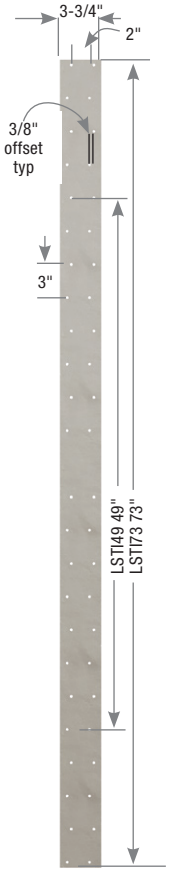
LSTA/MSTA



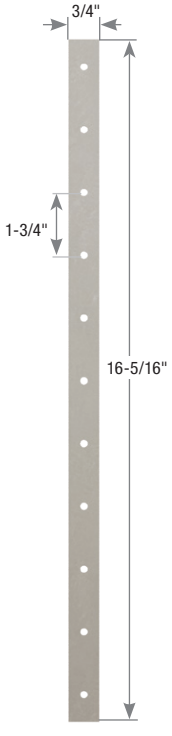
KSTI



MSTC



LSTI



KST116



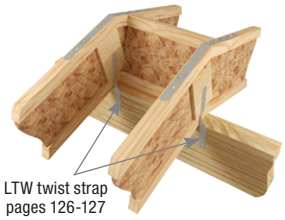
ST

Continued on next page

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Materials: See chart
Finish: G90 galvanizing
Options: See chart for Corrosion Finish Options
Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:
- Use all specified fasteners. See Product Notes, page 16.
- Designer may specify alternate nailing schedules. Refer to **Nail Specification Table** on page 21 for nail shear values. Load values shall not exceed published factored resistance.
- The quantity of nails installed shall be equally distributed to both ends of the strap.
- Unless specified otherwise by the panel manufacturer, straps may be installed over wood structural panels. Use full length nails of specified nail diameter to ensure adequate penetration into the main member is achieved.



Typical LSTA/MSTA I-Joist on ridge beam installation



Typical LSTI open web truss installation

MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in) W	Dimensions (in) L	Fastener Schedule[4] Total Qty[2]	Fastener Schedule[4] Min Qty[3]	Fastener Schedule[4] Type	D Fir-L Factored Resistance Tensile, lb 100%	D Fir-L Factored Resistance Tensile, lb 115%[1]	D Fir-L Factored Resistance Tensile, kN 100%	D Fir-L Factored Resistance Tensile, kN 115%[1]	S-P-F Factored Resistance Tensile, lb 100%	S-P-F Factored Resistance Tensile, lb 115%[1]	S-P-F Factored Resistance Tensile, kN 100%	S-P-F Factored Resistance Tensile, kN 115%[1]	Corrosion Finish
KST116	ST2115	20	3/4	16-5/16	10	8	16d	995	995	4.43	4.43	815	940	3.63	4.18	
LSTA9	LSTA9	20	1-1/4	9	8	8	10d	830	955	3.69	4.25	770	885	3.43	3.94	
LSTA12	LSTA12	20	1-1/4	12	10	10	10d	1040	1195	4.63	5.32	960	1105	4.27	4.92	
LSTA15	LSTA15	20	1-1/4	15	12	12	10d	1250	1435	5.56	6.38	1150	1325	5.12	5.89	
LSTA18	LSTA18	20	1-1/4	18	14	14	10d	1455	1675	6.47	7.45	1345	1545	5.98	6.87	
LSTA21	LSTA21	20	1-1/4	21	16	16	10d	1665	1855	7.41	8.25	1535	1765	6.83	7.85	
LSTA24	LSTA24	20	1-1/4	24	18	16	10d	1665	1855	7.41	8.25	1535	1765	6.83	7.85	
KST29	ST292	20	1-3/4	9-7/16	14	14	16d	1150	1320	5.12	5.87	815	940	3.63	4.18	
KST213	ST2122	20	1-3/4	12-11/16	18	18	16d	2585	2680	11.50	11.92	1835	2110	8.16	9.39	
KST216	ST2215	20	1-3/4	15-15/16	22	18	16d	2585	2680	11.50	11.92	1835	2110	8.16	9.39	
LSTA30	LSTA30	18	1-1/4	30	22	22	10d	2435	2435	10.83	10.83	2355	2435	10.48	10.83	
LSTA36	LSTA36	18	1-1/4	36	26	22	10d	2435	2435	10.83	10.83	2355	2435	10.48	10.83	
MSTA9	MSTA9	18	1-1/4	9	8	8	10d	925	1065	4.11	4.74	855	985	3.80	4.38	
MSTA12	MSTA12	18	1-1/4	12	10	10	10d	1155	1330	5.14	5.92	1070	1230	4.76	5.47	
MSTA15	MSTA15	18	1-1/4	15	12	12	10d	1385	1595	6.16	7.09	1285	1475	5.72	6.56	
MSTA18	MSTA18	18	1-1/4	18	14	14	10d	1615	1860	7.18	8.27	1500	1725	6.67	7.67	
MSTA21	MSTA21	18	1-1/4	21	16	16	10d	1850	2125	8.23	9.45	1710	1970	7.61	8.76	
MSTA24	MSTA24	18	1-1/4	24	18	18	10d	2080	2390	9.25	10.63	1925	2215	8.56	9.85	
LSTI49	LSTI49	18	3-3/4	49	32	32	10d x 1-1/2	3185	3660	14.17	16.28	2910	3350	12.94	14.90	
LSTI73	LSTI73	18	3-3/4	73	48	48	10d x 1-1/2	4775	5490	21.24	24.42	4370	5025	19.44	22.35	
ST9	ST9	16	1-1/4	9	8	8	16d	1150	1325	5.12	5.89	815	940	3.63	4.18	
ST12	ST12	16	1-1/4	11-5/8	10	10	16d	1440	1655	6.41	7.36	1020	1175	4.54	5.23	
ST18	ST18	16	1-1/4	17-3/4	14	14	16d	2015	2095	8.96	9.32	1430	1645	6.36	7.32	
ST22	ST22	16	1-1/4	21-5/8	18	18	16d	2095	2095	9.32	9.32	1840	2095	8.19	9.32	
MSTA30	MSTA30	16	1-1/4	30	22	22	10d	2815	3070	12.52	13.66	2620	3010	11.65	13.39	
MSTA36	MSTA36	16	1-1/4	36	26	26	10d	3070	3070	13.66	13.66	3070	3070	13.66	13.66	
MSTA48	MSTA49	16	1-1/4	48	32	26	10d	3070	3070	13.66	13.66	3070	3070	13.66	13.66	
KST218	ST6215	16	1-3/4	19-3/16	26	26	16d	2295	2640	10.21	11.74	1630	1875	7.25	8.34	
KST224	ST6224	16	1-3/4	22-7/16	30	30	16d	4305	4440	19.15	19.75	3060	3520	13.61	15.66	
HTP37-TZ	HTP37Z	16	3	7	20	20	10d x 1-1/2	2210	2545	9.83	11.32	2020	2325	8.99	10.34	
MSTC28	MSTC28	16	3	28-1/4	36	36	10d	3810	4380	16.95	19.48	2705	3110	12.03	13.83	
					36	34	16d	5470	6295	24.33	28.00	3855	4435	17.15	19.73	
MSTC40	MSTC40	16	3	40-1/4	52	52	10d	5710	6570	25.40	29.23	4055	4665	18.04	20.75	
					52	46	16d	7775	7795	34.59	34.68	5480	6305	24.38	28.05	
MSTC52	MSTC52	16	3	52-1/4	70	60	10d	7615	7795	33.87	34.68	5410	6220	24.07	27.67	
					70	52	16d	7795	7795	34.68	34.68	7105	7795	31.61	34.68	
KST234	ST6236	14	1-3/4	32-3/16	42	36	16d	5165	5665	22.98	25.20	3670	4225	16.33	18.79	
MSTC66	MSTC66	14	3	65-3/4	88	72	10d	9945	9945	44.24	44.24	7100	8165	31.58	36.32	
					88	62	16d	9945	9945	44.24	44.24	8930	9945	39.72	44.24	
MSTC78	MSTC78	14	3	77-3/4	104	76	10d	9945	9945	44.24	44.24	7435	8550	33.07	38.03	
					104	66	16d	9945	9945	44.24	44.24	8930	9945	39.72	44.24	

Corrosion Finish Key
- Stainless Steel
- HDG
- Triple Zinc

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) Total number of nail and/or bolt holes provided in the strap.
3) Minimum quantity of fasteners to be installed with equal fasteners at each end of the connection. Strap may have additional nail holes not needed to meet published factored resistance of strap.
4) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long, 10d nails are 0.148" dia. x 3" long, 16d nails are 0.162" dia. x 3-1/2" long.
New product or updated product information are designated in blue font.

Continued on next page

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MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in) W	Dimensions (in) L	Fastener Schedule[4,5] Total Qty[2]	Fastener Schedule[4,5] Min Qty[3]	Fastener Schedule[4,5] Type	D Fir-L Factored Resistance Tensile, lb 100%	D Fir-L Factored Resistance Tensile, lb 115%[1]	D Fir-L Factored Resistance Tensile, kN 100%	D Fir-L Factored Resistance Tensile, kN 115%[1]	S-P-F Factored Resistance Tensile, lb 100%	S-P-F Factored Resistance Tensile, lb 115%[1]	S-P-F Factored Resistance Tensile, kN 100%	S-P-F Factored Resistance Tensile, kN 115%[1]	Corrosion Finish
HRS6	HRS6	12	1-3/8	6	6	6	10d	710	815	3.16	3.63	505	580	2.25	2.58	
HRS8	HRS8	12	1-3/8	8	10	10	10d	1180	1355	5.25	6.03	845	970	3.76	4.31	
HRS12	HRS12	12	1-3/8	12	14	14	10d	1650	1900	7.34	8.45	1180	1355	5.25	6.03	
KST227	MST27	12	2-1/16	27	34	26	16d	3730	4290	16.59	19.08	2650	3050	11.79	13.57	
KST237	MST37	12	2-1/16	37-1/2	48	38	16d	5455	6270	24.27	27.89	3875	4455	17.24	19.82	
KST248	MST48	12	2-1/16	48	62	50	16d	7175	8110	31.92	36.08	5100	5865	22.69	26.09	
KSTI226	MSTI26	12	2-1/16	26	26	22	10d x 1-1/2	2970	3415	13.21	15.19	2605	3000	11.59	13.35	
KSTI236	MSTI36	12	2-1/16	36	36	32	10d x 1-1/2	4320	4970	19.22	22.11	3790	4360	16.86	19.40	
KSTI248	MSTI48	12	2-1/16	48	48	44	10d x 1-1/2	5940	6830	26.42	30.38	5215	5995	23.20	26.67	
KSTI260	MSTI60	12	2-1/16	60	60	56	10d x 1-1/2	7560	7720	33.63	34.34	6635	7630	29.52	33.94	
KSTI272	MSTI72	12	2-1/16	72	72	58	10d x 1-1/2	7720	7720	34.34	34.34	6875	7720	30.58	34.34	
HRS416-TZ	HRS416Z	12	3-1/4	16	16	16	WS15-EXT	2650	3047	11.79	13.55	2174	2501	9.67	11.12	
KST260	MST60	10	2-1/16	60	72	64	16d	9185	10560	40.86	46.98	6530	7505	29.05	33.39	
KST272	MST72	10	2-1/16	72	72	64	16d	10330	10605	45.95	47.18	7345	8445	32.67	37.57	

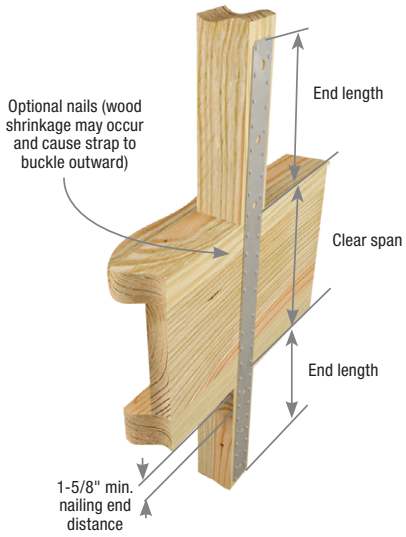
1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) Total number of nail and/or bolt holes provided in the strap.
3) Minimum quantity of fasteners to be installed with equal quantity of fasteners at each end of the connection. Strap may have additional nail holes not needed to meet published factored resistance of strap.
4) MiTek's WS15-EXT structural wood screws are 1/4" dia. x 1-1/2" long.
5) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long, 10d nails are 0.148" dia. x 3" long, 16d nails are 0.162" dia. x 3-1/2" long.

Corrosion Finish Key Stainless Steel HDG Triple Zinc

Clear Span Chart

MiTek Stock No.	Clear Span	Fasteners Total[2] Qty	Fasteners Total[2] Type	D Fir-L Factored Resistance Uplift (115%)[1] Lbs	D Fir-L Factored Resistance Uplift (115%)[1] kN	S-P-F Factored Resistance Uplift (115%)[1] Lbs	S-P-F Factored Resistance Uplift (115%)[1] kN
MSTC28	18	12	10d	1630	7.30	1155	5.10
	16	16	10d	2170	9.70	1540	6.90
MSTC40	18	28	10d	3800	16.90	2700	12.00
	16	32	10d	4345	19.30	3085	13.70
MSTC52	18	44	10d	5970	26.60	4240	18.90
	16	48	10d	6515	29.00	4625	20.60
MSTC66	18	62	10d	8415	37.40	5975	26.60
	16	64	10d	8685	38.60	6165	27.40
MSTC78	18	64	10d	8685	38.60	6165	27.40
	16	66	10d	8960	39.90	6360	28.30
KST237	18	20	16d	3295	14.70	2340	10.40
	16	22	16d	3625	16.10	2575	11.50
KST248	18	32	16d	5275	23.50	3745	16.70
	16	34	16d	5605	24.90	3980	17.70
KST260	18	46	16d	7580	33.70	5380	23.90
	16	48	16d	7910	35.20	5615	25.00
KST272	18	46	16d	7580	33.70	5380	23.90
	16	48	16d	7910	35.20	5615	25.00
KSTI236	18	14	10d x 1-1/2	2175	9.68	1910	8.50
	16	16	10d x 1-1/2	2485	11.05	2180	9.70
KSTI248	18	26	10d x 1-1/2	4035	17.95	3545	15.77
	16	28	10d x 1-1/2	4345	19.33	3815	16.97
KSTI260	18	38	10d x 1-1/2	5900	26.25	5180	23.04
	16	40	10d x 1-1/2	6210	27.62	5450	24.24
KSTI272	18	50	10d x 1-1/2	7720	34.34	6815	30.32
	16	52	10d x 1-1/2	7720	34.34	7085	31.52

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long, 10d nails are 0.148" dia. x 3" long, 16d nails are 0.162" dia. x 3-1/2" long.



Typical KST237 floor-to-floor installation

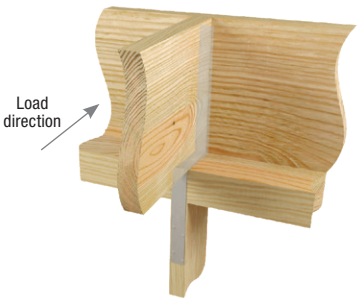
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PWFS Permanent Wood Foundation Strap

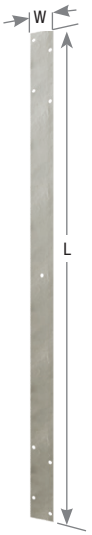
Connects permanent wood foundation studs to rim joist to resist lateral loads produced from ground pressure. The high load values and positive placement nail gun installation make the PWFS24 practical for manufactured homes as well as site built homes.

Materials: 20 gauge
Finish: G90 galvanizing

Installation:
- Use all specified fasteners. See Product Notes, page 16.
- Center strap on top plate over the stud.
- Attach center nail and bend inside end of strap downward.
- Install nails on inside of wall.
- Install floor system or place manufactured home on foundation.
- Form outside end of strap up the outside of rim and install nails.



Typical PWFS24 installation



PWFS24

MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in)		Fastener Schedule[2]		D Fir-L Factored Resistance		S-P-F Factored Resistance	
							Tensile 100%[1]		Tensile 100%[1]	
			W	L	Qty	Type	Lbs	kN	Lbs	kN
PWFS24	PWF24	20	1-1/2	24	9	8d	1115	4.96	930	4.14

1) For installations where the strap does not fall behind joist, the designer shall be responsible to determine suitability of rim to resist the load.
2) **NAILS:** 8d nails are 0.131" dia. x 2-1/2" long.

KRPS Strap Ties

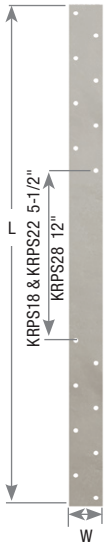
Designed for notched plates where plumbing, heating, or other pipes are placed in partitions.

Materials: 16 gauge
Finish: G90 galvanizing
Options: See chart for Corrosion Finish Options

Installation:
- Use all specified fasteners. See Product Notes, page 16.
- Install one strap tie for each 2x plate.



Typical KRPS installation



KRPS

MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in)		Notch Width (in)	Fastener Schedule[2]		D Fir-L Factored Resistance		S-P-F Factored Resistance		Corrosion Finish
								Tensile 115%[1]		Tensile 115%[1]		
			W	L		Qty	Type	Lbs	kN	Lbs	kN	
KRPS18	RPS18	16	1-1/2	18-5/16	< 5-1/2	12	16d	1375	6.12	1185	5.27	
KRPS22	RPS22	16	1-1/2	22-5/16	≤ 5-1/2	16	16d	1785	7.94	1535	6.83	
KRPS28	RPS28	16	1-1/2	28-5/16	≤ 12	16	16d	1785	7.94	1535	6.83	

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; no further increase allowed.
2) **NAILS:** 16d nails are 0.162" dia. x 3-1/2" long.

Corrosion Finish Key Stainless Steel HDG Triple Zinc

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CMST / CMSTC / RS Coiled Strapping

Coiled strapping enables cut-to-length convenience for a variety of immediate job site needs.

CMST – 3" wide strapping features diamond nail holes to provide nailing options and reduce wood splitting

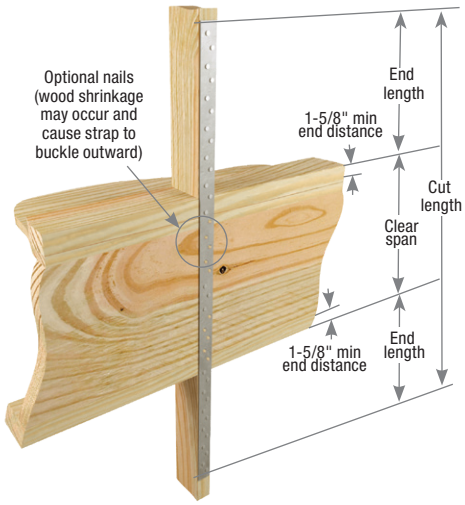
CMSTC – 3" wide strapping is designed for high load conditions. Engineered to reduce wood splitting

RS – 1-1/4" wide strapping packaged in cartons containing 25-foot or longer coils

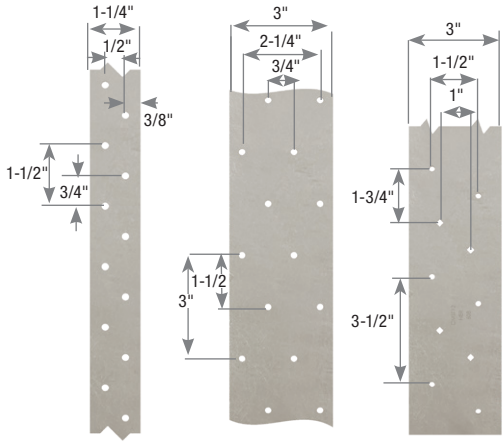
Materials: See chart
Finish: G90 galvanizing
Options: See chart for Corrosion Finish Options
Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:

- Use all specified fasteners. See Product Notes, page 16.
- For safety, always wear gloves when handling or cutting coiled strapping.
- **CMST/CMSTC** installations: Install to a minimum 2-ply 2x edge. Increase nail spacing if wood begins to split.
- Designer may specify alternate nailing schedules. Refer to **Nail Specification Table** on page 21 for nail shear values. Load values shall not exceed published factored resistance.
- Unless specified otherwise by the panel manufacturer, straps may be installed over wood structural panels. Use full length nails of specified nail diameter to ensure adequate penetration into the main member is achieved.



Typical RS rim joist installation



RS **CMSTC16** **CMST**

MiTek Stock No.	Ref. No.	Steel Gauge	Coil Length (ft)	Rim Joist Installation		Fastener Schedule[2,3,4]		Nail Spacing O.C. (in)	D Fir-L Factored Resistance[1]				S-P-F Factored Resistance[1]			
				Cut Length (in)	End Length (in)	Qty	Type		Tensile (Lbs)		Tensile (kN)		Tensile (Lbs)		Tensile (kN)	
									100%	115%	100%	115%	100%	115%	100%	115%
CMSTC16	CMSTC16	16	54	Clear Span + 42	21	56	10d	1-1/2	7070	7070	31.45	31.45	6655	7070	29.60	31.45
				Clear Span + 84	42			3								
CMST14	CMST14	14	52-1/2	Clear Span + 56	28	64	16d	1-3/4	9945	9945	44.24	44.24	8960	9945	39.86	44.24
				Clear Span + 136	68	76	10d	3-1/2	9945	9945	44.24	44.24	9030	9945	40.17	44.24
				Clear Span + 268	134			7								
CMST12	CMST12	12	40	Clear Span + 80	40	88	16d	1-3/4	13975	13975	62.17	62.17	12320	13975	54.80	62.17
				Clear Span + 184	92	104	10d	3-1/2	13975	13975	62.17	62.17	12355	13975	54.96	62.17
				Clear Span + 368	184			7								
RS300	CS22	22	300	Clear Span + 12	6	16	10d	1-1/2	1415	1415	6.29	6.29	1390	1415	6.18	6.29
				Clear Span + 14	7	18	8d	1-1/2					1295		5.76	
RS22-R	CS22-R	22	25	Clear Span + 12	6	16	10d	1-1/2	1415	1415	6.29	6.29	1390	1415	6.18	6.29
				Clear Span + 14	7	18	8d	1-1/2					1295		5.76	

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; no further increase allowed.
2) Fasteners to be installed with equal fasteners at each end of the connection.
3) 16d sinker nails may be substituted for 10d nails with no load reduction.
4) **NAILS:** 8d nails are 0.131" dia. x 2-1/2" long, 10d nails are 0.148" dia. x 3" long, 16d nails are 0.162" dia. x 3-1/2" long.

Continued on next page

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MiTek Stock No.	Ref. No.	Steel Gauge	Coil Length (ft)	Rim Joist Installation		Fastener Schedule[2,3,4]		Nail Spacing O.C. (in)	D Fir-L Factored Resistance[1]				S-P-F Factored Resistance[1]				Corrosion Finish
				Cut Length (in)	End Length (in)	Qty	Type		Tensile (Lbs)		Tensile (kN)		Tensile (Lbs)		Tensile (kN)		
									100%	115%	100%	115%	100%	115%	100%	115%	
RS250	CS20	20	250	Clear Span + 14	7	18	10d	1-1/2	1595	1595	7.10	7.10	1595	1595	7.10	7.10	
				Clear Span + 16	8	20	8d	1-1/2					1500		6.67		
RS20-R	CS20-R	20	25	Clear Span + 14	7	18	10d	1-1/2	1595	1595	7.10	7.10	1595	1595	7.10	7.10	
				Clear Span + 16	8	20	8d	1-1/2					1500		6.67		
RS200	CS18	18	200	Clear Span + 16	8	20	10d	1-1/2	2100	2100	9.34	9.34	2010	2100	8.94	9.34	
				Clear Span + 18	9	24	8d	1-1/2					2010		8.94		
RS100	CS18S	18	100	Clear Span + 16	8	20	10d	1-1/2	2100	2100	9.34	9.34	2010	2100	8.94	9.34	
				Clear Span + 18	9	24	8d	1-1/2					2010		8.94		
RS18-R	CS18-R	18	25	Clear Span + 16	8	20	10d	1-1/2	2100	2100	9.34	9.34	2010	2100	8.94	9.34	
				Clear Span + 18	9	24	8d	1-1/2					2010		8.94		
RS150	CS16	16	150	Clear Span + 18	9	24	10d	1-1/2	2645	2645	11.77	11.77	2645	2645	11.77	11.77	
				Clear Span + 22	11	28	8d	1-1/2					2610		11.61		
RS16-R	CS16-R	16	25	Clear Span + 18	9	24	10d	1-1/2	2645	2645	11.77	11.77	2645	2645	11.77	11.77	
				Clear Span + 22	11	28	8d	1-1/2					2610		11.61		
RS14-100	CS14	14	100	Clear Span + 24	12	30	10d	1-1/2	3920	3920	17.44	17.44	3565	3920	15.86	17.44	
				Clear Span + 30	15	38	8d	1-1/2					3605		16.04		
RS14-R	CS14-R	14	25	Clear Span + 24	12	30	10d	1-1/2	3920	3920	17.44	17.44	3565	3920	15.86	17.44	
				Clear Span + 30	15	38	8d	1-1/2					3605		16.04		

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; no further increase allowed.
2) Fasteners to be installed with equal fasteners at each end of the connection.
3) 16d sinker nails may be substituted for 10d nails with no load reduction.
4) **NAILS:** 8d nails are 0.131" dia. x 2-1/2" long, 10d nails are 0.148" dia. x 3" long.

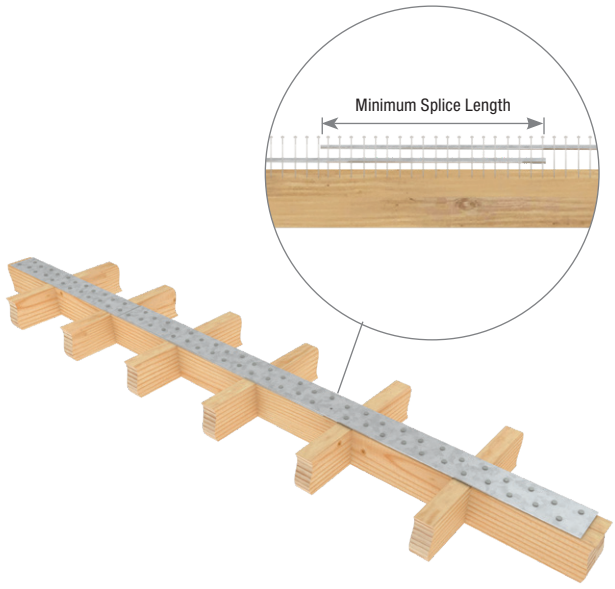
Corrosion Finish Key Stainless Steel HDG Triple Zinc

Strap Lap Splice Table

Multiple straps can be used as a single tension member by overlapping the straps and aligning the fastener holes. See table below for minimum splice length and fasteners needed to transfer the straps maximum tensile capacity.

MiTek Stock No.	Steel Gauge	Fastener Type[3]	Strap Lap Splice[2]	
			Minimum Fasteners per Splice[1]	Minimum Splice Length (in)
CMST12	12	10d	33	30
		16d	27	25
CMST14	14	10d	23	21
		16d	20	19
CMSTC16	16	10d	17	14
		16d	14	11
RS150	16	8d	8	6
		10d	6	5

1) All fasteners must be installed in existing nail holes.
2) Minimum edge distance and end distance must be followed per applicable code.
3) **NAILS:** 8d nails are 0.131" dia. x 2-1/2" long, 10d nails are 0.148" dia. x 3" long, 16d nails are 0.162" dia. x 3-1/2" long.



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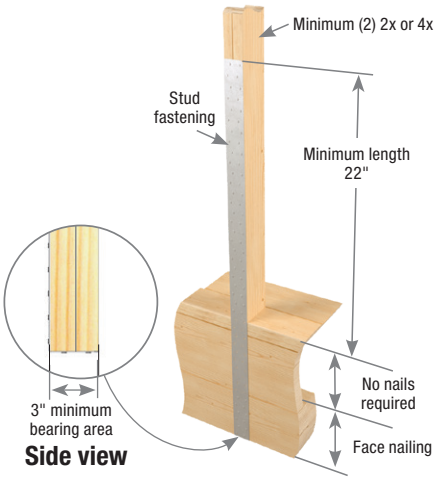
The MSTCB Pre-Bent Strap is designed to fasten vertical studs to a beam or ridge beam member below where the beam depth will not allow complete fastener attachments with a standard product.

Materials: 14 gauge

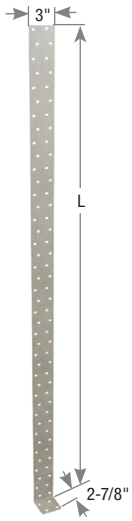
Finish: G90 galvanizing

Installation:

- Use all specified fasteners. See Product Notes, page 16.



Typical MSTC66B3 installation



MSTCB

MiTek Stock No.	Ref. No.	GA	Dimensions (in) W	L	B	Min. Beam Dim. (in) W	D	Fastener Schedule[5] Beam Face Qty	Beam Bottom Qty	Stud/ Post Qty[2,3,4]	Type	Unit	D Fir-L Factored Resistance Tensile 115%[1]	S-P-F Factored Resistance Tensile 115%[1]
MSTC48B3	MSTC48B3	14	3	44-7/8	2-7/8	3	9-1/4	12	4	24	10d	Lbs	7185	5100
												kN	31.96	22.69
MSTC66B3	MSTC66B3	14	3	62-7/8	2-7/8	3	11-1/4	14	4	24	10d	Lbs	7185	5100
												kN	31.96	22.69

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; no further increase allowed.
2) Minimum strap length on stud/post for quantity of nails is 19" for MSTC48B3 and 22" for MSTC66B3.
3) Fewer fasteners in the stud/post than listed will reduce the capacity of the connection.
4) Nails in the stud/post to be installed symmetrically in pairs starting a minimum of 1-1/2" from the end.
5) **NAILS:** 10d nails are 0.148" dia. x 3" long.

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HTW / KTS / LFTA / LTW / MTW Twist Straps

Twist straps tie framing members to resist tension forces.

LFTA6 – 16 gauge

LTW – 18 gauge, light-capacity

MTW – 16 gauge, medium-capacity

KTS – 16 gauge, medium-capacity with angled twist

HTW – 14 gauge, heavy-capacity

Materials: See chart

Finish: G90 galvanizing

Options: See chart for Corrosion Finish Options

Codes: Load values are derived from data submitted to various North American building code evaluators



Typical LTW12 / MTW12 truss-to-top plate installation



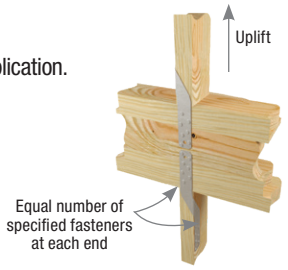
Typical LFTA6 stud-to-top plate installation



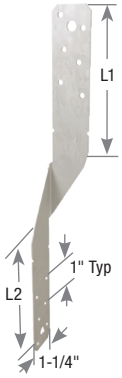
Typical LFTA6 truss-to-top plate installation

Installation:

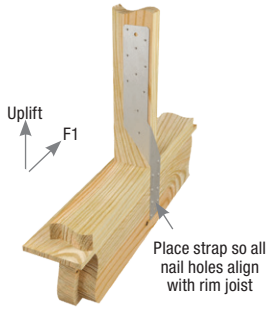
- Use all specified fasteners. See Product Notes, page 16.
- Consult I-Joist manufacturer for web stiffener requirements, and uplift limitations on joist and application.



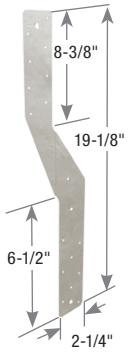
Typical LTW12 / MTW12 stud-to-rim joist installation



LTW12/MTW12



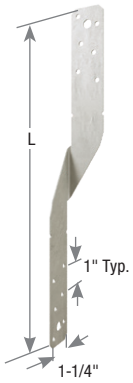
Typical LFTA6 stud-to-rim joist installation



LFTA6



Typical MTW20 I-Joist rafter installation



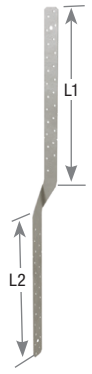
LTW18/MTW18 other models similar



Typical MTW30 installation



MTW30/ HTW30



MTW30C



KTS

Continued on next page

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MiTek Stock No.[4]	Ref. No.	Steel Gauge	Dimensions (in)				Fastener Schedule [2,3,6]		D Fir-L Factored Resistance		S-P-F Factored Resistance		Corrosion Finish
			W	L	L1	L2	Qty	Type	Uplift (115%)[1] Lbs	kN	Uplift (115%)[1] Lbs	kN	
LTW12	LTS12	18	1-1/4	12	4-1/2	4-1/2	12	10d x 1-1/2	1465	6.52	1040	4.63	
							12	10d					
LTW16	LTS16	18	1-1/4	16	6-1/2	6-1/2	12	10d x 1-1/2	1465	6.52	1040	4.63	
							12	10d					
LTW18	LTS18	18	1-1/4	18	7-1/2	7-1/2	12	10d x 1-1/2	1465	6.52	1040	4.63	
							12	10d					
LTW20	LTS20	18	1-1/4	20	8-1/2	8-1/2	12	10d x 1-1/2	1465	6.52	1040	4.63	
							12	10d					
KTS9	TS9	16	1-1/4	9	--	--	8	16d	915	4.07	785	3.49	
KTS12	TS12	16	1-1/4	11-1/2	--	--	10	16d	1145	5.09	985	4.38	
MTW12	MTS12	16	1-1/4	12	4-1/2	4-1/2	14	10d x 1-1/2	2250	10.01	1595	7.10	
							14	10d					
MTW16	MTS16	16	1-1/4	16	6-1/2	6-1/2	14	10d x 1-1/2	2250	10.01	1595	7.10	
							14	10d					
KTS17	TS18	16	1-1/4	17-1/2	--	--	14	16d	1370	6.09	1175	5.23	
MTW18	MTS18	16	1-1/4	18	7-1/2	7-1/2	14	10d x 1-1/2	2250	10.01	1595	7.10	
							14	10d					
LFTA6 [5]	H6	16	2-1/4	19-1/8	8-3/8	6-1/2	16	8d	1265	5.63	1075	4.78	
							16	8d x1-1/2					
MTW20	MTS20	16	1-1/4	20	8-1/2	8-1/2	14	10d x 1-1/2	2250	10.01	1595	7.10	
							14	10d					
KTS24	TS22	16	1-1/4	21-3/4	--	--	18	16d	1580	7.03	1580	7.03	
MTW24C	MTS24C	16	1-1/4	24	10-7/16	10-7/16	14	10d x 1-1/2	2250	10.01	1595	7.10	
							14	10d					
MTW28C	--	16	1-1/4	28	12-7/16	12-7/16	14	10d x 1-1/2	2250	10.01	1595	7.10	
							14	10d					
MTW30	MTS30	16	1-1/4	30	8-5/16	18-9/16	14	10d x 1-1/2	2250	10.01	1595	7.10	
							14	10d					
MTW30C	MTS30C	16	1-1/4	30	13-7/16	13-7/16	14	10d x 1-1/2	2250	10.01	1595	7.10	
							14	10d					
HTW16	HTS16	14	1-1/4	16	5-1/8	5-1/8	16	10d x 1-1/2	2340	10.41	1660	7.38	
							16	10d					
HTW20	HTS20	14	1-1/4	20	7-1/8	7-1/8	24	10d x 1-1/2	2880	12.81	2045	9.10	
							20	10d					
HTW24	HTS24	14	1-1/4	24	9-1/8	9-1/8	24	10d x 1-1/2	2880	12.81	2045	9.10	
							20	10d					
HTW28	HTS28	14	1-1/4	28	11-1/8	11-1/8	24	10d x 1-1/2	2880	12.81	2045	9.10	
							20	10d					
HTW30	HTS30	14	1-1/4	30	7	17-1/4	24	10d x 1-1/2	2880	12.81	2045	9.10	
							20	10d					
HTW30C	HTS30C	14	1-1/4	30	12-1/8	12-1/8	24	10d x 1-1/2	2880	12.81	2045	9.10	
							20	10d					

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) 16d sinker nails may be substituted for 10d common nails with no reduction in load.
3) Fasteners shall be distributed equally on each end of the connection.
4) C after the model number designates center twist as in MTW30C.
5) LFTA6: F1 is 870 lbs DF-L and 775 lbs S-P-F. To achieve F1 lateral loads, three nails must be installed on each side on the strap located closest to the bend line. Lateral F1 load direction does not apply to roof truss-to-top plate installations.
6) **NAILS:** 8d x 1-1/2 nails are 0.131" dia. x 1-1/2" long, 8d nails are 0.131" dia. x 2-1/2" long, 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long, 10d nails are 0.148" dia. x 3" long, 16d nails are 0.162" dia. x 3-1/2" long.

Corrosion Finish Key Stainless Steel HDG Triple Zinc

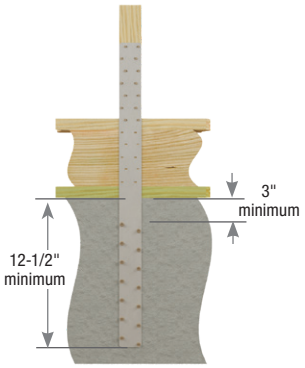
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MSTAM / MSTCM Masonry Straps

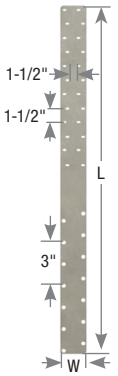
The MSTAM and MSTCM Strap Ties are designed to connect a wood structure above to a masonry wall below.

Materials: See chart
Finish: G90 galvanizing
Options: See chart for Corrosion Finish Options

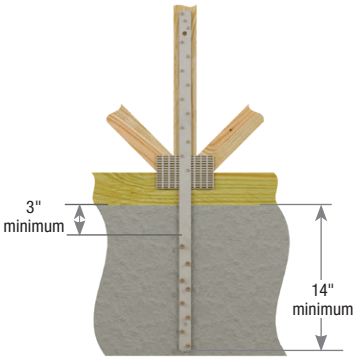
Installation:
• Use all specified fasteners. See Product Notes, page 16.



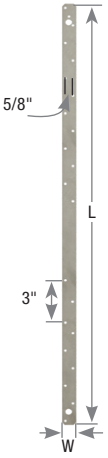
Typical MSTCM40 installation



MSTCM40



Typical MSTAM36 installation



MSTAM36

MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in)		Fastener Schedule						D Fir-L Factored Resistance[1]		S-P-F Factored Resistance[1]		Corrosion Finish
					CMU[2]		Concrete[2]		Nails[3]		Tensile 115%		Tensile 115%		
			W	L	Qty	Type	Qty	Type	Qty	Type	Lbs	kN	Lbs	kN	
MSTAM24	MSTAM24	18	1-1/4	24	5	1/4" Tapcon	5	1/4" Tapcon	9	10d	2315	10.30	2315	10.30	
MSTAM36	MSTAM36	16	1-1/4	36	8	1/4" Tapcon	8	1/4" Tapcon	10	10d	2920	12.99	2820	12.54	
MSTCM40	MSTCM40	16	3	40-1/4	14	1/4" Tapcon	14	1/4" Tapcon	24	10d	6905	30.72	4905	21.82	
									22	16d					
MSTCM60	MSTCM60	16	3	60	14	1/4" Tapcon	14	1/4" Tapcon	24	10d	6905	30.72	4905	21.82	
									22	16d					

1) Factored Resistances are derived from tests performed using grout-filled hollow ASTM C90 concrete block.
2) Use ITW Buildex 1/4" x 2-1/4" Tapcon fasteners; or equal, installed in accordance with manufacturer's specification.
3) **NAILS:** 10d nails are 0.148" dia. x 3" long, 16d nails are 0.162" dia. x 3-1/2" long.

Corrosion Finish Key Stainless Steel HDG Triple Zinc

Clear Span Chart

MiTek Stock No.	Clear Span	Fastener Schedule						D Fir-L Factored Resistance[2]		S-P-F Factored Resistance[2]	
		CMU[1]		Concrete[1]		Nails[3]		Tensile 115%		Tensile 115%	
		Qty	Type	Qty	Type	Qty	Type	Lbs	kN	Lbs	kN
MSTAM36	16	5	1/4" Tapcon	5	1/4" Tapcon	8	10d	1825	8.12	1445	6.43
	18	5	1/4" Tapcon	5	1/4" Tapcon	7	10d	1825	8.12	1445	6.43
MSTCM40	16	14	1/4" Tapcon	14	1/4" Tapcon	14	16d	4700	20.91	4380	19.48
	18	14	1/4" Tapcon	14	1/4" Tapcon	14	16d	4700	20.91	4380	19.48
MSTCM60	16	14	1/4" Tapcon	14	1/4" Tapcon	22	16d	6905	30.72	4905	21.82
	18	14	1/4" Tapcon	14	1/4" Tapcon	22	16d	6905	30.72	4905	21.82

1) Use ITW Buildex 1/4" x 2-1/4" Tapcon fasteners; or equal, installed in accordance with the manufacturer's specification.
2) Factored resistances are derived from tests performed using hollow ASTM C90 concrete block.
3) **NAILS:** 10d nails are 0.148" dia. x 3" long, 16d nails are 0.162" dia. x 3-1/2" long.

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The HTWM Twist Straps are designed for truss to concrete or masonry connections. Offer uplift resistance with variable heel height and positioning applications.

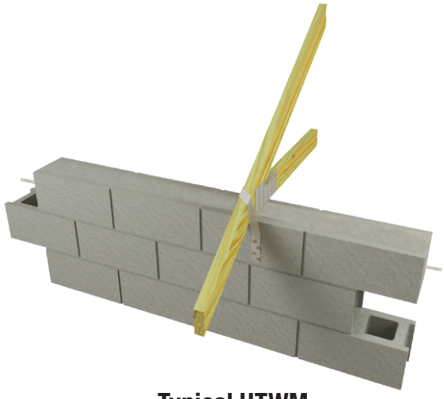
Materials: 14 gauge

Finish: G90 galvanizing

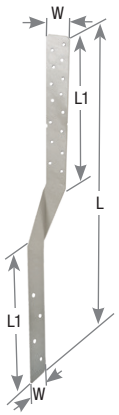
Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:

- Use all specified fasteners. See Product Notes, page 16.
- Strap may be attached to either side of grouted masonry or concrete wall with a minimum of (1) 15M horizontal rebar.
- Drill hole in concrete or masonry with manufacturer's prescribed 1/4" masonry drill. Install fasteners into concrete or masonry per manufacturer's specification.
- Grout or concrete compressive strength shall be 2,500 psi at 28 days.
- Twist straps do not have to be wrapped over the truss to achieve the factored resistance.
- **Moisture barrier may be required.**



Typical HTWM installation



HTWM

MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in)			Fastener Schedule						Unit	D Fir-L Factored Resistance[1]	S-P-F Factored Resistance[1]
						CMU		Concrete		Truss/Rafter				
			W	L	L1	Qty	Screw Anchor[2,3]	Qty	Screw Anchor[2,3]	Qty	Nail Type[4]		Tensile 115%	Tensile 115%
HTWM16	HTSM16, MTSM16	14	1-1/4	16	5-3/4	4	1/4" x 1-3/4"	4	1/4" x 1-3/4"	8	10d x 1-1/2	Lbs	1520	1335
												kN	6.76	5.94
HTWM20	HTSM20, MTSM20	14	1-1/4	20	7-3/4	4	1/4" x 1-3/4"	4	1/4" x 1-3/4"	8	10d x 1-1/2	Lbs	1520	1335
												kN	6.76	5.94

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) Use DeWalt 1/4" x 1-3/4" Screw-Bolt+; or equal, installed in accordance with manufacturer's specification.
3) DeWalt 1/4" dia. x 1-3/4" long Screw-Bolt+ are not supplied with HTWM straps.
4) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long.

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HANGERS



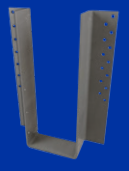
MiTek®

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Hanger Selector Guide

Hanger Type	MiTek Series	Steel Gauge	Supporting / Header Member									Supported / Joist Member						100% Factored Resistance (Lbs.) Range			
																		Header Material			
			Beam/Joist/Rafter (rect shapes)	I-Joist	Truss (2x)	Floor Truss 4x	Nailer	Glulam	Wall	Post	Rim Joist	Beam/Joist/Rafter (rect shapes)	I-Joist	Truss (2x)	Floor Truss 4x	Glulam	Stringer	S-P-F Masonry	S-P-F	D Fir-L Masonry	D Fir-L
Face Mount	DT	20	•		•							•		•		•		--	1,385 - 1,640	--	1,385 - 1,640
	JL	20	•		•			•				•		•				--	740 - 2,335	--	940 - 2,975
	JUS	18	•		•			•				•	•	•	•			--	1,145 - 4,055	--	1,245 - 4,685
	MUS	18	•		•			•			•	•	•	•	•	•		--	2,825 - 3,830	--	2,845 - 3,855
	JLIF	18	•		•					•		•		•				--	765 - 2,810	--	840 - 3,135
	SUH	16	•		•			•				•		•	•			--	1,090 - 5,055	--	1,390 - 6,435
	HUS	16	•		•			•			•	•		•		•		--	5,195 - 8,070	--	6,090 - 9,625
		14																--	1,285 - 4,775	--	1,670 - 5,820
	HD	14	•		•			•			•	•	•	•	•	•		--	1,255 - 6,965	--	1,455 - 7,715
	HDQIF	14	•		•			•		•	•	•	•	•	•	•		--	4,460 - 7,385	--	4,975 - 8,460
Fire Wall	FWH	14	•		•	•	•	•	•		•	•	•	•	•	•		--	2,185 - 3,440	--	2,525- 4,375
	FWHBP	12				•			•			•	•	•	•	•		--	7,130 - 9,680	--	8,410 - 12,190
	FWHFM	12						•		•		•	•	•	•	•		--	6,740 - 8,935	--	8,165 - 10,730
	FWHH	12	•					•				•	•	•	•	•		--	6,645 - 9,670	--	8,395 - 11,900
Top Mount	HL	18	•					•			•	•		•	•	•		--	1,635 -2,040	--	2,085 - 2,600
	JH	18	•		•			•				•		•				--	3,730	--	4,750
	KLB	14	•					•				•		•		•		--	3,030 - 3,120	--	3,300 - 3,895
	KB	12	•					•				•		•	•	•		--	5,110 - 5,180	--	6,510 - 6,535
	HDO	12	•					•				•		•	•	•		--	2,475 - 8,025	--	3,150 - 10,220
	SW	12	•				•	•				•		•	•			--	2,980 - 3,240	--	3,590 - 3,900
	SWH	7 - Top Flange 12 - Stirrup	•				•	•				•		•	•			--	4,250	--	5,120
	KHW	3 - Top Flange 10 - Stirrup	•				•	•				•		•	•	•		--	6,785	--	8,575
Slope and Skew	RR	18	•		•	•		•				•		•				--	465 - 500	--	590 - 705
	LS	18	•		•			•				•		•			•	--	1,460 - 1,760	--	1,860 - 2,245
	LSSH	18	•	•	•			•				•	•	•	•	•	•	--	820 - 2,020	--	930 - 2,2460
		16																--	1,830 - 3,860	--	2,245 - 4,505
	SKH	16	•	•	•			•				•	•	•	•			--	635 - 3,895	--	805 - 4,960
		14																--	1,980 - 6,845	--	2,520 - 8,720
	SKHH	16	•	•	•			•				•	•	•	•			--	2,495 - 3,655	--	3,040 - 4,505
		14	•	•	•			•				•	•	•	•			--	2,270 - 5,790	--	2,895 - 7,380
Panel and Purlin	JPF	20	•		•			•				•		•				--	1,755 - 1,995	--	1,380 - 1,565
	DTUS	20	•		•	•		•				•		•				--	770	--	980
	TUS	20	•		•	•		•				•		•				--	770	--	980
	JDS	18	•		•			•			•	•		•				--	655 - 2,645	--	655 - 3,335
	FHD	18	•		•							•		•				--	1,235	--	1,575
Masonry	MPH	12							•			•	•	•	•	•		3,695 - 4,880	--	4,705 - 6,215	--
	LGUM	12							•			•			•	•		10,840 - 16,225	--	8,745 - 13,085	--
	HGUM	7							•			•		•	•	•		20,780	--	26,165	--
	HWUH	1/4"- Top Flange, 7 - Stirrup	•			•		•	•			•		•	•	•		3,930 - 6,775	--	5,010 - 8,625	--
	UMH[1]	1/4"							•			•		•	•	•		6,610	--	6,610	--

1) UMH factored resistance values are based upon 2,500 psi.

• Represents common applications and product configurations. Consult MiTek for additional applications and/or optional product configurations.
New products or updated product information are designated in blue font.

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DT / JL / JLIF / SUH Face Mount Joist Hangers

MiTek offers a wide variety of light-gauge face mount joist hangers to accommodate application and installation preferences.

DT series – 20 gauge, (2) 2x dimensional joist hangers

JL series – 20 gauge, 2x dimensional joist hangers

JLIF series – 18 gauge, 2x dimensional joist hangers. For installation at end of post or beam or where inverted flange is needed

SUH series – 16 gauge steel construction for more demanding applications and light truss support

Materials: See chart

Finish: G90 galvanizing; JLIF – G-185 galvanizing

Options: See chart for Corrosion Finish Options. See SUH Specialty Options Chart.

Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:

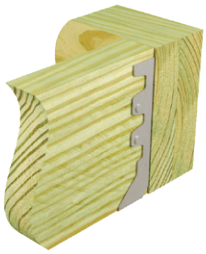
- Use all specified fasteners. See Product Notes, page 16.



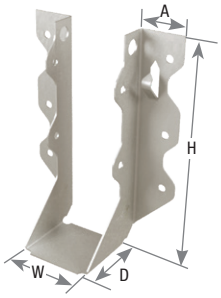
Typical JL26 installation



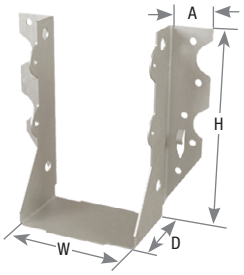
Typical SUH26-2 installation



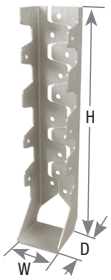
Typical JL210IF-TZ inverted flange installation



JL26



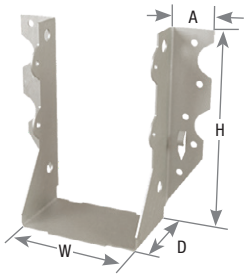
SUH26-2



JLIF



Typical DT installation



DT

SUH Specialty Options Chart

Refer to Specialty Options pages 294-295 for additional details.

Option[4]	Skewed[1,3]	Sloped Seat[2,3]	Sloped / Skewed[1,2,3]
Range	1˚ to 67-1/2˚ when width is 1-3/4" or less. 1˚ to 50˚ on all others.	1˚ to 45˚	See Sloped Seat and Skewed
Factored Resistance	100% of table load. 75% of uplift load on skews greater than 15˚.	100% of table load	80% of table load. 75% of uplift load on skews greater than 15˚.
Ordering	Add *SK* angle required, right *(R)* or left *(L)*, and square cut (*SQ*) or bevel cut (*BV*) to product number. Ex. SUH210_SK45R_SQ	Add *SL*, slope required, and up *(U)* or down *(D)*, to product number. Ex. SUH210_SL30D	See Sloped Seat and Skewed. Ex. SUH210_SK45R_SQ_SL30D

1) Skewed hangers with skews greater than 15° may have all joist nailing on outside flange.
2) Sloped or sloped / skewed hangers with slopes greater than 15° may have additional joist nails.
3) For skewed hangers, the required cut type (square or bevel) of joist member may vary based on skew angle and width of hanger. Some square cut hangers will require custom pricing due to welded back plate.
4) SUH option hangers may be manufactured as welded products to achieve listed loads. Welded products will have primer finish.

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The HUS, JUS and MUS hanger series offers double shear nailing. MiTek's dimple allows for 30° to 45° nailing through the joist into the header resulting in higher loads and less nailing.

Materials: JUS - 18 gauge; MUS - 18 gauge; HUS - 14 or 16 gauge

Finish: G90 galvanizing

Options: See chart for Corrosion Finish Options. See HUS Specialty Options Chart

Codes: Factored resistances are derived from data submitted to various North American building code evaluators and a in accordance with current CSA O86 standard



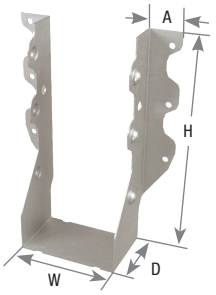
Typical HUS46 installation



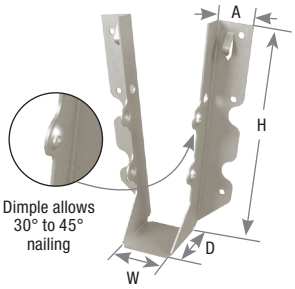
Typical JUS26 installation

Installation:

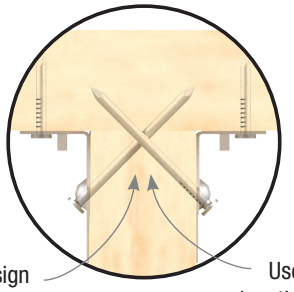
- Use all specified fasteners. See Product Notes, page 16.
- Joist nails must be driven at a 30° to 45° angle through the joist or truss into the header to achieve listed loads. **Standard length slant / double shear nails must be used to achieve listed load values.**
- JUS / MUS - 16d sinkers (0.148" dia. x 3-1⁄4") may be used where 10d commons are specified with no load reduction.



HUS28-2



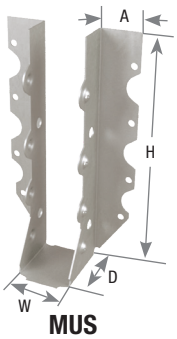
JUS28



Double shear nail design features fewer nails and faster installation

Uses standard length common nails

AVAILABLE IN GOLD COAT



MUS

HUS Specialty Options Chart

Refer to Specialty Options pages 294-295 for additional details.

Option	Inverted Flange
Range	Not available in widths less than 2-1/4".
Factored Resistance	100% of table load. 65% of table load when nailing into the support members end grain.
Ordering	Add *IF* to product number. Ex. HUS410_IF



Typical HUS410IF inverted flange installation

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HD Heavy-Duty Face Mount Hangers

HD hangers are heavy-duty face mount hangers utilizing round and diamond holes to achieve design flexibility and maximum loads for use with headers, joists, and trusses.

Materials: 14 gauge

Finish: G90 galvanizing

Options: See chart for Corrosion Finish Options. All nominal lumber sizes are available rough/full size lumber. See Specialty Options Chart

Codes: Load values are derived from data submitted to various North American building code evaluators



Typical HD610 installation



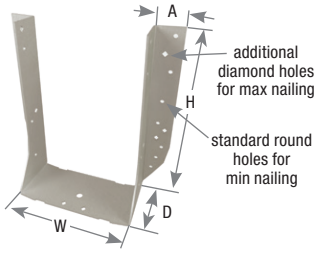
Typical HD210-2 installation



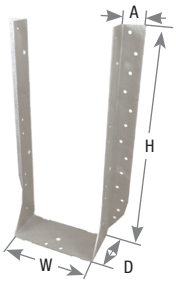
Typical HD3212 glulam installation

Installation:

- Use all specified fasteners. See Product Notes, page 16.
- **Min Nailing** – Fill all round nail holes.
- **Max Nailing** – Fill all round and diamond nail holes.
- 16d sinkers (0.148" dia. x 3-1/4" long) may be used at 0.85 of the table load where 16d commons are specified.



HD610



HD51135

Specialty Options Chart

Refer to Specialty Options pages 294-295 for additional details.

Option	Skewed[1,3]	Sloped Seat[2,3]	Sloped / Skewed[1,2,3]	Inverted Flange
Range	1˚ to 67-1/2˚ when width is 1-3/4" or less. 1˚ to 50˚ on all others.	1˚ to 45˚	See Sloped Seat and Skewed	2-1/4" widths or greater (Widths < 2-1/4" may be available as a Custom, contact MiTek)
Factored Resistance	100% of table load. 75% of uplift load on skews greater than 15˚.	100% of table load	80% of table load. 75% of uplift load on skews greater than 15˚.	100% of table load. 65% of table load when nailing into the support members end grain.
Ordering	Add *SK,* angle required, right *(R)* or left *(L),* and square cut *(SQ)* or bevel cut *(BV)* to product number. Example: HD410_SK45R_SQ	Add *SL,* slope required, and up *(U)* or down *(D),* to product number. Example: HD410_SL30D	See Sloped Seat and Skewed Example: HD410_SK45R_SQ_SL30D	Add *IF,* to product number. Example: HD410_IF



Typical HD210-2IF inverted flange installation

1) Skewed hangers with skews greater than 15° may have all joist nailing on outside flange.
2) Sloped or sloped / skewed hangers with slopes greater than 15° may have additional joist nails.
3) For skewed hangers, the required cut type (square or bevel) of joist member may vary based on skew angle and width of hanger. Some square cut hangers will require custom pricing due to welded back plate.
4) HD option hangers may be manufactured as welded products to achieve listed loads. Welded products will have primer interior finish.

HDQIF Inverted Flange Face Mount Hangers

HDQIF inverted flange hangers install with wood screws eliminating the need to drill bolt holes, simplifying installation.

Materials: 14 gauge

Finish: G90 galvanizing

Options: See chart for Corrosion Finish Options

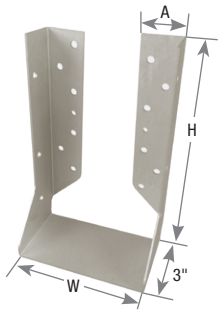
Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:

- Use all specified fasteners. See Product Notes, page 16.
- MiTek's WS15 (1/4" dia. x 1-1/2" long) and WS3 (1/4" dia. x 3" long) structural wood screws are supplied with HDQIF hangers.



Typical HDQIF inverted flange installation



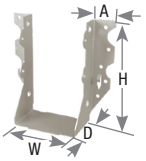
HDQIF

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Joist Size	MiTek Stock No.	Ref. No.	GA	Dimensions (in)				Fastener Schedule[2,3]					D Fir-L Factored Resistance				S-P-F Factored Resistance				Corrosion Finish
									Header		Joist		Lbs		kN		Lbs		kN		
				W	H	D	A	Min/ Max	Qty	Type	Qty	Type	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%	
2 x 4	JL24	LU24	20	1-9/16	3	1-1/2	15/16	--	4	10d	2	10d x 1-1/2	940	560	4.18	2.49	740	460	3.29	2.05	
	JL24IF-TZ	--	18	1-9/16	3-1/8	1-1/2	--	--	4	10d HDG	2	10d x 1-1/2 HDG	840	440	3.74	1.96	765	400	3.40	1.78	
	JUS24	LUS24	18	1-9/16	3-1/8	1-3/4	1	--	4	10d	2	10d	1455	1180	6.47	5.25	1340	1105	5.96	4.92	
	SUH24	U24	16	1-9/16	3-1/4	2	1-3/16	--	4	10d	2	10d x 1-1/2	1390	795	6.18	3.54	1090	625	4.85	2.78	
	HD26	HU26	14	1-9/16	3-1/2	2-1/2	1-1/8	Min	4	16d	2	10d x 1-1/2	1485	620	6.61	2.76	1255	580	5.58	2.58	
								Max			4		1485	1035	6.61	4.60	1255	955	5.58	4.25	
2 x 6	JL26	LU26	20	1-9/16	4-3/4	1-1/2	15/16	--	6	10d	4	10d x 1-1/2	1385	1070	6.16	4.76	1085	930	4.83	4.14	
	JL26IF-TZ	LUC26Z	18	1-9/16	4-1/2	1-1/2	--	--	6	10d HDG	4	10d x 1-1/2 HDG	1710	1385	7.61	6.16	1610	1305	7.16	5.80	
	JUS26	LUS26	18	1-9/16	4-13/16	1-3/4	1	--	4	10d	4	10d	2600	1960	11.57	8.72	2395	1810	10.65	8.05	
	MUS26	MUS26	18	1-9/16	5-1/16	2	1	--	6	10d	6	10d	2845	1425	12.66	6.34	2825	1415	12.57	6.29	
	SUH26	U26	16	1-9/16	5-1/8	2	1-3/16	--	6	10d	4	10d x 1-1/2	2345	1505	10.43	6.69	1840	1180	8.18	5.25	
	HUS26	HUS26	16	1-5/8	5-7/16	3	2	--	14	16d	6	16d	6090	3915	27.09	17.41	5195	3625	23.11	16.12	
	HD26	HU26	14	1-9/16	3-1/2	2-1/2	1-1/8	Min	4	16d	2	10d x 1-1/2	1485	620	6.61	2.76	1255	580	5.58	2.58	
								Max			4		1485	1035	6.61	4.60	1255	955	5.58	4.25	
	HD28	HU28	14	1-9/16	5-1/4	2-1/2	1-1/8	Min	8	16d	4	10d x 1-1/2	3010	1430	13.39	6.36	2290	1320	10.19	5.87	
								Max			6		3010	1430	13.39	6.36	2290	1320	10.19	5.87	
2 x 8	JL26	LU26	20	1-9/16	4-3/4	1-1/2	15/16	--	6	10d	4	10d x 1-1/2	1385	1070	6.16	4.76	1085	930	4.83	4.14	
	JL28	LU28	20	1-9/16	6-3/8	1-1/2	15/16	--	10	10d	6	10d x 1-1/2	2050	1495	9.12	6.65	1610	1225	7.16	5.45	
	JL26IF-TZ	LUC26Z	18	1-9/16	4-1/2	1-1/2	--	--	6	10d HDG	4	10d x 1-1/2 HDG	1710	1385	7.61	6.16	1610	1305	7.16	5.80	
	JL28IF-TZ	--	18	1-9/16	6-1/8	1-1/2	--	--	8	10d HDG	4	10d x 1-1/2 HDG	1710	1385	7.61	6.16	1610	1305	7.16	5.80	
	JUS26	LUS26	18	1-9/16	4-13/16	1-3/4	1	--	4	10d	4	10d	2600	1960	11.57	8.72	2395	1810	10.65	8.05	
	JUS28	LUS28	18	1-9/16	6-5/8	1-3/4	1	--	6	10d	4	10d	2600	1960	11.57	8.72	2395	1810	10.65	8.05	
	MUS26	MUS26	18	1-9/16	5-1/16	2	1	--	6	10d	6	10d	2845	1425	12.66	6.34	2825	1415	12.57	6.29	
	MUS28	MUS28	18	1-9/16	7-1/16	2	1	--	8	10d	8	10d	3855	2030	17.15	9.03	3830	2015	17.04	8.96	
	SUH26	U26	16	1-9/16	5-1/8	2	1-3/16	--	6	10d	4	10d x 1-1/2	2345	1505	10.43	6.69	1840	1180	8.18	5.25	
	SUH28	--	16	1-9/16	6-5/8	2	1-3/16	--	8	10d	6	10d x 1-1/2	3135	1505	13.95	6.69	2460	1180	10.94	5.25	
	HUS26	HUS26	16	1-5/8	5-7/16	3	2	--	14	16d	6	16d	6090	3915	27.09	17.41	5195	3625	23.11	16.12	
	HUS28	HUS28	16	1-5/8	7-3/16	3	2	--	22	16d	8	16d	8050	5775	35.81	25.69	6875	5345	30.58	23.78	
	HD28	HU28	14	1-9/16	5-1/4	2-1/2	1-1/8	Min	8	16d	4	10d x 1-1/2	3010	1430	13.39	6.36	2290	1320	10.19	5.87	
								Max			6		3010	1430	13.39	6.36	2290	1320	10.19	5.87	
	HD210	HU210	14	1-9/16	7-3/16	2-1/2	1-1/8	Min	10	16d	4	10d x 1-1/2	3010	1430	13.39	6.36	2290	1320	10.19	5.87	
								Max	14		6		5030	2185	22.37	9.72	4180	2050	18.59	9.12	
2 x 10	JL28	LU28	20	1-9/16	6-3/8	1-1/2	15/16	--	10	10d	6	10d x 1-1/2	2050	1495	9.12	6.65	1610	1225	7.16	5.45	
	JL210	LU210	20	1-9/16	8-1/4	1-1/2	15/16	--	14	10d	8	10d x 1-1/2	2975	1925	13.23	8.56	2335	1575	10.39	7.01	
	JL28IF-TZ	--	18	1-9/16	6-1/8	1-1/2	--	--	8	10d HDG	4	10d x 1-1/2 HDG	1710	1385	7.61	6.16	1610	1305	7.16	5.80	
	JL210IF-TZ	LUC210Z	18	1-9/16	8-7/32	1-1/2	--	--	11	10d HDG	6	10d x 1-1/2 HDG	3135	2175	13.95	9.67	2810	2050	12.50	9.12	
	JUS28	LUS28	18	1-9/16	6-5/8	1-3/4	1	--	6	10d	4	10d	2600	1960	11.57	8.72	2395	1810	10.65	8.05	
	JUS210	LUS210	18	1-9/16	7-3/4	1-3/4	1	--	8	10d	4	10d	2600	1960	11.57	8.72	2395	1810	10.65	8.05	
	MUS28	MUS28	18	1-9/16	7-1/16	2	1	--	8	10d	8	10d	3855	2030	17.15	9.03	3830	2015	17.04	8.96	
	SUH28	--	16	1-9/16	6-5/8	2	1-3/16	--	8	10d	6	10d x 1-1/2	3135	1505	13.95	6.69	2460	1180	10.94	5.25	
	SUH210	U210	16	1-9/16	8	2	1-3/16	--	10	10d	6	10d x 1-1/2	4080	2505	18.15	11.14	3205	1965	14.26	8.74	
	HUS28	HUS28	16	1-5/8	7-3/16	3	2	--	22	16d	8	16d	8050	5775	35.81	25.69	6875	5345	30.58	23.78	
	HUS210	HUS210	16	1-5/8	9-3/16	3	2	--	30	16d	10	16d	9625	8045	42.81	35.79	8070	7455	35.90	33.16	
	HD210	HU210	14	1-9/16	7-3/16	2-1/2	1-1/8	Min	10	16d	4	10d x 1-1/2	3010	1430	13.39	6.36	2290	1320	10.19	5.87	
								Max	14		6		5030	2185	22.37	9.72	4180	2050	18.59	9.12	

1) Factored uplift resistances have been increased 15% for short-term loads such as wind and earthquake; no further increase allowed.
2) 16d sinkers (0.148" dia. x 3-1/4" long) may be used at 0.85 of the table load where 16d commons are specified. This does not apply to JUS, HUS, MUS slant nail hangers.
3) **NAILS:** 8d x 1-1/2 nails are 0.131" dia. x 1-1/2" long, 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long, 10d nails are 0.148" dia. x 3" long, 16d nails are 0.162" dia. x 3-1/2" long.

Corrosion Finish Key Stainless Steel HDG Triple Zinc



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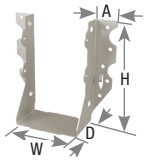
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Joist Size	MiTek Stock No.	Ref. No.	GA	Dimensions (in)				Fastener Schedule[2,3,4]					D Fir-L Factored Resistance				S-P-F Factored Resistance				Corrosion Finish
									Header		Joist		Lbs		kN		Lbs		kN		
				W	H	D	A	Min/ Max	Qty	Type	Qty	Type	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%	
2 x 12	JL210	LU210	20	1-9/16	8-1/4	1-1/2	15/16	--	14	10d	8	10d x 1-1/2	2975	1925	13.23	8.56	2335	1575	10.39	7.01	
	JL210IF-TZ	LUC210Z	18	1-9/16	8-7/32	1-1/2	--	--	11	10d HDG	6	10d x 1-1/2 HDG	3135	2175	13.95	9.67	2810	2050	12.50	9.12	
	JUS210	LUS210	18	1-9/16	7-3/4	1-3/4	1	--	8	10d	4	10d	2600	1960	11.57	8.72	2395	1810	10.65	8.05	
	SUH210	U210	16	1-9/16	8	2	1-3/16	--	10	10d	6	10d x 1-1/2	4080	2505	18.15	11.14	3205	1965	14.26	8.74	
	HUS210	HUS210	16	1-5/8	9-3/16	3	2	--	30	16d	10	16d	9625	8045	42.81	35.79	8070	7455	35.90	33.16	
	HD210	HU210	14	1-9/16	7-3/16	2-1/2	1-1/8	Min	10	16d	4	10d x 1-1/2	3010	1430	13.39	6.36	2290	1320	10.19	5.87	
								Max	14		6		5030	2185	16.99	9.72	4180	2050	18.59	9.12	
	HD212	HU212	14	1-9/16	9-13/16	2-1/2	1-1/8	Min	14	16d	6	10d x 1-1/2	5030	2185	22.37	9.72	4180	2050	18.59	9.12	
								Max	20		10			2775		12.34		2600		11.57	
	HD212IF	HUC212	14	1-9/16	9-1/4	2-1/2	3/4	--	16	16d	6	10d x 1-1/2	4545	2005	20.22	8.92	3565	1575	15.86	7.01	
2 x 14	SUH214	U214	16	1-9/16	10	2	1-1/8	--	12	10d	8	10d x 1-1/2	4105	2505	18.26	11.14	3225	1965	14.35	8.74	
	HD212	HU212	14	1-9/16	9-13/16	2-1/2	1-1/8	Min	14	16d	6	10d x 1-1/2	5030	2185	22.37	9.72	4180	2050	18.59	9.12	
								Max	20		10			2775		12.34		2600		11.57	
	HD212IF	HUC212	14	1-9/16	9-1/4	2-1/2	3/4	--	16	16d	6	10d x 1-1/2	4545	2005	20.22	8.92	3565	1575	15.86	7.01	
	HD214	HU214	14	1-9/16	10-13/16	2-1/2	1-1/8	Min	16	16d	8	10d x 1-1/2	5030	2185	22.37	9.72	4180	2050	18.59	9.12	
								Max	24		12		5585	2775	24.84	12.34	4710	2600	20.95	11.57	
2 x 16	SUH214	U214	16	1-9/16	10	2	1-1/8	--	12	10d	8	10d x 1-1/2	4105	2505	18.26	11.14	3225	1965	14.35	8.74	
	HD212	HU212	14	1-9/16	9-13/16	2-1/2	1-1/8	Min	14	16d	6	10d x 1-1/2	5030	2185	22.37	9.72	4180	2050	18.59	9.12	
								Max	20		10			2775		12.34		2600		11.57	
	HD212IF	HUC212	14	1-9/16	9-1/4	2	3/4	--	16	16d	6	10d x 1-1/2	4545	2005	20.22	8.92	3565	1575	15.86	7.01	
	HD214	HU214	14	1-9/16	10-13/16	2-1/2	1-1/8	Min	16	16d	8	10d x 1-1/2	5030	2185	22.37	9.72	4180	2050	18.59	9.12	
								Max	24		12		5585	2775	24.84	12.34	4710	2600	20.95	11.57	
	HD216	HU216	14	1-9/16	12-3/4	2-1/2	1-1/8	Min	18	16d	8	10d x 1-1/2	5030	2775	22.37	12.34	4180	2600	18.59	11.57	
								Max	26		12		5585	3495	24.84	15.55	4710	3270	20.95	14.55	
(2) 2 x 4	JUS24-2	LUS24-2	18	3-1/8	3-7/16	2	1	--	4	16d	2	16d	1445	1180	6.43	5.25	1330	1105	5.92	4.92	
	SUH24-2	U24-2	16	3-1/8	3-1/8	2	1-1/8	--	6	10d	2	10d	1910	825	8.50	3.67	1500	650	6.67	2.89	
	HD24-2	HU24-2	14	3-1/8	3-1/2	2-1/2	1-1/8	--	4	16d	2	10d	1455	635	6.47	2.82	1340	565	5.96	2.51	
	HUS24-2	--	14	3-1/8	3-7/16	2	1	--	4	16d	2	16d	1670	1490	7.43	6.63	1285	1375	5.72	6.12	
	HUS24-2IF	--	14	3-1/8	3-7/16	2	1	--	4	16d	2	16d	1670	1490	7.43	6.63	1285	1375	5.72	6.12	
(2) 2 x 6	JUS26-2	LUS26-2	18	3-1/8	5-1/4	2	1	--	4	16d	4	16d	2090	2445	9.30	10.88	1920	2245	8.54	9.99	
	SUH26-2	U26-2	16	3-1/8	5-1/16	2	1-1/8	--	8	10d	4	10d	3135	1665	13.95	7.41	2460	1310	10.94	5.83	
	HUS26-2	HUS26-2	14	3-1/8	5-1/4	2	1	--	4	16d	4	16d	3175	1955	14.12	8.70	2570	1850	11.43	8.23	
	HUS26-2IF	HUSC26-2	14	3-1/8	5-1/4	2	1	--	4	16d	4	16d	3175	1955	14.12	8.70	2570	1850	11.43	8.23	
	HD26-2	HU26-2	14	3-1/8	5-1/4	2-1/2	1-1/8	Min	8	16d	4	10d	3010	1430	13.39	6.36	2290	1320	10.19	5.87	
								Max	12		6		4355	2460	19.37	10.94	3550	2200	15.79	9.79	
	HD26-2IF	HUC26-2	14	3-1/8	5-1/4	2-1/2	1-1/8	Min	8	16d	4	10d	3010	1430	13.39	6.36	2290	1320	10.19	5.87	
								Max	12		6		4355	2460	19.37	10.94	3550	2200	15.79	9.79	
(2) 2 x 8	JUS26-2	LUS26-2	18	3-1/8	5-1/4	2	1	--	4	16d	4	16d	2090	2445	9.30	10.88	1920	2245	8.54	9.99	
	JUS28-2	LUS28-2	18	3-1/8	7-1/8	2	1	--	6	16d	4	16d	3960	2445	17.61	10.88	3200	2245	14.23	9.99	
	SUH26-2	U26-2	16	3-1/8	5-1/16	2	1-1/8	--	8	10d	4	10d	3135	1665	13.95	7.41	2460	1310	10.94	5.83	
	SUH28-2	--	16	3-1/8	6-1/4	2	1-1/8	--	10	10d	4	10d	3135	1665	13.95	7.41	2460	1310	10.94	5.83	
	HUS26-2	HUS26-2	14	3-1/8	5-1/4	2	1	--	4	16d	4	16d	3175	1955	14.12	8.70	2570	1850	11.43	8.23	
	HUS26-2IF	HUSC26-2	14	3-1/8	5-1/4	2	1	--	4	16d	4	16d	3175	1955	14.12	8.70	2570	1850	11.43	8.23	
	HUS28-2	HUS28-2	14	3-1/8	7-1/8	2	1	--	6	16d	6	16d	3175	4665	14.12	20.75	2570	4310	11.43	19.17	
	HUS28-2IF	HUSC28-2	14	3-1/8	7-1/8	2	1	--	6	16d	6	16d	3175	4665	14.12	20.75	2570	4310	11.43	19.17	
	HD26-2	HU26-2	14	3-1/8	5-1/4	2-1/2	1-1/8	Min	8	16d	4	10d	3010	1430	13.39	6.36	2290	1320	10.19	5.87	
								Max	12		6		4355	2460	19.37	10.94	3550	2200	15.79	9.79	
	HD26-2IF	HUC26-2	14	3-1/8	5-1/4	2-1/2	1-1/8	Min	8	16d	4	10d	3010	1430	13.39	6.36	2290	1320	10.19	5.87	
								Max	12		6		4355	2460	19.37	10.94	3550	2200	15.79	9.79	
	HD28-2	HU28-2	14	3-1/8	7-1/8	2-1/2	1-1/8	Min	10	16d	4	10d	3010	1730	13.39	7.70	2290	1545	10.19	6.87	
								Max	14		6		5030	2460	22.37	10.94	4180	2200	18.59	9.79	
	HD28-2IF	HUC28-2	14	3-1/8	7-1/8	2-1/2	1-1/8	Min	10	16d	4	10d	3010	1730	13.39	7.70	2290	1545	10.19	6.87	
								Max	14		6		5030	2460	22.37	10.94	4180	2200	18.59	9.79	

1) Factored uplift resistances have been increased 15% for short-term loads such as wind and earthquake; no further increase allowed.
2) 16d sinkers (0.148" dia. x 3-1/4" long) may be used at 0.85 of the table load where 16d commons are specified. This does not apply to JUS, HUS, MUS slant nail hangers.
3) MiTek's WS3 structural wood screws are 1/4" dia. x 3" long and are included with HDQ hangers.
4) **NAILS:** 8d x 1-1/2 nails are 0.131" dia. x 1-1/2" long, 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long, 10d nails are 0.148" dia. x 3" long, 16d nails are 0.162" dia. x 3-1/2" long, 16d x 2-1/2 nails are 0.162" dia. x 2-1/2" long.

New products or updated product information are designated in blue font.

Corrosion Finish Key Stainless Steel HDG Triple Zinc



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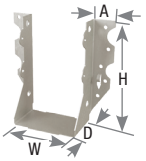
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Joist Size	MiTek Stock No.	Ref. No.	GA	Dimensions (in)				Fastener Schedule[2,3,4]					D Fir-L Factored Resistance				S-P-F Factored Resistance				Corrosion Finish
									Header		Joist		Lbs		kN		Lbs		kN		
				W	H	D	A	Min/ Max	Qty	Type	Qty	Type	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%	
(2) 2 x 10	JUS28-2	LUS28-2	18	3-1/8	7-1/8	2	1	--	6	16d	4	16d	3960	2445	17.61	10.88	3200	2245	14.23	9.99	
	JUS210-2	LUS210-2	18	3-1/8	9-1/8	2	1	--	8	16d	6	16d	3960	4615	17.61	20.53	3200	4245	14.23	18.88	
	SUH28-2	--	16	3-1/8	6-1/4	2	1-1/8	--	10	10d	4	10d	3135	1665	13.95	7.41	2460	1310	10.94	5.83	
	SUH210-2	U210-2	16	3-1/8	8-9/16	2	1-1/8	--	16	10d	6	10d	6435	2920	28.62	12.99	5055	2290	22.49	10.19	
	HUS28-2	HUS28-2	14	3-1/8	7-1/8	2	1	--	6	16d	6	16d	3175	4665	14.12	20.75	2570	4310	11.43	19.17	
	HUS28-2IF	HUSC28-2	14	3-1/8	7-1/8	2	1	--	6	16d	6	16d	3175	4665	14.12	20.75	2570	4310	11.43	19.17	
	HD28-2	HU28-2	14	3-1/8	7-1/8	2-1/2	1-1/8	Min	10	16d	4	10d	3010	1730	13.39	7.70	2290	1545	10.19	6.87	
								Max	14		6		5030	2460	22.37	10.94	4180	2200	18.59	9.79	
	HD28-2IF	HUC28-2	14	3-1/8	7-1/8	2-1/2	1-1/8	Min	10	16d	4	10d	3010	1730	13.39	7.70	2290	1545	10.19	6.87	
								Max	14		6		5030	2460	22.37	10.94	4180	2200	18.59	9.79	
	HUS210-2	HUS210-2	14	3-1/8	9-1/8	2	1	--	8	16d	8	16d	4755	4665	21.15	20.75	3860	4310	17.17	19.17	
	HUS210-2IF	HUSC210-2	14	3-1/8	9-1/8	2	1	--	8	16d	8	16d	4755	4665	21.15	20.75	3860	4310	17.17	19.17	
	HD210-2	HU210-2	14	3-1/8	9	2-1/2	1-1/8	Min	14	16d	6	10d	5030	2460	22.37	10.94	4180	2200	18.59	9.79	
								Max	20		10		5870	4070	26.11	18.10	4625	3640	20.57	16.19	
	HD210-2IF	HUC210-2	14	3-1/8	9	2-1/2	1-1/8	Min	14	16d	6	10d	5030	2460	22.37	10.94	4180	2200	18.59	9.79	
								Max	20		10		5870	4070	26.11	18.10	4625	3640	20.57	16.19	
	HDQ210-2IF	HUCQ210-2-SDS	14	3-1/4	9	3	1-1/2	--	12	WS3	6	WS3	8460	4970	37.63	22.11	7385	4335	32.85	19.28	
(2) 2 x 12	JUS210-2	LUS210-2	18	3-1/8	9-1/8	2	1	--	8	16d	6	16d	3960	4615	17.61	20.53	3200	4245	14.23	18.88	
	SUH210-2	U210-2	16	3-1/8	8-9/16	2	1-1/8	--	16	10d	6	10d	6435	2920	28.62	12.99	5055	2290	22.49	10.19	
	HUS210-2	HUS210-2	14	3-1/8	9-1/8	2	1	--	8	16d	8	16d	4755	4665	21.15	20.75	3860	4310	17.17	19.17	
	HUS210-2IF	HUSC210-2	14	3-1/8	9-1/8	2	1	--	8	16d	8	16d	4755	4665	21.15	20.75	3860	4310	17.17	19.17	
	HD210-2	HU210-2	14	3-1/8	9	2-1/2	1-1/8	Min	14	16d	6	10d	5030	2460	22.37	10.94	4180	2200	18.59	9.79	
								Max	20		10		5870	4070	26.11	18.10	4625	3640	20.57	16.19	
	HD210-2IF	HUC210-2	14	3-1/8	9	2-1/2	1-1/8	Min	14	16d	6	10d	5030	2460	22.37	10.94	4180	2200	18.59	9.79	
								Max	20		10		5870	4070	26.11	18.10	4625	3640	20.57	16.19	
	HUS212-2	HUS212-2	14	3-1/8	11-1/8	2	1	--	10	16d	10	16d	5820	6375	25.89	28.36	4775	6375	21.24	28.36	
	HUS212-2IF	HUSC212-2	14	3-1/8	11-1/8	2	1	--	10	16d	10	16d	5820	6375	25.89	28.36	4775	6375	21.24	28.36	
	HD212-2	HU212-2	14	3-1/8	11	2-1/2	1-1/8	Min	16	16d	8	10d	5030	2460	22.37	10.94	4180	2200	18.59	9.79	
								Max	24		12		7540	4070	33.54	18.10	6965	3640	30.98	16.19	
	HD212-2IF	HUC212-2	14	3-1/8	11	2-1/2	1-1/8	Min	16	16d	8	10d	5030	2460	22.37	10.94	4180	2200	18.59	9.79	
								Max	24		12		7540	4070	33.54	18.10	6965	3640	30.98	16.19	
	HDQ210-2IF	HUCQ210-2-SDS	14	3-1/4	9	3	1-1/2	--	12	WS3	6	WS3	8460	4970	37.63	22.11	7385	4335	32.85	19.28	
(2) 2 x 14	JUS210-2	LUS210-2	18	3-1/8	9-1/8	2	1	--	8	16d	6	16d	3960	4615	17.61	20.53	3200	4245	14.23	18.88	
	JUS214-2	LUS214-2	18	3-1/8	13-1/8	2	1	--	12	16d	6	16d	4685	4615	20.84	20.53	4055	4245	18.04	18.88	
	SUH210-2	U210-2	16	3-1/8	8-9/16	2	1-1/8	--	16	10d	6	10d	6435	2920	28.62	12.99	5055	2290	22.49	10.19	
	HUS210-2	HUS210-2	14	3-1/8	9-1/8	2	1	--	8	16d	8	16d	4755	4665	21.15	20.75	3860	4310	17.17	19.17	
	HUS210-2IF	HUSC210-2	14	3-1/8	9-1/8	2	1	--	8	16d	8	16d	4755	4665	21.15	20.75	3860	4310	17.17	19.17	
	HD210-2	HU210-2	14	3-1/8	9	2-1/2	1-1/8	Min	14	16d	6	10d	5030	2460	22.37	10.94	4180	2200	18.59	9.79	
								Max	20		10		5870	4070	26.11	18.10	4625	3640	20.57	16.19	
	HD210-2IF	HUC210-2	14	3-1/8	9	2-1/2	1-1/8	Min	14	16d	6	10d	5030	2460	22.37	10.94	4180	2200	18.59	9.79	
								Max	20		10		5870	4070	26.11	18.10	4625	3640	20.57	16.19	
	HUS212-2	HUS212-2	14	3-1/8	11-1/8	2	1	--	10	16d	10	16d	5820	6375	25.89	28.36	4775	6375	21.24	28.36	
	HUS212-2IF	HUSC212-2	14	3-1/8	11-1/8	2	1	--	10	16d	10	16d	5820	6375	25.89	28.36	4775	6375	21.24	28.36	
	HD212-2	HU212-2	14	3-1/8	11	2-1/2	1-1/8	Min	16	16d	8	10d	5030	2460	22.37	10.94	4180	2200	18.59	9.79	
								Max	24		12		7540	4070	33.54	18.10	6965	3640	30.98	16.19	
	HD212-2IF	HUC212-2	14	3-1/8	11	2-1/2	1-1/8	Min	16	16d	8	10d	5030	2460	22.37	10.94	4180	2200	18.59	9.79	
								Max	24		12		7540	4070	33.54	18.10	6965	3640	30.98	16.19	
	HD214-2	HU214-2	14	3-1/8	13	2-1/2	1-1/8	Min	18	16d	8	10d	5030	2775	22.37	12.34	4180	2600	18.59	11.57	
								Max	26		12		7540	4070	33.54	18.10	6965	3640	30.98	16.19	
	HDQ210-2IF	HUCQ210-2-SDS	14	3-1/4	9	3	1-1/2	--	12	WS3	6	WS3	8460	4970	37.63	22.11	7385	4335	32.85	19.28	

1) Factored uplift resistances have been increased 15% for short-term loads such as wind and earthquake; no further increase allowed.
2) 16d sinkers (0.148" dia. x 3-1/4" long) may be used at 0.85 of the table load where 16d commons are specified. This does not apply to JUS, HUS, MUS slant nail hangers.
3) MiTek's WS15 (1/4" dia. x 1-1/2" long) and WS3 Wood Screws (1/4" dia. x 3" long) are included with HDQ hangers.
4) **NAILS:** 8d x 1-1/2 nails are 0.131" dia. x 1-1/2" long, 10d nails are 0.148" dia. x 3" long, 16d nails are 0.162" dia. x 3-1/2" long, 16d x 2-1/2 nails are 0.162" dia. x 2-1/2" long.

New products or updated product information are designated in blue font.

Corrosion Finish Key Stainless Steel HDG Triple Zinc



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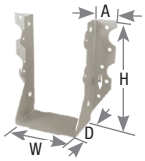
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Face Mount Hanger Charts

Joist Size	MiTek Stock No.	Ref. No.	GA	Dimensions (in)				Fastener Schedule[2,3,4]					D Fir-L Factored Resistance				S-P-F Factored Resistance				Corrosion Finish
									Header		Joist		Lbs		kN		Lbs		kN		
				W	H	D	A	Min/ Max	Qty	Type	Qty	Type	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%	
(2) 2 x 16	JUS214-2	LUS214-2	18	3-1/8	13-1/8	2	1	--	12	16d	6	16d	4685	4615	20.84	20.53	4055	4245	18.04	18.88	
	HD212-2	HU212-2	14	3-1/8	11	2-1/2	1-1/8	Min	16	16d	8	10d	5030	2460	22.37	10.94	4180	2200	18.59	9.79	
								Max	24		12		7540	4070	33.54	18.10	6965	3640	30.98	16.19	
	HD212-2IF	HUC212-2	14	3-1/8	11	2-1/2	1-1/8	Min	16	16d	8	10d	5030	2460	22.37	10.94	4180	2200	18.59	9.79	
								Max	24		12		7540	4070	33.54	18.10	6965	3640	30.98	16.19	
	HD214-2	HU214-2	14	3-1/8	13	2-1/2	1-1/8	Min	18	16d	8	10d	5030	2775	22.37	12.34	4180	2600	18.59	11.57	
								Max	26		12		7540	4070	33.54	18.10	6965	3640	30.98	16.19	
	HD216-2	HU216-2	14	3-1/8	14	2-1/2	1-1/8	Min	22	16d	10	10d	5870	4070	26.11	18.10	4625	3640	20.57	16.19	
								Max	30		14		7540	4070	33.54	18.10	6965	3640	30.98	16.19	
3 x 4	SUH34	U34	16	2-9/16	3-3/8	2	1-1/8	--	6	10d	2	10d x 1-1/2	1910	795	8.50	3.54	1500	625	6.67	2.78	
	HD34	HU34	14	2-9/16	3	2-1/2	1-1/8	Min	4	16d	2	10d x 1-1/2	1485	620	6.61	2.76	1255	580	5.58	2.58	
								Max			4		1485	1035	6.61	4.60	1255	955	5.58	4.25	
	HD34IF	HUC34	14	2-9/16	3	2-1/2	1-1/8	Min	4	16d	2	10d x 1-1/2	1485	620	6.61	2.76	1255	580	5.58	2.58	
								Max			4		1485	1035	6.61	4.60	1255	955	5.58	4.25	
3 x 6	JUS36	LUS36	18	2-9/16	5-5/16	2	1	--	4	16d	4	16d	2090	2445	9.30	10.88	1920	2245	8.54	9.99	
	SUH36	U36	16	2-9/16	5-5/16	2	1-1/8	--	8	10d	4	10d x 1-1/2	3135	1505	13.95	6.69	2460	1180	10.94	5.25	
	HD36	HU36	14	2-9/16	4-3/4	2-1/2	1-1/8	Min	8	16d	4	10d x 1-1/2	3010	1430	13.39	6.36	2290	1320	10.19	5.87	
								Max			6		3010	1430	13.39	6.36	2290	1320	10.19	5.87	
	HD36IF	HUC36	14	2-9/16	4-3/4	2-1/2	1-1/8	Min	8	16d	4	10d x 1-1/2	3010	1430	13.39	6.36	2290	1320	10.19	5.87	
								Max			6		3010	1430	13.39	6.36	2290	1320	10.19	5.87	
3 x 8	JUS36	LUS36	18	2-9/16	5-5/16	2	1	--	4	16d	4	16d	2090	2445	9.30	10.88	1920	2245	8.54	9.99	
	JUS38	--	18	2-9/16	6-3/4	2	1	--	6	16d	4	16d	3960	2445	17.61	10.88	3200	2245	14.23	9.99	
	SUH36	U36	16	2-9/16	5-5/16	2	1-1/8	--	8	10d	4	10d x 1-1/2	2345	1505	10.43	6.69	2460	1180	10.94	5.25	
	HD38	HU38	14	2-9/16	6-11/16	2-1/2	1-1/8	Min	10	16d	4	10d x 1-1/2	3010	1430	13.39	6.36	2290	1320	10.19	5.87	
								Max	14		6		5030	2185	22.37	9.72	4180	2050	18.59	9.12	
	HD38IF	HUC38	14	2-9/16	6-11/16	2-1/2	1-1/8	Min	10	16d	4	10d x 1-1/2	3010	1430	13.39	6.36	2290	1320	10.19	5.87	
								Max	14		6		5030	2185	22.37	9.72	4180	2050	18.59	9.12	
3 x 10	JUS38	--	18	2-9/16	6-3/4	2	1	--	6	16d	4	16d	3960	2445	17.61	10.88	3200	2245	14.23	9.99	
	JUS310	LUS310	18	2-9/16	9-1/8	2	1	--	8	16d	6	16d	3960	4615	17.61	20.53	3200	4245	14.23	18.88	
	SUH310	U310	16	2-9/16	8-7/8	2	1-1/8	--	14	10d	6	10d x 1-1/2	6435	2505	28.62	11.14	5055	1965	22.49	8.74	
	HD38	HU38	14	2-9/16	6-11/16	2-1/2	1-1/8	Min	10	16d	4	10d x 1-1/2	3010	1430	13.39	6.36	2290	1320	10.19	5.87	
								Max	14		6		5030	2185	22.37	9.72	4180	2050	18.59	9.12	
	HD38IF	HUC38	14	2-9/16	6-11/16	2-1/2	1-1/8	Min	10	16d	4	10d x 1-1/2	3010	1430	13.39	6.36	2290	1320	10.19	5.87	
								Max	14		6		5030	2185	22.37	9.72	4180	2050	18.59	9.12	
	HD310	HU310	14	2-9/16	7-7/16	2-1/2	1-1/8	Min	10	16d	4	10d x 1-1/2	3010	1430	13.39	6.36	2290	1320	10.19	5.87	
								Max	14		6		5030	2185	22.37	9.72	4180	2050	18.59	9.12	
	HD310IF	HUC310	14	2-9/16	7-7/16	2-1/2	1-1/8	Min	10	16d	4	10d x 1-1/2	3010	1430	13.39	6.36	2290	1320	10.19	5.87	
								Max	14		6		5030	2185	22.37	9.72	4180	2050	18.59	9.12	
	HDQ310IF	HUCQ310-SDS	14	2-9/16	9	3	1-3/16	--	8	WS3	4	WS15	4975	1765	22.13	7.85	4460	1765	19.84	7.85	
3 x 12	JUS310	LUS310	18	2-9/16	9-1/8	2	1	--	8	16d	6	16d	3960	4615	17.61	20.53	3200	4245	14.23	18.88	
	SUH310	U310	16	2-9/16	8-7/8	2	1-1/8	--	14	10d	6	10d x 1-1/2	6435	2505	28.62	11.14	5055	1965	22.49	8.74	
	HD310	HU310	14	2-9/16	7-7/16	2-1/2	1-1/8	Min	10	16d	4	10d x 1-1/2	3010	1430	13.39	6.36	2290	1320	10.19	5.87	
								Max	14		6		5030	2185	22.37	9.72	4180	2050	18.59	9.12	
	HD310IF	HUC310	14	2-9/16	7-7/16	2-1/2	1-1/8	Min	10	16d	4	10d x 1-1/2	3010	1430	13.39	6.36	2290	1320	10.19	5.87	
								Max	14		6		5030	2185	22.37	9.72	4180	2050	18.59	9.12	
	HDQ310IF	HUCQ310-SDS	14	2-9/16	9	3	1-3/16	--	8	WS3	4	WS15	4975	1765	22.13	7.85	4460	1765	19.84	7.85	
	HD312	HU312	14	2-9/16	9-5/16	2-1/2	1-1/8	Min	14	16d	6	10d x 1-1/2	5030	2185	22.37	9.72	4180	2050	18.59	9.12	
								Max	20		10			2775		12.34		2600		11.57	
	HD312IF	HUC312	14	2-9/16	9-5/16	2-1/2	1-1/8	Min	14	16d	6	10d x 1-1/2	5030	2185	22.37	9.72	4180	2050	18.59	9.12	
								Max	20		10			2775		12.34		2600		11.57	

1) Factored uplift resistances have been increased 15% for short-term loads such as wind and earthquake; no further increase allowed.
2) 16d sinkers (0.148" dia. x 3-1/4" long) may be used at 0.85 of the table load where 16d commons are specified. This does not apply to JUS, HUS, MUS slant nail hangers.
3) MiTek's WS15 (1/4" dia. x 1-1/2" long) and WS3 (1/4" dia. x 3" long) structural wood screws are included with HDQIF hangers.
4) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long, 10d nails are 0.148" dia. x 3" long, 16d nails are 0.162" dia. x 3-1/2" long.

Corrosion Finish Key Stainless Steel HDG Triple Zinc



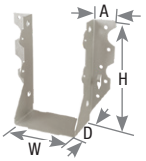
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Joist Size	MiTek Stock No.	Ref. No.	GA	Dimensions (in)				Fastener Schedule[2,3,4]					D Fir-L Factored Resistance				S-P-F Factored Resistance				Corrosion Finish
								Min/ Max	Header		Joist		Lbs		kN		Lbs		kN		
													Vertical	Uplift[1]	Vertical	Uplift[1]	Vertical	Uplift[1]	Vertical	Uplift[1]	
				W	H	D	A		Qty	Type	Qty	Type	100%	115%	100%	115%	100%	115%	100%	115%	
3 x 14	JUS310	LUS310	18	2-9/16	9-1/8	2	1	--	8	16d	6	16d	3960	4615	23.00	16.61	3200	4245	18.04	13.03	
	SUH314	U314	16	2-9/16	10-9/16	2	1-1/8	--	16	10d	6	10d x 1-1/2	4320	2145	19.22	9.54	3720	1845	16.55	8.21	
	HDQ310IF	HUCQ310-SDS	14	2-9/16	9	3	1-3/16	--	8	WS3	4	WS15	4975	1765	22.13	7.85	4460	1765	19.84	7.85	
	HD312	HU312	14	2-9/16	9-5/16	2-1/2	1-1/8	Min	14	16d	6	10d x 1-1/2	5030	2185	22.37	9.72	4180	2050	18.59	9.12	
								Max	20		10			2775		12.34		2600		11.57	
	HD312IF	HUC312	14	2-9/16	9-5/16	2-1/2	1-1/8	Min	14	16d	6	10d x 1-1/2	5030	2185	22.37	9.72	4180	2050	18.59	9.12	
								Max	20		10			2775		12.34		2600		11.57	
	HD314	HU314	14	2-9/16	11-5/16	2-1/2	1-1/8	Min	16	16d	8	10d x 1-1/2	5030	2185	22.37	9.72	4180	2050	18.59	9.12	
								Max	24		12		5585	3495	24.84	15.55	4710	3270	20.95	14.55	
	HD314IF	HUC314	14	2-9/16	11-5/16	2-1/2	1-1/8	Min	16	16d	8	10d x 1-1/2	5030	2185	22.37	9.72	4180	2050	18.59	9.12	
								Max	24		12		5585	3495	24.84	15.55	4710	3270	20.95	14.55	
3 x 16	SUH314	U314	16	2-9/16	10-9/16	2	1-1/8	--	16	10d	6	10d x 1-1/2	4320	2145	19.22	9.54	3720	1845	16.55	8.21	
	HD314	HU314	14	2-9/16	11-5/16	2-1/2	1-1/8	Min	16	16d	8	10d x 1-1/2	5030	2185	22.37	9.72	4180	2050	18.59	9.12	
								Max	24		12		5585	3495	24.84	15.55	4710	3270	20.95	14.55	
	HD314IF	HUC314	14	2-9/16	11-5/16	2-1/2	1-1/8	Min	16	16d	8	10d x 1-1/2	5030	2185	22.37	9.72	4180	2050	18.59	9.12	
								Max	24		12		5585	3495	24.84	15.55	4710	3270	20.95	14.55	
	HD316	HU316	14	2-9/16	13-5/16	2-1/2	1-1/8	Min	18	16d	8	10d x 1-1/2	5030	2775	22.37	12.34	4180	2600	18.59	11.57	
								Max	26		12		5585	3495	24.84	15.55	4710	3270	20.95	14.55	
	HD316IF	HUC316	14	2-9/16	13-5/16	2-1/2	1-1/8	Min	18	16d	8	10d x 1-1/2	5030	2775	22.37	12.34	4180	2600	18.59	11.57	
								Max	26		12		5585	3495	24.84	15.55	4710	3270	20.95	14.55	
(2) 3 x 8	HD38-2	HU38-2	14	5-1/8	6-1/8	2-1/2	1-1/8	Min	10	16d	4	10d	3010	1730	13.39	7.70	2290	1545	10.19	6.87	
								Max	14		6		5030	2460	22.37	10.94	4180	2200	18.59	9.79	
(2) 3 x 10	HD38-2	HU38-2	14	5-1/8	6-1/8	2-1/2	1-1/8	Min	10	16d	4	10d	3010	1730	13.39	7.70	2290	1545	10.19	6.87	
								Max	14		6		5030	2460	22.37	10.94	4180	2200	18.59	9.79	
	HD310-2	HU310-2	14	5-1/8	8	2-1/2	1-1/8	Min	14	16d	6	10d	5030	2460	22.37	10.94	4180	2200	18.59	9.79	
								Max	20		10		5870	4070	26.11	18.10	4625	3640	20.57	16.19	
(2) 3 x 12	HD312-2	HU312-2	14	5-1/8	10	2-1/2	1-1/8	Min	16	16d	8	10d	5030	2460	22.37	10.94	4180	2200	18.59	9.79	
								Max	24		12		5870	4070	26.11	18.10	4625	3640	20.57	16.19	
(2) 3 x 14	HD312-2	HU312-2	14	5-1/8	10	2-1/2	1-1/8	Min	16	16d	8	10d	5030	2460	22.37	10.94	4180	2200	18.59	9.79	
								Max	24		12		5870	4070	26.11	18.10	4625	3640	20.57	16.19	
(3) 2 x 6	JUS26-3	LUS26-3	18	4-5/8	4-1/2	2	1	--	4	16d	4	16d	2090	2445	9.30	10.88	1920	2245	8.54	9.99	
	SUH26-3	U26-3	16	4-5/8	5-1/4	2	1	--	8	10d	2	10d	1910	825	8.50	3.67	1500	650	6.67	2.89	
	HD26-3	HU26-3	14	4-5/8	4-1/2	2-1/2	1-1/8	Min	8	16d	4	10d	3010	1430	13.39	6.36	2290	1320	10.19	5.87	
								Max	12		6		4355	2460	19.37	10.94	3550	2200	15.79	9.79	
	HD26-3IF	HUC26-3	14	4-5/8	4-1/2	2-1/2	1-1/8	Min	8	16d	4	10d	3010	1430	13.39	6.36	2290	1320	10.19	5.87	
								Max	12		6		4355	2460	19.37	10.94	3550	2200	15.79	9.79	
(3) 2 x 8	JUS26-3	LUS26-3	18	4-5/8	4-1/2	2	1	--	4	16d	4	16d	2090	2445	9.30	10.88	1920	2245	8.54	9.99	
	JUS28-3	LUS28-3	18	4-5/8	6-3/8	2	1	--	6	16d	4	16d	3960	2445	17.61	10.88	3200	2245	14.23	9.99	
	SUH26-3	U26-3	16	4-5/8	5-1/4	2	1	--	8	10d	2	10d	1910	825	8.50	3.67	1500	650	6.67	2.89	
	HD26-3	HU26-3	14	4-5/8	4-1/2	2-1/2	1-1/8	Min	8	16d	4	10d	3010	1430	13.39	6.36	2290	1320	10.19	5.87	
								Max	12		6		4355	2460	19.37	10.94	3550	2200	15.79	9.79	
	HD26-3IF	HUC26-3	14	4-5/8	4-1/2	2-1/2	1-1/8	Min	8	16d	4	10d	3010	1430	13.39	6.36	2290	1320	10.19	5.87	
								Max	12		6		4355	2460	19.37	10.94	3550	2200	15.79	9.79	
	HD28-3	--	14	4-5/8	6-3/8	2-1/2	1-1/8	Min	10	16d	4	10d	3010	1730	13.39	7.70	2290	1545	10.19	6.87	
								Max	14		6		5030	2460	22.37	10.94	4180	2200	18.59	9.79	
	HD28-3IF	--	14	4-5/8	6-3/8	2-1/2	1-1/8	Min	10	16d	4	10d	3010	1730	13.39	7.70	2290	1545	10.19	6.87	
								Max	14		6		5030	2460	22.37	10.94	4180	2200	18.59	9.79	

1) Factored uplift resistances have been increased 15% for short-term loads such as wind and earthquake; no further increase allowed.
2) 16d sinkers (0.148" dia. x 3-1/4" long) may be used at 0.85 of the table load where 16d commons are specified. This does not apply to JUS, HUS, MUS slant nail hangers.
3) MiTek's WS15 (1/4" dia. x 1-1/2" long) and WS3 (1/4" dia. x 3" long) structural wood screws are included with HDQIF hangers.
4) **NAILS:** 8d x 1-1/2 nails are 0.131" dia. x 1-1/2" long, 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long, 10d nails are 0.148" dia. x 3" long, 16d nails are 0.162" dia. x 3-1/2" long.

Corrosion Finish Key Stainless Steel HDG Triple Zinc



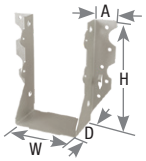
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Joist Size	MiTek Stock No.	Ref. No.	GA	Dimensions (in) W	H	D	A	Fastener Schedule[2,3,4] Min/ Max	Header Qty	Header Type	Joist Qty	Joist Type	D Fir-L Factored Resistance Lbs Vertical 100%	Lbs Uplift[1] 115%	kN Vertical 100%	kN Uplift[1] 115%	S-P-F Factored Resistance Lbs Vertical 100%	Lbs Uplift[1] 115%	kN Vertical 100%	kN Uplift[1] 115%	Corrosion Finish
(3) 2 x 10	JUS28-3	LUS28-3	18	4-5/8	6-3/8	2	1	--	6	16d	4	16d	3960	2445	17.61	10.88	3200	2245	14.23	9.99	
	JUS210-3	LUS210-3	18	4-5/8	8-3/8	2	1	--	8	16d	6	16d	3960	4615	17.61	20.53	3200	4245	14.23	18.88	
	SUH210-3	U210-3	16	4-5/8	8-3/8	2	1	--	14	10d	6	10d	6435	2920	28.62	12.99	5055	2290	22.49	10.19	
	HD28-3	--	14	4-5/8	6-3/8	2-1/2	1-1/8	Min	10	16d	4	10d	3010	1730	13.39	7.70	2290	1545	10.19	6.87	
								Max	14		6		5030	2460	22.37	10.94	4180	2200	18.59	9.79	
	HD28-3IF	--	14	4-5/8	6-3/8	2-1/2	1-1/8	Min	10	16d	4	10d	3010	1730	13.39	7.70	2290	1545	10.19	6.87	
								Max	14		6		5030	2460	22.37	10.94	4180	2200	18.59	9.79	
	HD210-3	HU210-3	14	4-5/8	8-1/4	2-1/2	1-1/8	Min	14	16d	6	10d	5030	2460	22.37	10.94	4180	2200	18.59	9.79	
								Max	20		10		5870	4070	26.11	18.10	4625	3640	20.57	16.19	
	HD210-3IF	HUC210-3	14	4-5/8	8-1/4	2-1/2	1-1/8	Min	14	16d	6	10d	5030	2460	22.37	10.94	4180	2200	18.59	9.79	
								Max	20		10		5870	4070	26.11	18.10	4625	3640	20.57	16.19	
	HDQ210-3IF	HUCQ210-3-SDS	14	4-5/8	9	3	1-1/2	--	12	WS3	6	WS3	8460	4970	37.63	22.11	7385	4335	32.85	19.28	
(3) 2 x 12	JUS210-3	LUS210-3	18	4-5/8	8-3/8	2	1	--	8	16d	6	16d	3960	4615	17.61	20.53	3200	4245	14.23	18.88	
	SUH210-3	U210-3	16	4-5/8	8-3/8	2	1	--	14	10d	6	10d	6435	2920	28.62	12.99	5055	2290	22.49	10.19	
	HD210-3	HU210-3	14	4-5/8	8-1/4	2-1/2	1-1/8	Min	14	16d	6	10d	5030	2460	22.37	10.94	4180	2200	18.59	9.79	
								Max	20		10		5870	4070	26.11	18.10	4625	3640	20.57	16.19	
	HD210-3IF	HUC210-3	14	4-5/8	8-1/4	2-1/2	1-1/8	Min	14	16d	6	10d	5030	2460	22.37	10.94	4180	2200	18.59	9.79	
								Max	20		10		5870	4070	26.11	18.10	4625	3640	20.57	16.19	
	HDQ210-3IF	HUCQ210-3-SDS	14	4-5/8	9	3	1-1/2	--	12	WS3	6	WS3	8460	4970	37.63	22.11	7385	4335	32.85	19.28	
	HD212-3	HU212-3	14	4-5/8	10-1/4	2-1/2	1-1/8	Min	16	16d	8	10d	5030	2460	22.37	10.94	4180	2200	18.59	9.79	
								Max	24		12		5870	4070	26.11	18.10	4625	3640	20.57	16.19	
	HD212-3IF	HUC212-3	14	4-5/8	10-1/4	2-1/2	1-1/8	Min	16	16d	8	10d	5030	2460	22.37	10.94	4180	2200	18.59	9.79	
								Max	24		12		5870	4070	26.11	18.10	4625	3640	20.57	16.19	
(3) 2 x 14	JUS210-3	LUS210-3	18	4-5/8	8-3/8	2	1	--	8	16d	6	16d	3960	4615	17.61	20.53	3200	4245	14.23	18.88	
	SUH210-3	U210-3	16	4-5/8	8-3/8	2	1	--	14	10d	6	10d	6435	2920	28.62	12.99	5055	2290	22.49	10.19	
	HDQ210-3IF	HUCQ210-3-SDS	14	4-5/8	9	3	1-1/2	--	12	WS3	6	WS3	8460	4970	37.63	22.11	7385	4335	32.85	19.28	
	HD212-3	HU212-3	14	4-5/8	10-1/4	2-1/2	1-1/8	Min	16	16d	8	10d	5030	2460	22.37	10.94	4180	2200	18.59	9.79	
								Max	24		12		5870	4070	26.11	18.10	4625	3640	20.57	16.19	
	HD212-3IF	HUC212-3	14	4-5/8	10-1/4	2-1/2	1-1/8	Min	16	16d	8	10d	5030	2460	22.37	10.94	4180	2200	18.59	9.79	
								Max	24		12		5870	4070	26.11	18.10	4625	3640	20.57	16.19	
	HD214-3	HU214-3	14	4-5/8	12-1/4	2-1/2	1-1/8	Min	18	16d	8	10d	5030	2775	22.37	12.34	4180	2600	18.59	11.57	
								Max	26		12		5870	4070	26.11	18.10	4625	3640	20.57	16.19	
(3) 2 x 16	HD212-3	HU212-3	14	4-5/8	10-1/4	2-1/2	1-1/8	Min	16	16d	8	10d	5030	2460	22.37	10.94	4180	2200	18.59	9.79	
								Max	24		12		5870	4070	26.11	18.10	4625	3640	20.57	16.19	
	HD212-3IF	HUC212-3	14	4-5/8	10-1/4	2-1/2	1-1/8	Min	16	16d	8	10d	5030	2460	22.37	10.94	4180	2200	18.59	9.79	
								Max	24		12		5870	4070	26.11	18.10	4625	3640	20.57	16.19	
	HD214-3	HU214-3	14	4-5/8	12-1/4	2-1/2	1-1/8	Min	18	16d	8	10d	5030	2775	22.37	12.34	4180	2600	18.59	11.57	
								Max	26		12		5870	4070	26.11	18.10	4625	3640	20.57	16.19	
	HD216-3	HU216-3	14	4-5/8	13-1/4	2-1/2	1-1/8	Min	22	16d	10	10d	5870	4070	26.11	18.10	4625	3640	20.57	16.19	
								Max	30		14		7715	4070	34.32	18.10	6535	3640	29.07	16.19	
(4) 2 x 8	HD28-4	HU28-4	14	6-1/8	7	2-1/2	1-3/4	Min	10	16d	4	16d	3010	1590	13.39	7.07	2290	1505	10.19	6.69	
								Max	14		6		5030	2460	22.37	10.94	4180	2200	18.59	9.79	
(4) 2 x 10	HD210-4	HU210-4	14	6-1/8	9-1/4	2-1/2	2	Min	14	16d	6	16d	5030	2460	22.37	10.94	4180	2200	18.59	9.79	
								Max	18		8			3745		16.66		3480		15.48	
(4) 2 x 12	HD210-4	HU210-4	14	6-1/8	9-1/4	2-1/2	2	Min	14	16d	6	16d	5030	2460	22.37	10.94	4180	2200	18.59	9.79	
								Max	18		8			3745		16.66		3480		15.48	

1) Factored uplift resistances have been increased 15% for short-term loads such as wind and earthquake; no further increase allowed.
2) 16d sinkers (0.148" dia. x 3-1/4" long) may be used at 0.85 of the table load where 16d commons are specified. This does not apply to JUS, HUS, MUS slant nail hangers.
3) MiTek's WS3 structural wood screws are 1/4" dia. x 3" long and are included with HDQ hangers.
4) **NAILS:** 10d nails are 0.148" dia. x 3" long, 16d nails are 0.162" dia. x 3-1/2" long.

Corrosion Finish Key Stainless Steel HDG Triple Zinc



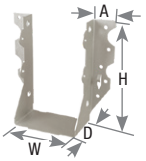
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Joist Size	MiTek Stock No.	Ref. No.	GA	Dimensions (in)				Fastener Schedule[2,3,4]					D Fir-L Factored Resistance				S-P-F Factored Resistance				Corrosion Finish
									Header		Joist		Lbs		kN		Lbs		kN		
				W	H	D	A	Min/ Max	Qty	Type	Qty	Type	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%	
(4) 2 x 14	HD210-4	HU210-4	14	6-1/8	9-1/4	2-1/2	2	Min	14	16d	6	16d	5030	2460	22.37	10.94	4180	2200	18.59	9.79	
								Max	18		8			3745		16.66		3480		15.48	
4 x 4	JUS44	LUS44	18	3-5/8	3-1/4	2	1	--	4	16d	2	16d	1245	1180	5.54	5.25	1145	1105	5.09	4.92	
	SUH44	U44	16	3-9/16	2-7/8	2	1-1/8	--	6	10d	2	10d	1910	825	8.50	3.67	1500	650	6.67	2.89	
	HD44	HU44	14	3-9/16	3-5/16	2-1/2	1-1/8	--	4	16d	2	10d	1455	865	6.47	3.85	1340	775	5.96	3.45	
	HD44IF	HUC44	14	3-9/16	3-5/16	2-1/2	1-1/8	--	4	16d	2	10d	1455	865	6.47	3.85	1340	775	5.96	3.45	
4 x 6	JUS46	LUS46	18	3-5/8	5	2	1	--	4	16d	4	16d	2090	2445	9.30	10.88	1920	2245	8.54	9.99	
	SUH44	U44	16	3-9/16	2-7/8	2	1-1/8	--	6	10d	2	10d	1910	825	8.50	3.67	1500	650	6.67	2.89	
	SUH46	U46	16	3-9/16	4-13/16	2	1-1/8	--	8	10d	4	10d	4080	1665	18.15	7.41	3205	1310	14.26	5.83	
	HUS46	HUS46	14	3-5/8	5	2	1	--	4	16d	4	16d	3175	1955	14.12	8.70	2570	1850	11.43	8.23	
	HUS46IF	HUSC46	14	3-5/8	5	2	1	--	4	16d	4	16d	3175	1955	14.12	8.70	2570	1850	11.43	8.23	
	HD46	HU46	14	3-9/16	5-1/16	2-1/2	1-1/8	Min	8	16d	4	10d	3010	1430	13.39	6.36	2290	1320	10.19	5.87	
								Max	12		6		4355	2460	19.37	10.94	3550	2200	15.79	9.79	
	HD46IF	HUC46	14	3-9/16	5-1/16	2-1/2	1-1/8	Min	8	16d	4	10d	3010	1430	13.39	6.36	2290	1320	10.19	5.87	
								Max	12		6		4355	2460	19.37	10.94	3550	2200	15.79	9.79	
4 x 8	JUS46	LUS46	18	3-5/8	5	2	1	--	4	16d	4	16d	2090	2445	9.30	10.88	1920	2245	8.54	9.99	
	JUS48	LUS48	18	3-5/8	6-7/8	2	1	--	6	16d	4	16d	3960	2445	17.61	10.88	3200	2245	14.23	9.99	
	SUH46	U46	16	3-9/16	4-13/16	2	1-1/8	--	8	10d	4	10d	4080	1665	18.15	7.41	3205	1310	14.26	5.83	
	HUS46	HUS46	14	3-5/8	5	2	1	--	4	16d	4	16d	3175	1955	14.12	8.70	2570	1850	11.43	8.23	
	HUS46IF	HUSC46	14	3-5/8	5	2	1	--	4	16d	4	16d	3175	1955	14.12	8.70	2570	1850	11.43	8.23	
	HUS48	HUS48	14	3-5/8	7	2	1	--	6	16d	6	16d	3175	4665	14.12	20.75	2570	4310	11.43	19.17	
	HUS48IF	HUSC48	14	3-5/8	7	2	1	--	6	16d	6	16d	3175	4665	14.12	20.75	2570	4310	11.43	19.17	
	HD46	HU46	14	3-9/16	5-1/16	2-1/2	1-1/8	Min	8	16d	4	10d	3010	1430	13.39	6.36	2290	1320	10.19	5.87	
								Max	12		6		4355	2460	19.37	10.94	3550	2200	15.79	9.79	
	HD46IF	HUC46	14	3-9/16	5-1/16	2-1/2	1-1/8	Min	8	16d	4	10d	3010	1430	13.39	6.36	2290	1320	10.19	5.87	
								Max	12		6		4355	2460	19.37	10.94	3550	2200	15.79	9.79	
	HD48	HU48	14	3-9/16	6-15/16	2-1/2	1-1/8	Min	10	16d	4	10d	3010	1730	13.39	7.70	2290	1545	10.19	6.87	
								Max	14		6		5030	2460	22.37	10.94	4180	2200	18.59	9.79	
	HD48IF	HUC48	14	3-9/16	6-15/16	2-1/2	1-1/8	Min	10	16d	4	10d	3010	1730	13.39	7.70	2290	1545	10.19	6.87	
								Max	14		6		5030	2460	22.37	10.94	4180	2200	18.59	9.79	
4 x 10	JUS48	LUS48	18	3-5/8	6-7/8	2	1	--	6	16d	4	16d	3960	2445	17.61	10.88	3200	2245	14.23	9.99	
	JUS410	LUS410	18	3-5/8	8-7/8	2	1	--	8	16d	6	16d	3960	4615	17.61	20.53	3200	4245	14.23	18.88	
	SUH410	U410	16	3-9/16	8-3/8	2	1-1/8	--	14	10d	6	10d	6330	2920	28.16	12.99	4970	2290	22.11	10.19	
	HUS48	HUS48	14	3-5/8	7	2	1	--	6	16d	6	16d	3175	4665	14.12	20.75	2570	4310	11.43	19.17	
	HUS48IF	HUSC48	14	3-5/8	7	2	1	--	6	16d	6	16d	3175	4665	14.12	20.75	2570	4310	11.43	19.17	
	HD48	HU48	14	3-9/16	6-15/16	2-1/2	1-1/8	Min	10	16d	4	10d	3010	1730	13.39	7.70	2290	1545	10.19	6.87	
								Max	14		6		5030	2460	22.37	10.94	4180	2200	18.59	9.79	
	HD48IF	HUC48	14	3-9/16	6-15/16	2-1/2	1-1/8	Min	10	16d	4	10d	3010	1730	13.39	7.70	2290	1545	10.19	6.87	
								Max	14		6		5030	2460	22.37	10.94	4180	2200	18.59	9.79	
	HUS410	HUS410	14	3-5/8	8-7/8	2	1	--	8	16d	8	16d	4755	4665	21.15	20.75	3860	4310	17.17	19.17	
	HUS410IF	HUSC410	14	3-5/8	8-7/8	2	1	--	8	16d	8	16d	4755	4665	21.15	20.75	3860	4310	17.17	19.17	
	HD410	HU410	14	3-9/16	8-13/16	2-1/2	1-1/8	Min	14	16d	6	10d	5030	2460	22.37	10.94	4180	2200	18.59	9.79	
								Max	20		10		5870	4070	26.11	18.10	4625	3640	20.57	16.19	
	HD410IF	HUC410	14	3-9/16	8-13/16	2-1/2	1-1/8	Min	14	16d	6	10d	5030	2460	22.37	10.94	4180	2200	18.59	9.79	
								Max	20		10		5870	4070	26.11	18.10	4625	3640	20.57	16.19	
	HDQ410IF	HUCQ410-SDS	14	3-9/16	9	3	1-1/2	--	12	WS3	6	WS3	8460	4970	37.63	22.11	7385	4335	32.85	19.28	

1) Factored uplift resistances have been increased 15% for short-term loads such as wind and earthquake; no further increase allowed.
2) 16d sinkers (0.148" dia. x 3-1/4" long) may be used at 0.85 of the table load where 16d commons are specified.
This does not apply to JUS, HUS, MUS slant nail hangers.
3) MiTek's WS3 structural wood screws are 1/4" dia. x 3" long and are included with HDQ hangers.
4) **NAILS:** 10d nails are 0.148" dia. x 3" long, 16d nails are 0.162" dia. x 3-1/2" long.

Corrosion Finish Key Stainless Steel HDG Triple Zinc



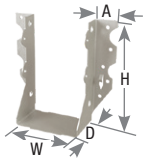
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Joist Size	MiTek Stock No.	Ref. No.	GA	Dimensions (in)				Fastener Schedule[2,3,4]					D Fir-L Factored Resistance				S-P-F Factored Resistance				Corrosion Finish
									Header		Joist		Lbs		kN		Lbs		kN		
				W	H	D	A	Min/ Max	Qty	Type	Qty	Type	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%	
4 x 12	JUS410	LUS410	18	3-5/8	8-7/8	2	1	--	8	16d	6	16d	3960	4615	17.61	20.53	3200	4245	14.23	18.88	
	SUH410	U410	16	3-9/16	8-3/8	2	1-1/8	--	14	10d	6	10d	6330	2920	28.16	12.99	4970	2290	22.11	10.19	
	HUS410	HUS410	14	3-5/8	8-7/8	2	1	--	8	16d	8	16d	4755	4665	21.15	20.75	3860	4310	17.17	19.17	
	HUS410IF	HUSC410	14	3-5/8	8-7/8	2	1	--	8	16d	8	16d	4755	4665	21.15	20.75	3860	4310	17.17	19.17	
	HD410	HU410	14	3-9/16	8-13/16	2-1/2	1-1/8	Min	14	16d	6	10d	5030	2460	22.37	10.94	4180	2200	18.59	9.79	
								Max	20		10		5870	4070	26.11	18.10	4625	3640	20.57	16.19	
	HD410IF	HUC410	14	3-9/16	8-13/16	2-1/2	1-1/8	Min	14	16d	6	10d	5030	2460	22.37	10.94	4180	2200	18.59	9.79	
								Max	20		10		5870	4070	26.11	18.10	4625	3640	20.57	16.19	
	HDQ410IF	HUCQ410-SDS	14	3-9/16	9	3	1-1/2	--	12	WS3	6	WS3	8460	4970	37.63	22.11	7385	4335	32.85	19.28	
	HUS412	HUS412	14	3-5/8	10-7/8	2	1	--	10	16d	10	16d	5820	6375	25.89	28.36	4775	6375	21.24	28.36	
	HUS412IF	HUSC412	14	3-5/8	10-7/8	2	1	--	10	16d	10	16d	5820	6375	25.89	28.36	4775	6375	21.24	28.36	
	HD412	HU412	14	3-9/16	10-13/16	2-1/2	1-1/8	Min	16	16d	8	10d	5030	2460	22.37	10.94	4180	2200	18.59	9.79	
								Max	24		12		7540	4070	33.54	18.10	6965	3640	30.98	16.19	
	HD412IF	HUC412	14	3-9/16	10-13/16	2-1/2	1-1/8	Min	16	16d	8	10d	5030	2460	22.37	10.94	4180	2200	18.59	9.79	
								Max	24		12		7540	4070	33.54	18.10	6965	3640	30.98	16.19	
	HDQ412IF	HUCQ412-SDS	14	3-9/16	11	3	1-1/2	--	14	WS3	6	WS3	8135	5220	36.19	23.22	6545	4965	29.11	22.09	
4 x 14	JUS414	LUS414	18	3-5/8	12-7/8	2	1	--	12	16d	6	16d	3960	4615	17.61	20.53	3200	4245	14.23	18.88	
	SUH414	U414	16	3-9/16	10-1/16	2	1-1/8	--	16	10d	6	10d	6330	2920	28.16	12.99	4970	2290	22.11	10.19	
	HD410	HU410	14	3-9/16	8-13/16	2-1/2	1-1/8	Min	14	16d	6	10d	5030	2460	22.37	10.94	4180	2200	18.59	9.79	
								Max	20		10		5870	4070	26.11	18.10	4625	3640	20.57	16.19	
	HD410IF	HUC410	14	3-9/16	8-13/16	2-1/2	1-1/8	Min	14	16d	6	10d	5030	2460	22.37	10.94	4180	2200	18.59	9.79	
								Max	20		10		5870	4070	26.11	18.10	4625	3640	20.57	16.19	
	HDQ410IF	HUCQ410-SDS	14	3-9/16	9	3	1-1/2	--	12	WS3	6	WS3	8460	4970	37.63	22.11	7385	4335	32.85	19.28	
	HUS412	HUS412	14	3-5/8	10-7/8	2	1	--	10	16d	10	16d	5820	6375	25.89	28.36	4775	6375	21.24	28.36	
	HUS412IF	HUSC412	14	3-5/8	10-7/8	2	1	--	10	16d	10	16d	5820	6375	25.89	28.36	4775	6375	21.24	28.36	
	HD412	HU412	14	3-9/16	10-13/16	2-1/2	1-1/8	Min	16	16d	8	10d	5030	2460	22.37	10.94	4180	2200	18.59	9.79	
								Max	24		12		7540	4070	33.54	18.10	6965	3640	30.98	16.19	
	HD412IF	HUC412	14	3-9/16	10-13/16	2-1/2	1-1/8	Min	16	16d	8	10d	5030	2460	22.37	10.94	4180	2200	18.59	9.79	
								Max	24		12		7540	4070	33.54	18.10	6965	3640	30.98	16.19	
	HD414	HU414	14	3-9/16	12-13/16	2-1/2	1-1/8	Min	18	16d	8	10d	5030	2775	22.37	12.34	4180	2600	18.59	11.57	
								Max	26		12		7540	4070	33.54	18.10	6965	3640	30.98	16.19	
	HD414IF	HUC414	14	3-9/16	12-13/16	2-1/2	1-1/8	Min	18	16d	8	10d	5030	2775	22.37	12.34	4180	2600	18.59	11.57	
								Max	26		12		7540	4070	33.54	18.10	6965	3640	30.98	16.19	
	HDQ412IF	HUCQ412-SDS	14	3-9/16	11	3	1-1/2	--	14	WS3	6	WS3	8135	5220	36.19	23.22	6545	4965	29.11	22.09	
4 x 16	JUS414	LUS414	18	3-5/8	12-7/8	2	1	--	12	16d	6	16d	3960	4615	17.61	20.53	3200	4245	14.23	18.88	
	SUH414	U414	16	3-9/16	10-1/16	2	1-1/8	--	16	10d	6	10d	6330	2920	28.16	12.99	4970	2290	22.11	10.19	
	HD412	HU412	14	3-9/16	10-13/16	2-1/2	1-1/8	Min	16	16d	8	10d	5030	2460	22.37	10.94	4180	2200	18.59	9.79	
								Max	24		12		7540	4070	33.54	18.10	6965	3640	30.98	16.19	
	HD412IF	HUC412	14	3-9/16	10-13/16	2-1/2	1-1/8	Min	16	16d	8	10d	5030	2460	22.37	10.94	4180	2200	18.59	9.79	
								Max	24		12		7540	4070	33.54	18.10	6965	3640	30.98	16.19	
	HDQ412IF	HUCQ412-SDS	14	3-9/16	11	3	1-1/2	--	14	WS3	6	WS3	8135	5220	36.19	23.22	6545	4965	29.11	22.09	
	HD414	HU414	14	3-9/16	12-13/16	2-1/2	1-1/8	Min	18	16d	8	10d	5030	2775	22.37	12.34	4180	2600	18.59	11.57	
								Max	26		12		7540	4070	33.54	18.10	6965	3640	30.98	16.19	
	HD414IF	HUC414	14	3-9/16	12-13/16	2-1/2	1-1/8	Min	18	16d	8	10d	5030	2775	22.37	12.34	4180	2600	18.59	11.57	
								Max	26		12		7540	4070	33.54	18.10	6965	3640	30.98	16.19	
	HD416	HU416	14	3-9/16	14-13/16	2-1/2	1-1/8	Min	22	16d	10	10d	5870	4070	26.11	18.10	4625	3640	20.57	16.19	
								Max	30		14		7210	4070	32.07	18.10	6660	3640	29.63	16.19	
	HD416IF	HUC416	14	3-9/16	14-13/16	2-1/2	1-1/8	Min	22	16d	10	10d	5870	4070	26.11	18.10	4625	3640	20.57	16.19	
								Max	30		14		7210	4070	32.07	18.10	6660	3640	29.63	16.19	

1) Factored uplift resistances have been increased 15% for short-term loads such as wind and earthquake; no further increase allowed.
2) 16d sinkers (0.148" dia. x 3-1/4" long) may be used at 0.85 of the table load where 16d commons are specified. This does not apply to JUS, HUS, MUS slant nail hangers.
3) MiTek's WS3 structural wood screws are 1/4" dia. x 3" long and are included with HDQ hangers.
4) **NAILS:** 10d nails are 0.148" dia. x 3" long, 16d nails are 0.162" dia. x 3-1/2" long.

Corrosion Finish Key Stainless Steel HDG Triple Zinc



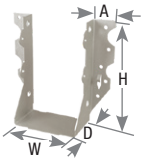
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Joist Size	MiTek Stock No.	Ref. No.	GA	Dimensions (in)				Fastener Schedule[2,3,4]					D Fir-L Factored Resistance				S-P-F Factored Resistance				Corrosion Finish
									Header		Joist		Lbs		kN		Lbs		kN		
								Min/ Max	Qty	Type	Qty	Type	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%	
4 x 18	HD414	HU414	14	3-9/16	12-13/16	2-1/2	1-1/8	Min	18	16d	8	10d	5030	2775	22.37	12.34	4180	2600	18.59	11.57	
								Max	26		12		7540	4070	33.54	18.10	6965	3640	30.98	16.19	
	HD414IF	HUC414	14	3-9/16	12-13/16	2-1/2	1-1/8	Min	18	16d	8	10d	5030	2775	22.37	12.34	4180	2600	18.59	11.57	
								Max	26		12		7540	4070	33.54	18.10	6965	3640	30.98	16.19	
	HD416	HU416	14	3-9/16	14-13/16	2-1/2	1-1/8	Min	22	16d	10	10d	5870	4070	26.11	18.10	4625	3640	20.57	16.19	
								Max	30		14		7210	4070	32.07	18.10	6660	3640	29.63	16.19	
	HD416IF	HUC416	14	3-9/16	14-13/16	2-1/2	1-1/8	Min	22	16d	10	10d	5870	4070	26.11	18.10	4625	3640	20.57	16.19	
								Max	30		14		7210	4070	32.07	18.10	6660	3640	29.63	16.19	
	HD418	--	14	3-9/16	16-1/2	2-1/2	1-1/4	--	28	16d	8	10d	7540	3930	33.54	17.48	6965	3515	30.98	15.64	
6 x 6	SUH66	U66	16	5-1/2	5	2	1	--	8	10d	4	10d	3135	1665	13.95	7.41	2460	1310	10.94	5.83	
	HD66	HU66	14	5-1/2	4-1/16	2-1/2	1-1/8	Min	8	16d	4	16d	3010	1590	13.39	7.07	2290	1505	10.19	6.69	
								Max	12		6		4355	2460	19.37	10.94	3550	2200	15.79	9.79	
	HD66IF	HUC66	14	5-1/2	4-1/16	2-1/2	1-1/8	Min	8	16d	4	16d	3010	1590	13.39	7.07	2290	1505	10.19	6.69	
								Max	12		6		4355	2460	19.37	10.94	3550	2200	15.79	9.79	
6 x 8	SUH66	U66	16	5-1/2	5	2	1	--	8	10d	4	10d	3135	1665	13.95	7.41	2460	1310	10.94	5.83	
	HD66	HU66	14	5-1/2	4-1/16	2-1/2	1-1/8	Min	8	16d	4	16d	3010	1590	13.39	7.07	2290	1505	10.19	6.69	
								Max	12		6		4355	2460	19.37	10.94	3550	2200	15.79	9.79	
	HD66IF	HUC66	14	5-1/2	4-1/16	2-1/2	1-1/8	Min	8	16d	4	16d	3010	1590	13.39	7.07	2290	1505	10.19	6.69	
								Max	12		6		4355	2460	19.37	10.94	3550	2200	15.79	9.79	
	HD68	HU68	14	5-1/2	5-15/16	2-1/2	1-1/8	Min	10	16d	4	16d	3010	1730	13.39	7.70	2290	1545	10.19	6.87	
								Max	14		6		5030	2460	22.37	10.94	4180	2200	18.59	9.79	
	HD68IF	HUC68	14	5-1/2	5-15/16	2-1/2	1-1/8	Min	10	16d	4	16d	3010	1730	13.39	7.70	2290	1545	10.19	6.87	
								Max	14		6		5030	2460	22.37	10.94	4180	2200	18.59	9.79	
6 x 10	SUH610	U610	16	5-1/2	9	2	1	--	14	10d	6	10d	6435	2920	28.62	12.99	5055	2290	22.49	10.19	
	HD68	HU68	14	5-1/2	5-15/16	2-1/2	1-1/8	Min	10	16d	4	16d	3010	1730	13.39	7.70	2290	1545	10.19	6.87	
								Max	14		6		5030	2460	22.37	10.94	4180	2200	18.59	9.79	
	HD68IF	HUC68	14	5-1/2	5-15/16	2-1/2	1-1/8	Min	10	16d	4	16d	3010	1730	13.39	7.70	2290	1545	10.19	6.87	
								Max	14		6		5030	2460	22.37	10.94	4180	2200	18.59	9.79	
	HD610	HU610	14	5-1/2	7-13/16	2-1/2	1-1/8	Min	14	16d	6	16d	5030	2460	22.37	10.94	4180	2200	18.59	9.79	
								Max	20		10		5870	4070	26.11	18.10	4625	3640	20.57	16.19	
	HD610IF	HUC610	14	5-1/2	7-13/16	2-1/2	1-1/8	Min	14	16d	6	16d	5030	2460	22.37	10.94	4180	2200	18.59	9.79	
								Max	20		10		5870	4070	26.11	18.10	4625	3640	20.57	16.19	
	HDQ610IF	HUCQ610-SDS	14	5-1/2	9	3	1-1/2	--	12	WS3	6	WS3	8460	4970	37.63	22.11	7385	4335	32.85	19.28	
6 x 12	SUH610	U610	16	5-1/2	9	2	1	--	14	10d	6	10d	6435	2920	28.62	12.99	5055	2290	22.49	10.19	
	HD610	HU610	14	5-1/2	7-13/16	2-1/2	1-1/8	Min	14	16d	6	16d	5030	2460	22.37	10.94	4180	2200	18.59	9.79	
								Max	20		10		5870	4070	26.11	18.10	4625	3640	20.57	16.19	
	HD610IF	HUC610	14	5-1/2	7-13/16	2-1/2	1-1/8	Min	14	16d	6	16d	5030	2460	22.37	10.94	4180	2200	18.59	9.79	
								Max	20		10		5870	4070	26.11	18.10	4625	3640	20.57	16.19	
	HDQ610IF	HUCQ610-SDS	14	5-1/2	9	3	1-1/2	--	12	WS3	6	WS3	8460	4970	37.63	22.11	7385	4335	32.85	19.28	
	HD612	HU612	14	5-1/2	9-13/16	2-1/2	1-1/8	Min	16	16d	8	16d	5030	2460	22.37	10.94	4180	2200	18.59	9.79	
								Max	24		12		5870	4070	26.11	18.10	4625	3640	20.57	16.19	
	HD612IF	HUC612	14	5-1/2	9-13/16	2-1/2	1-1/8	Min	16	16d	8	16d	5030	2460	22.37	10.94	4180	2200	18.59	9.79	
								Max	24		12		5870	4070	26.11	18.10	4625	3640	20.57	16.19	
	HDQ612IF	HUCQ612-SDS	14	5-1/2	11	3	1-1/2	--	14	WS3	6	WS3	8135	5220	36.19	23.22	6545	4965	29.11	22.09	

1) Factored uplift resistances have been increased 15% for short-term loads such as wind and earthquake; no further increase allowed.
2) 16d sinkers (0.148" dia. x 3-1/4" long) may be used at 0.85 of the table load where 16d commons are specified. This does not apply to JUS, HUS, MUS slant nail hangers.
3) MiTek's WS3 structural wood screws are 1/4" dia. x 3" long and are included with HDQ hangers.
4) **NAILS:** 10d nails are 0.148" dia. x 3" long, 16d nails are 0.162" dia. x 3-1/2" long.

Corrosion Finish Key Stainless Steel HDG Triple Zinc



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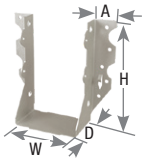
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Joist Size	MiTek Stock No.	Ref. No.	GA	Dimensions (in)				Fastener Schedule[2,3,4]					D Fir-L Factored Resistance				S-P-F Factored Resistance				Corrosion Finish
									Header		Joist		Lbs		kN		Lbs		kN		
				W	H	D	A	Min/ Max	Qty	Type	Qty	Type	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%	
6 x 14	HDQ610IF	HUCQ610-SDS	14	5-1/2	9	3	1-1/2	--	12	WS3	6	WS3	8460	4970	37.63	22.11	7385	4335	32.85	19.28	
	HD612	HU612	14	5-1/2	9-13/16	2-1/2	1-1/8	Min	16	16d	8	16d	5030	2460	22.37	10.94	4180	2200	18.59	9.79	
								Max	24		12		5870	4070	26.11	18.10	4625	3640	20.57	16.19	
	HD612IF	HUC612	14	5-1/2	9-13/16	2-1/2	1-1/8	Min	16	16d	8	16d	5030	2460	22.37	10.94	4180	2200	18.59	9.79	
								Max	24		12		5870	4070	26.11	18.10	4625	3640	20.57	16.19	
	HDQ612IF	HUCQ612-SDS	14	5-1/2	11	3	1-1/2	--	14	WS3	6	WS3	8135	5220	36.19	23.22	6545	4965	29.11	22.09	
	HD614	HU614	14	5-1/2	11-13/16	2-1/2	1-1/8	Min	18	16d	8	16d	5030	3745	22.37	16.66	4180	3480	18.59	15.48	
								Max	26		12		7670	4070	34.12	18.10	6430	3640	28.60	16.19	
	HD614IF	HUC614	14	5-1/2	11-13/16	2-1/2	1-1/8	Min	18	16d	8	16d	5030	3745	22.37	16.66	4180	3480	18.59	15.48	
								Max	26		12		7670	4070	34.12	18.10	6430	3640	28.60	16.19	
6 x 16	HD612	HU612	14	5-1/2	9-13/16	2-1/2	1-1/8	Min	16	16d	8	16d	5030	2460	22.37	10.94	4180	2200	18.59	9.79	
								Max	24		12		5870	4070	26.11	18.10	4625	3640	20.57	16.19	
	HD612IF	HUC612	14	5-1/2	9-13/16	2-1/2	1-1/8	Min	16	16d	8	16d	5030	2460	22.37	10.94	4180	2200	18.59	9.79	
								Max	24		12		5870	4070	26.11	18.10	4625	3640	20.57	16.19	
	HDQ612IF	HUCQ612-SDS	14	5-1/2	11	3	1-1/2	--	14	WS3	6	WS3	8135	5220	36.19	23.22	6545	4965	29.11	22.09	
	HD614	HU614	14	5-1/2	11-13/16	2-1/2	1-1/8	Min	18	16d	8	16d	5030	3745	22.37	16.66	4180	3480	18.59	15.48	
								Max	26		12		7670	4070	34.12	18.10	6430	3640	28.60	16.19	
	HD614IF	HUC614	14	5-1/2	11-13/16	2-1/2	1-1/8	Min	18	16d	8	16d	5030	3745	22.37	16.66	4180	3480	18.59	15.48	
								Max	26		12		7670	4070	34.12	18.10	6430	3640	28.60	16.19	
	HD616	HU616	14	5-1/2	13-13/16	2-1/2	1-1/8	Min	22	16d	10	16d	5870	4070	26.11	18.10	4625	3640	20.57	16.19	
								Max	30		14		7715	3885	34.32	17.28	6535	3615	29.07	16.08	
	HD616IF	HUC616	14	5-1/2	13-13/16	2-1/2	1-1/8	Min	22	16d	10	16d	5870	4070	26.11	18.10	4625	3640	20.57	16.19	
								Max	30		14		7715	3885	34.32	17.28	6535	3615	29.07	16.08	
6 x 18	HD614	HU614	14	5-1/2	11-13/16	2-1/2	1-1/8	Min	18	16d	8	16d	5030	3745	22.37	16.66	4180	3480	18.59	15.48	
								Max	26		12		7670	4070	34.12	18.10	6430	3640	28.60	16.19	
	HD614IF	HUC614	14	5-1/2	11-13/16	2-1/2	1-1/8	Min	18	16d	8	16d	5030	3745	22.37	16.66	4180	3480	18.59	15.48	
								Max	26		12		7670	4070	34.12	18.10	6430	3640	28.60	16.19	
	HD616	HU616	14	5-1/2	13-13/16	2-1/2	1-1/8	Min	22	16d	10	16d	5870	4070	26.11	18.10	4625	3640	20.57	16.19	
								Max	30		14		7715	3885	34.32	17.28	6535	3615	29.07	16.08	
	HD616IF	HUC616	14	5-1/2	13-13/16	2-1/2	1-1/8	Min	22	16d	10	16d	5870	4070	26.11	18.10	4625	3640	20.57	16.19	
								Max	30		14		7715	3885	34.32	17.28	6535	3615	29.07	16.08	
8 x 6	HD86	--	14	7-1/2	4-15/16	2-1/2	1-1/8	Min	8	16d	4	16d	3010	1590	13.39	7.07	2290	1505	10.19	6.69	
								Max	10					1730		7.70		1545		6.87	
	HD86IF	--	14	7-1/2	5-1/8	2-1/2	1-1/16	--	10	16d	4	16d	3010	1730	13.39	7.70	2290	1545	10.19	6.87	
8 x 8	HD88	HU88	14	7-1/2	6-13/16	2-1/2	1-1/8	Min	10	16d	4	16d	3010	1730	13.39	7.70	2290	1545	10.19	6.87	
								Max	14		6		5030	2460	22.37	10.94	4180	2200	18.59	9.79	
	HD88IF	HUC88	14	7-1/2	6-13/16	2-1/2	1-1/8	Min	10	16d	4	16d	3010	1730	13.39	7.70	2290	1545	10.19	6.87	
								Max	14		6		5030	2460	22.37	10.94	4180	2200	18.59	9.79	
8 x 10	HD810	HU810	14	7-1/2	8-9/16	2-1/2	1-1/16	Min	14	16d	6	16d	5030	2460	22.37	10.94	4180	2200	18.59	9.79	
								Max	18		8			3745		16.66		3480		15.48	
	HD810IF	HUC810	14	7-1/2	8-9/16	2-1/2	1-1/16	Min	14	16d	6	16d	5030	2460	22.37	10.94	4180	2200	18.59	9.79	
								Max	18		8			3745		16.66		3480		15.48	

1) Factored uplift resistances have been increased 15% for short-term loads such as wind and earthquake; no further increase allowed.
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3) MiTek's WS3 structural wood screws are 1/4" dia. x 3" long and are included with HDQ hangers.
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Corrosion Finish Key Stainless Steel HDG Triple Zinc

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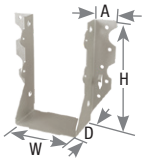


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Joist Size	MiTek Stock No.	Ref. No.	GA	Dimensions (in)				Fastener Schedule[2,3]					D Fir-L Factored Resistance				S-P-F Factored Resistance			
									Header		Joist		Lbs		kN		Lbs		kN	
				W	H	D	A	Min/ Max	Qty	Type	Qty	Type	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%
8 x 12	HD812	HU812	14	7-1/2	10-1/2	2-1/2	1-1/16	Min	16	16d	6	16d	5030	2460	22.37	10.94	4180	2200	18.59	9.79
								Max	22		8		5585	3930	24.84	17.48	4710	3515	20.95	15.64
	HD812IF	HUC812	14	7-1/2	10-1/2	2-1/2	1-1/16	Min	16	16d	6	16d	5030	2460	22.37	10.94	4180	2200	18.59	9.79
								Max	22		8		5585	3930	24.84	17.48	4710	3515	20.95	15.64
8 x 14	HD814	HU814	14	7-1/2	11-13/16	2-1/2	1-1/8	Min	18	16d	8	16d	5030	3745	22.37	16.66	4180	3480	18.59	15.48
								Max	24		12		5585	4070	24.84	18.10	4710	3640	20.95	16.19
	HD814IF	HUC814	14	7-1/2	11-13/16	2-1/2	1-1/8	Min	18	16d	8	16d	5030	3745	22.37	16.66	4180	3480	18.59	15.48
								Max	24		12		5585	4070	24.84	18.10	4710	3640	20.95	16.19
8 x 16	HD816	HU816	14	7-1/2	12-13/16	2-1/2	1-1/16	Min	20	16d	8	16d	5030	3745	22.37	16.66	4180	3480	18.59	15.48
								Max	26		12		7670	4070	34.12	18.10	6430	3640	28.60	16.19
	HD816IF	HUC816	14	7-1/2	13-5/8	2-1/2	1-1/16	--	26	16d	12	16d	7670	4070	34.12	18.10	6430	3640	28.60	16.19
Rough Lumber Sizes																				
2 x 4	SUH24R	LU24R-18, U24R	16	2	3-1/16	2	1-1/8	--	4	10d	2	10d x 1-1/2	1390	795	6.18	3.54	1090	625	4.85	2.78
2 x 6 - 8	SUH26R	LU26R-18, U26R	16	2	4-15/16	2	1-3/16	--	6	10d	4	10d x 1-1/2	2345	1505	10.43	6.69	1840	1180	8.18	5.25
2 x 8 - 10	SUH28R	LU28R-18	16	2	6-7/16	2	1-1/8	--	8	10d	6	10d x 1-1/2	3135	1505	13.95	6.69	2460	1180	10.94	5.25
2 x 10 - 14	SUH210R	LU210R-18, U210R	16	2	7-13/16	2	1-1/8	--	10	10d	6	10d x 1-1/2	4080	2505	18.15	11.14	3205	1965	14.26	8.74
2 x 14 - 16	SUH214R	--	16	2	9-13/16	2	1-1/8	--	12	10d	6	10d x 1-1/2	4105	2505	18.26	11.14	3225	1965	14.35	8.74
4 x 4	SUH44R	U44R	16	4	2-11/16	2	1-1/8	--	6	10d	2	16d	1910	825	8.50	3.67	1500	650	6.67	2.89
4 x 6 - 8	SUH46R	U46R	16	4	4-11/16	2	1-1/8	--	8	10d	4	16d	4080	1665	18.15	7.41	3205	1310	14.26	5.83
4 x 10	SUH410R	U410R	16	4	8-3/16	2	2	--	14	10d	6	16d	6330	2920	28.16	12.99	4970	2290	22.11	10.19
6 x 8	SUH66R	U66R	16	6	5	2	1	--	8	10d	4	16d	3135	1665	13.95	7.41	2460	1310	10.94	5.83
6 x 10 - 14	SUH610R	U610R	16	6	9	2	1	--	14	10d	6	16d	6435	2920	28.62	12.99	5055	2290	22.49	10.19

1) Factored uplift resistances have been increased 15% for short-term loads such as wind and earthquake; no further increase allowed.
2) 16d sinkers (0.148" dia. x 3-1/4" long) may be used at 0.85 of the table load where 16d commons are specified. This does not apply to JUS, HUS, MUS slant nail hangers.
3) **NAILS:** 10d nails are 0.148" dia. x 3" long, 16d nails are 0.162" dia. x 3-1/2" long.

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HL Light Gauge Purlin Hangers

These top mount hangers are designed for supporting floor joists or 2x dimensional lumber. The top mount style allows builders to drop in joists or purlins quickly.

Materials: 18 gauge

Finish: G90 galvanizing

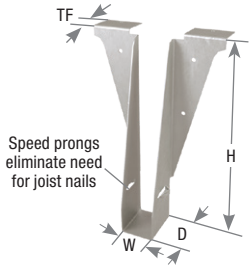
Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:

- Use all specified fasteners. See Product Notes, page 16.



Typical HL210 installation



HL210

KB / KLB Beam & Purlin Hangers

With a top mount design and heavy steel fabrication the KB and KLB hangers can cover medium-to-heavy beam and purlin applications. The top mount design offers high loads with less nailing than comparable face mount hangers.

KLB – 14 gauge

KB – 12 gauge

Materials: See chart

Finish: G90 galvanizing

Installation:

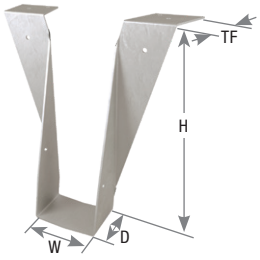
- Use all specified fasteners. See Product Notes, page 16.
- NA20D nails are included with hangers where applicable.
- For welded installations, see page 299.
- **KB models are not recommended for use with LVL, PSL, or LSL members.**



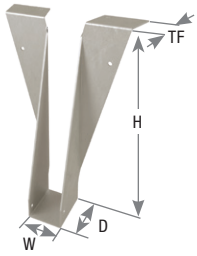
Typical KB installation



Typical KLB installation



KB



KLB

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Primarily used to hang joists or headers in medium load conditions. These hangers provide higher load values with less nailing.

Materials: 12 gauge

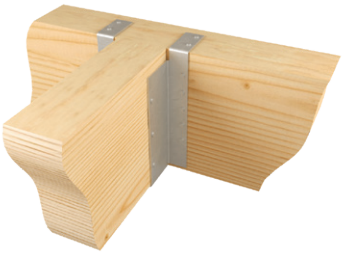
Finish: G90 galvanizing

Options: All nominal lumber sizes are available for rough/full size lumber. See Specialty Options Chart

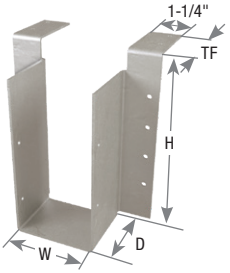
Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:

- Use all specified fasteners. See Product Notes, page 16.
- Check top flange dimensions to ensure compatibility with header widths.
- **Do not use for welded or nailer applications. Reference Specialty Options chart below for hanger options.**



HDO standard installation



HDO28-2



Typical HDO410IF inverted flange installation



Typical HDO skewed option installation

Specialty Options Chart

Refer to Specialty Options pages 246 and 248 for additional details.

Option	Skewed[1,3]	Sloped Seat[2]	Sloped / Skewed[1,2,3]	Inverted Flange
Range	1˚ to 67-1/2˚ when width is 1-3/4" or less. 1˚ to 50˚ on all others.	1˚ to 45˚	See Sloped Seat and Skewed	Not available in widths less than 3-1/8"
Factored Resistance	100% of table load. 75% of uplift load on skews greater than 15˚.	100% of table load	80% of table load. 75% of uplift load on skews greater than 15˚.	100% of table load. 65% of table load when nailing into the support members end grain.
Ordering	Add *SK,* angle required, right *(R)* or left *(L),* and square cut (*SQ*) or bevel cut (*BV*) to product number. Ex. HDO210_SK45R_SQ	Add *SL,* slope required, and up *(U)* or down *(D),* to product number. Ex. HDO210_SL30D	See Sloped Seat and Skewed. Ex. HDO210_SK45R_SQ_SL30D	Add *IF* to product number. Ex. HDO610_IF

1) Skewed hangers with skews greater than 15° may have all joist nailing on outside flange.
2) Sloped or sloped / skewed hangers with slopes greater than 15° may have additional joist nails.
3) For skewed hangers, the required cut type (square or bevel) of joist member may vary based on skew angle and width of hanger. Some square cut hangers will require custom pricing due to welded back plate.

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KHW / SW / SWH Welded Top Flange Hangers

SW – Light-duty hanger

SWH – Medium-duty hanger

KHW – Heavy-duty hanger installs with NA20D nails for higher load capacities

Materials: SW top flange - 12 gauge; stirrup - 12 gauge;
SWH top flange - 7 gauge; stirrup - 12 gauge;
KHW top flange - 3 gauge; stirrup - 10 gauge

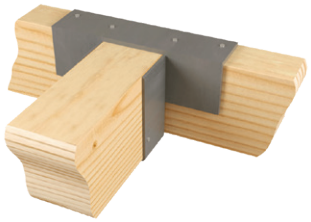
Finish: Primer

Options: All nominal lumber sizes are available for rough/full size lumber. See Specialty Options below.

Codes: Load values are derived from data submitted to various North American building code evaluators.

Installation:

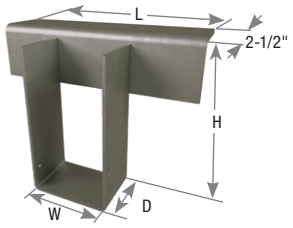
- Use all specified fasteners. See Product Notes, page 16.
- NA20D nails are supplied with KHW hangers.
- For welded installations see page 299.
- **KHW models are not recommended for use with LVL, PSL, or LSL headers.**



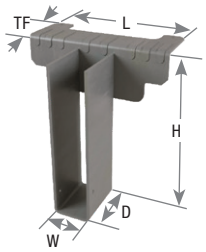
Typical KHW46 installation



Typical SW210 installation



KHW46

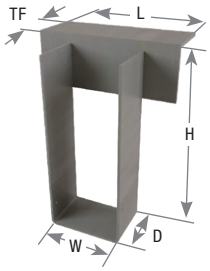


SW210

Nailer Installation Chart

Chart represents maximum factored resistance for hangers used on wood nailers. Reference page 177.

MiTek Stock No.	Nailer Size[3]	Fastener Schedule[5]				D Fir-L Factored Resistance		S-P-F Factored Resistance	
		Nailer		Joist		Vertical (100%)[1,4]		Vertical (100%)[1,4]	
		Top Qty	Type	Qty	Type	Lbs	kN	Lbs	kN
SW[2] widths > 2-9/16"	2X	2	10d x 1-1/2	2	10d x 1-1/2	2355	10.48	1605	7.14
	3x	2	16d x 2-1/2	2	10d x 1-1/2	3900	17.35	3105	13.81
	(2) 2x	2	16d x 2-1/2	2	10d x 1-1/2	2355	10.48	1605	7.14
	4x	2	16d x 2-1/2	2	10d x 1-1/2	3900	17.35	3105	13.81
SWH	2X	2	10d x 1-1/2	2	10d x 1-1/2	3745	16.66	2550	11.34
	3X	2	16d x 2-1/2	2	10d x 1-1/2	4825	21.46	3285	14.61
	(2) 2x	2	16d x 2-1/2	2	10d x 1-1/2	3745	16.66	2550	11.34
	4x	2	16d x 2-1/2	2	10d x 1-1/2	4825	21.46	3285	14.61
KHW	3X	4	16d x 2-1/2	2	10d	5180	23.04	3925	17.46



SWH410

1) Listed loads shall not be increased.
2) SW hangers with a width of less than 2-9/16" are limited to 3590 lbs. of download for D Fir-L and 2980 lbs. for S-P-F.
3) The nailer must be sized to fit the supported width and be of sufficient thickness to satisfy specified top flange nailing requirements. A design professional must specify nailer attachment to steel beams.
4) Values in the table apply to standard top mount hangers without slope, skew or any other specialty options.
5) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long, 10d nails are 0.148" dia. x 3" long, 16d x 2-1/2 nails are 0.162" dia. x 2-1/2" long.
New products or updated product information are designated in blue font.

Specialty Options Chart – Refer to Specialty Options pages 294, 296-297 for additional details.

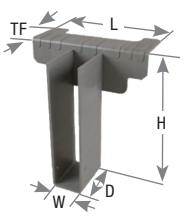
Option	Skewed[1,3]	Sloped Seat[2]	Sloped / Skewed[1,2,3]	Sloped Top Flange[4]	Top Flange Offset		Saddle	Ridge
Range	1° to 84°	1° to 45°	See Sloped Seat and Skewed	0° to 35°	-- --		-- --	0° to 45°
Factored Resistance	100% of table load	100% of table load	100% of table load	100% of table load	**Hanger Width** 3-1/2" or less 3-9/16" to 5-1/2" 5-9/16" to 7-1/2"	**% of table load:** 60% 75% 85%	100% of table load per side	100% of table load
Ordering	Add *SK,* angle required, right (*R*) or left (*L*), and square cut (*SQ*) or bevel cut (*BV*) to product number. Ex. SW212_SK45R_SQ	Add *SL,* slope required, and up *(U)* or down *(D),* to product number. Ex. SW212_SL30D	See Sloped Seat and Skewed. Ex. SW212_SK45R_SQ_SL30D	Add *SLTF,* angle required, and right *(R)* or left *(L),* to product number. Ex. SW212_SLTF30L	Add *OS,* and right *(R)* or left *(L),* to product number. Ex. SW212_OSL		Add *SA,* and saddle width required to product number. Ex. SW212_SA=5-1/2"	Add *DA,* angle required to product number. Ex. SW212_DA30

1) Skewed hangers with skews greater than 15° may have all joist nailing on outside flange.
2) Sloped or sloped / skewed hangers with slopes greater than 15° may have additional joist nails.
3) For skewed hangers, the required cut type (square or bevel) of joist member may vary based on skew angle and width of hanger. Some square cut hangers will require custom pricing due to welded back plate.
4) Sloped top flanges with greater than 15° may have additional header nails.
New products or updated product information are designated in blue font.

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Beam/ Joist Size	MiTek Stock No.	Ref. No.	Ga.	Dimensions (in)					Fastener Schedule[4]					D Fir-L Factored Resistance (Lbs.)[3]				S-P-F Factored Resistance (Lbs.)[3]			
									Header			Joist		Lbs		kN		Lbs		kN	
														Download	Uplift[1,2]	Download	Uplift[1,2]	Download	Uplift[1,2]	Download	Uplift[1,2]
				W	H	D	L	TF	Top Qty	Face Qty	Type	Qty	Type	100%	115%	100%	115%	100%	115%	100%	115%
2 x 4	HDO24	HU24TF	12	1-9/16	3-7/16	2-1/4	--	2-1/2	4	2	16d	2	10d x 1-1/2	3150	595	14.01	2.65	2475	465	11.01	2.07
2 x 6	HL26	JB26	18	1-9/16	5-3/8	1-1/2	--	1-5/16	2	4	16d	2	prongs	2085	--	9.27	--	1635	--	7.27	--
	KLB26	LB26	14	1-9/16	5-3/8	1-1/2	--	1-3/8	2	4	16d	2	10d x 1-1/2	3895	665	17.33	2.96	3120	610	13.88	2.71
	SW26	--	12	1-9/16	5-3/8	2-1/2	6-1/2	2-1/2	2	--	10d	2	10d x 1-1/2	3590	270	15.97	1.20	2980	225	13.26	1.00
	HDO26	HU26TF	12	1-9/16	5-3/8	2-1/4	--	2-1/2	4	6	16d	4	10d x 1-1/2	4195	1580	18.66	7.03	3295	1240	14.66	5.52
2 x 8	HL28	JB28	18	1-9/16	7-5/16	1-3/4	--	1-5/16	2	4	16d	2	prongs	2395	--	10.65	--	1880	--	8.36	--
	KLB28	LB28	14	1-9/16	7-1/4	1-3/4	--	1-3/8	2	4	16d	2	10d x 1-1/2	3895	665	17.33	2.96	3120	610	13.88	2.71
	SW28	--	12	1-9/16	7-1/8	2-1/2	6-1/2	2-1/2	2	--	10d	2	10d x 1-1/2	3590	270	15.97	1.20	2980	225	13.26	1.00
	HDO28	HU28TF	12	1-9/16	7-1/8	2-1/4	--	2-1/2	4	6	16d	4	10d x 1-1/2	4590	1420	20.42	6.32	3600	1115	16.01	4.96
2 x 10	HL210	JB210A	18	1-9/16	9-5/16	2	--	1-5/16	2	4	16d	2	prongs	2395	--	10.65	--	1880	--	8.36	--
	KLB210	LB210A	14	1-9/16	9-1/4	2	--	1-3/8	2	4	16d	2	10d x 1-1/2	3895	665	17.33	2.96	3120	610	13.88	2.71
	SW210	--	12	1-9/16	9-1/8	2-1/2	6-1/2	2-1/2	2	--	10d	2	10d x 1-1/2	3590	270	15.97	1.20	2980	225	13.26	1.00
	HDO210	HU210TF	12	1-9/16	9-1/8	2-1/4	--	2-1/2	4	8	16d	4	10d x 1-1/2	4790	1365	21.31	6.07	3760	1070	16.73	4.76
2 x 12	HL212	JB212A	18	1-9/16	11-1/4	2-1/8	--	1-5/16	2	4	16d	2	prongs	2600	--	11.57	--	2040	--	9.07	--
	KLB212	LB212A	14	1-9/16	11-1/8	2	--	1-3/8	2	4	16d	2	10d x 1-1/2	3300	665	14.68	2.96	3030	610	13.48	2.71
	SW212	--	12	1-9/16	11-1/8	2-1/2	6-1/2	2-1/2	2	--	10d	2	10d x 1-1/2	3590	270	15.97	1.20	2980	225	13.26	1.00
	HDO212	HU212TF	12	1-9/16	11	2-1/4	--	2-1/2	4	10	16d	6	10d x 1-1/2	3855	2495	17.15	11.10	3025	1955	13.46	8.70
2 x 14	HL214	JB214A, LB214A	18	1-9/16	13-1/8	2	--	2-1/2	2	6	16d	2	10d x 1-1/2	2600	585	11.57	2.60	2040	460	9.07	2.05
	SW214	W214	12	1-9/16	13-1/8	2-1/2	6-1/2	2-1/2	2	--	10d	2	10d x 1-1/2	3590	270	15.97	1.20	2980	225	13.26	1.00
	HDO214	HU214TF	12	1-9/16	13	2-1/4	--	2-1/2	4	12	16d	6	10d x 1-1/2	6345	1980	28.22	8.81	4980	1555	22.15	6.92
2 x 16	SW216	--	12	1-9/16	15-1/8	2-1/2	6-1/2	2-1/2	2	--	10d	2	10d x 1-1/2	3590	270	15.97	1.20	2980	225	13.26	1.00
	HDO216	HU216TF, LB216	12	1-9/16	15	2-1/4	--	2-1/2	4	14	16d	8	10d x 1-1/2	6555	3160	29.16	14.06	5145	2480	22.89	11.03
3 x 4	HDO34	HU34TF	12	2-9/16	3-7/16	2-1/2	--	2-1/2	4	4	16d	2	10d x 1-1/2	3870	595	17.21	2.65	3040	465	13.52	2.07
3 x 6	SW36	--	12	2-9/16	5-3/8	2-1/2	6-1/2	2-1/2	2	--	10d	2	10d x 1-1/2	3900	270	17.35	1.20	3240	225	14.41	1.00
	HDO36	HU36TF	12	2-9/16	5-3/8	2-1/2	--	2-1/2	4	6	16d	4	10d x 1-1/2	4850	1580	21.57	7.03	3805	1240	16.93	5.52
3 x 8	SW38	--	12	2-9/16	7-1/8	2-1/2	6-1/2	2-1/2	2	--	10d	2	10d x 1-1/2	3900	270	17.35	1.20	3240	225	14.41	1.00
	HDO38	HU38TF	12	2-9/16	7-1/8	2-1/2	--	2-1/2	4	8	16d	4	10d x 1-1/2	5235	1420	23.29	6.32	4110	1115	18.28	4.96
3 x 10	SW310	--	12	2-9/16	9-1/8	2-1/2	6-1/2	2-1/2	2	--	10d	2	10d x 1-1/2	3900	270	17.35	1.20	3240	225	14.41	1.00
	HDO310	HU310TF	12	2-9/16	9-1/8	2-1/2	--	2-1/2	4	10	16d	6	10d x 1-1/2	6820	2340	30.34	10.41	5355	1840	23.82	8.18
3 x 12	SWH312	--	7/12	2-9/16	11-1/8	2-1/2	7	2-1/2	2	--	16d	2	10d x 1-1/2	5120	270	22.77	1.20	4250	225	18.90	1.00
	HDO312	HU312TF	12	2-9/16	11	2-1/2	--	2-1/2	4	12	16d	6	10d x 1-1/2	7165	2480	31.87	11.03	5625	1945	25.02	8.65
3 x 14	SWH314	WNP314	7/12	2-9/16	13-1/8	2-1/2	7	2-1/2	2	--	16d	2	10d x 1-1/2	5120	270	22.77	1.20	4250	225	18.90	1.00
	HDO314	HU314TF	12	2-9/16	13	2-1/2	--	2-1/2	4	14	16d	8	10d x 1-1/2	7165	2480	31.87	11.03	5625	1945	25.02	8.65
3 x 16	SWH316	--	7/12	2-9/16	15-1/8	2-1/2	7	2-1/2	2	--	16d	2	10d x 1-1/2	5120	270	22.77	1.20	4250	225	18.90	1.00
	HDO316	HU316TF	12	2-9/16	15	2-1/2	--	2-1/2	4	16	16d	8	10d x 1-1/2	9430	3160	41.95	14.06	7405	2480	32.94	11.03
(2) 2 x 4	HDO24-2	HU24-2TF	12	3-1/8	3-7/16	2-1/4	--	2-1/2	4	4	16d	2	10d	4005	880	17.82	3.91	3145	690	13.99	3.07
(2) 2 x 6	SWH26-2	WP26-2	7/12	3-1/8	5-3/8	2-1/2	7	2-1/2	2	--	16d	2	10d	5120	270	22.77	1.20	4250	225	18.90	1.00
	HDO26-2	HU26-2TF, HUS26-2TF	12	3-1/8	5-3/8	2-1/4	--	2-1/2	4	6	16d	4	10d	4995	1975	22.22	8.79	3920	1550	17.44	6.89

1) Factored uplift resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) HL and SW products do not provide uplift resistance, except for the HL214.
3) Refer to the respective Nailer Options chart on page 123 for hangers installed on wood nailers.
4) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long, 10d nails are 0.148" dia. x 3" long, 16d nails are 0.162" dia. x 3-1/2" long



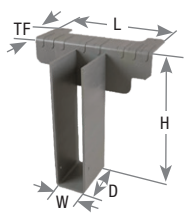
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Top Mount Hanger Charts

Beam/ Joist Size	MiTek Stock No.	Ref. No.	Ga.	Dimensions (in)					Fastener Schedule[2,3]					D Fir-L Factored Resistance (Lbs.)[2]				S-P-F Factored Resistance (Lbs.)[2]			
									Header			Joist		Lbs		kN		Lbs		kN	
														Download	Uplift[1]	Download	Uplift[1]	Download	Uplift[1]	Download	Uplift[1]
				W	H	D	L	TF	Top Qty	Face Qty	Type	Qty	Type	100%	115%	100%	115%	100%	115%	100%	115%
(2) 2 x 8	SWH28-2	WP28-2	7/12	3-1/8	7-1/8	2-1/2	7	2-1/2	2	--	16d	2	10d	5120	270	22.77	1.20	4250	225	18.90	1.00
	HDO28-2	HU28-2TF, HUS28-2TF	12	3-1/8	7-1/8	2-1/4	--	2-1/2	4	8	16d	4	10d	5555	1860	24.71	8.27	4360	1460	19.39	6.49
(2) 2 x 10	SWH210-2	WNP210-2	7/12	3-1/8	9-1/8	2-1/2	7	2-1/2	2	--	16d	2	10d	5120	270	22.77	1.20	4250	225	18.90	1.00
	HDO210-2	HU210-2TF, HUS210-2TF	12	3-1/8	9-1/8	2-1/4	--	2-1/2	4	10	16d	6	10d	7480	3180	33.27	14.15	5870	2495	26.11	11.10
	HDO210-2IF	HUC210-2TF, HUSC210-2TF	12	3-1/8	9-1/8	2-1/4	--	2-1/2	4	10	16d	6	10d	7480	3180	33.27	14.15	5870	2495	26.11	11.10
(2) 2 x 12	SWH212-2	WP212-2	7/12	3-1/8	11-1/8	2-1/2	7	2-1/2	2	--	16d	2	10d	5120	270	22.77	1.20	4250	225	18.90	1.00
	HDO212-2	HU212-2TF, HUS212-2TF	12	3-1/8	11	2-1/2	--	2-1/2	4	12	16d	6	10d	9010	2950	40.08	13.12	7070	2315	31.45	10.30
(2) 2 x 14	SWH214-2	WP214-2	7/12	3-1/8	13-1/8	2-1/2	7	2-1/2	2	--	16d	2	10d	5120	270	22.77	1.20	4250	225	18.90	1.00
	HDO214-2	HU214-2TF, HUS214-2TF	12	3-1/8	13	2-1/2	--	2-1/2	4	14	16d	8	10d	8865	3220	39.43	14.32	6960	2530	30.96	11.25
(2) 2 x 16	SWH216-2	WP216-2	7/12	3-1/8	15-1/8	2-1/2	7	2-1/2	2	--	16d	2	10d	5120	270	22.77	1.20	4250	225	18.90	1.00
	HDO216-2	HU216-2TF	12	3-1/8	15	2-1/2	--	2-1/2	4	16	16d	8	10d	10220	3685	45.46	16.39	8025	2890	35.70	12.86
4 x 4	HDO44	HU44TF	12	3-9/16	3-7/16	2-1/4	--	2-1/2	4	4	16d	2	10d	4005	880	17.82	3.91	3145	690	13.99	3.07
4 x 6	SW46	WP46	12	3-9/16	5-3/8	2-1/2	6-1/2	2-1/2	2	--	10d	2	10d	3900	270	17.35	1.20	3240	225	14.41	1.00
	HDO46	HU46TF	12	3-9/16	5-3/8	2-1/4	--	2-1/2	4	6	16d	4	10d	4995	1975	22.22	8.79	3920	1550	17.44	6.89
	KHW46	--	3/10	3-9/16	5-3/8	2-1/2	10	2-1/2	4	--	NA20D	2	10d	8575	270	38.14	1.20	6785	225	30.18	1.00
4 x 8	SW48	WP48	12	3-9/16	7-1/8	2-1/2	6-1/2	2-1/2	2	--	10d	2	10d	3900	270	17.35	1.20	3240	225	14.41	1.00
	HDO48	BA48, HU48TF	12	3-9/16	7-1/8	2-1/4	--	2-1/2	4	8	16d	4	10d	5555	1860	24.71	8.27	4360	1460	19.39	6.49
	KHW48	--	3/10	3-9/16	7-1/8	2-1/2	10	2-1/2	4	--	NA20D	2	10d	8575	270	38.14	1.20	6785	225	30.18	1.00
4 x 10	SW410	--	12	3-9/16	9-1/8	2-1/2	6-1/2	2-1/2	2	--	10d	2	10d	3900	270	17.35	1.20	3240	225	14.41	1.00
	HDO410	BA410, HU410TF	12	3-9/16	9-1/8	2-1/4	--	2-1/2	4	10	16d	6	10d	7480	3180	33.27	14.15	5870	2495	26.11	11.10
	SWH410	WP410	7/12	3-9/16	9-1/8	2-1/2	7	2-1/2	2	--	16d	2	10d	5120	270	22.77	1.20	4250	225	18.90	1.00
	KHW410	--	3/10	3-9/16	9-1/8	2-1/2	10	2-1/2	4	--	NA20D	2	10d	8575	270	38.14	1.20	6785	###	30.18	1.00
4 x 12	KB412	--	12	3-9/16	11-1/8	2-3/8	--	2-1/2	4	2	NA20D	2	NA20D	6535	1225	29.07	5.45	5180	1085	23.04	4.83
	HDO412	HU412TF	12	3-9/16	11	2-1/4	--	2-1/2	4	12	16d	6	10d	9010	2950	40.08	13.12	7070	2315	31.45	10.30
	SWH412	WP412	7/12	3-9/16	11-1/8	2-1/2	7	2-1/2	2	--	16d	2	10d	5120	270	22.77	1.20	4250	225	18.90	1.00
	KHW412	--	3/10	3-9/16	11-1/8	2-1/2	10	2-1/2	4	--	NA20D	2	10d	8575	270	38.14	1.20	6785	225	30.18	1.00
4 x 14	HDO414	HU414TF	12	3-9/16	13	2-1/2	--	2-1/2	4	14	16d	8	10d	8865	3220	39.43	14.32	6960	2530	30.96	11.25
	SWH414	WP414	7/12	3-9/16	13-1/8	2-1/2	7	2-1/2	2	--	16d	2	10d	5120	270	22.77	1.20	4250	225	18.90	1.00
	KHW414	--	3/10	3-9/16	13-1/8	2-1/2	10	2-1/2	4	--	NA20D	2	10d	8575	270	38.14	1.20	6785	225	30.18	1.00

1) Factored uplift resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) Refer to the respective Nailer Options chart on page 123 for hangers installed on wood nailers.
3) **NAILS:** 10d nails are 0.148" dia. x 3" long, 16d nails are 0.162" dia. x 3-1/2" long, NA20D nails are 0.192" dia. x 2-1/2" long and are included with KHW hangers.

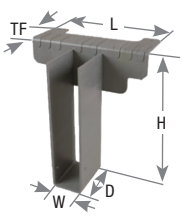


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Beam/ Joist Size	MiTek Stock No.	Ref. No.	Ga.	Dimensions (in)					Fastener Schedule[2,3]					D Fir-L Factored Resistance (Lbs.)[3]				S-P-F Factored Resistance (Lbs.)[3]			
									Header			Joist		Lbs		kN		Lbs		kN	
														Download	Uplift[1]	Download	Uplift[1]	Download	Uplift[1]	Download	Uplift[1]
				W	H	D	L	TF	Top Qty	Face Qty	Type	Qty	Type	100%	115%	100%	115%	100%	115%	100%	115%
4 x 16	HDO416	HU416TF	12	3-9/16	15	2-1/2	--	2-1/2	4	16	16d	8	10d	10220	3685	45.46	16.39	8025	2890	35.70	12.86
	SWH416	WP416	7/12	3-9/16	15-1/8	2-1/2	7	2-1/2	2	--	16d	2	10d	5120	270	22.77	1.20	4250	225	18.90	1.00
	KHW416	--	3/10	3-9/16	15-1/8	2-1/2	10	2-1/2	4	--	NA20D	2	10d	8575	270	38.14	1.20	6785	225	30.18	1.00
(3) 2 x 10	HDO210-3	HU210-3TF	12	4-11/16	9-1/8	2-1/2	--	2-1/2	4	10	16d	6	16d	7480	3180	33.27	14.15	5870	2495	26.11	11.10
(3) 2 x 12	HDO212-3	HU212-3TF	12	4-11/16	11	2-1/2	--	2-1/2	4	12	16d	6	16d	9010	2950	40.08	13.12	7070	2315	31.45	10.30
(3) 2 x 14	HDO214-3	HU214-3TF	12	4-11/16	13	2-1/2	--	2-1/2	4	14	16d	8	16d	8865	3220	39.43	14.32	6960	2530	30.96	11.25
(3) 2 x 16	HDO216-3	HU216-3TF	12	4-11/16	15	2-1/2	--	2-1/2	4	16	16d	8	16d	10220	3685	45.46	16.39	8025	2890	35.70	12.86
6 x 6	HDO66	HU66TF	12	5-1/2	5-3/8	2-1/2	--	2-1/2	4	6	16d	4	16d	4995	1975	22.22	8.79	3920	1550	17.44	6.89
	SWH66	WP66	7/12	5-1/2	5-3/8	2-1/2	7	2-1/2	2	--	16d	2	10d	5120	270	22.77	1.20	4250	225	18.90	1.00
	KHW66	--	3/10	5-1/2	5-3/8	2-1/2	10	2-1/2	4	--	NA20D	2	10d	8575	270	38.14	1.20	6785	225	30.18	1.00
6 x 8	HDO68	HU68TF	12	5-1/2	7-1/8	2-1/2	--	2-1/2	4	8	16d	4	16d	5555	1860	24.71	8.27	4360	1460	19.39	6.49
	SWH68	WP68	7/12	5-1/2	7-1/8	2-1/2	7	2-1/2	2	--	16d	2	10d	5120	270	22.77	1.20	4250	225	18.90	1.00
	KHW68	--	3/10	5-1/2	7-1/8	2-1/2	10	2-1/2	4	--	NA20D	2	10d	8575	270	38.14	1.20	6785	225	30.18	1.00
6 x 10	KB610	--	12	5-1/2	9-1/4	2-3/8	--	2-1/2	4	6	NA20D	2	NA20D	6510	1225	28.96	5.45	5110	1085	22.73	4.83
	HDO610	HU610TF	12	5-1/2	9-1/8	2-1/2	--	2-1/2	4	10	16d	6	16d	7480	3180	33.27	14.15	5870	2495	26.11	11.10
	SWH610	WP610	7/12	5-1/2	9-1/8	2-1/2	7	2-1/2	2	--	16d	2	10d	5120	270	22.77	1.20	4250	225	18.90	1.00
	KHW610	--	3/10	5-1/2	9-1/8	2-1/2	10	2-1/2	4	--	NA20D	2	10d	8575	270	38.14	1.20	6785	225	30.18	1.00
6 x 12	KB612	--	12	5-1/2	11-1/8	2-3/8	--	2-1/2	4	6	NA20D	2	NA20D	6510	1225	28.96	5.45	5110	1085	22.73	4.83
	HDO612	HU612TF	12	5-1/2	11	2-1/2	--	2-1/2	4	12	16d	6	16d	9010	2950	40.08	13.12	7070	2315	31.45	10.30
	KHW612	HW612	3/10	5-1/2	11-1/8	2-1/2	10	2-1/2	4	--	NA20D	2	10d	8575	270	38.14	1.20	6785	225	30.18	1.00
6 x 14	HDO614	HU614TF	12	5-1/2	13	2-1/2	--	2-1/2	4	14	16d	8	16d	8865	3220	39.43	14.32	6960	2530	30.96	11.25
	KHW614	--	3/10	5-1/2	13-1/8	2-1/2	10	2-1/2	4	--	NA20D	2	10d	8575	270	38.14	1.20	6785	225	30.18	1.00
6 x 16	HDO616	HU616TF	12	5-1/2	15	2-1/2	--	2-1/2	4	16	16d	8	16d	10220	3685	45.46	16.39	8025	2890	35.70	12.86
	KHW616	--	3/10	5-1/2	15-1/8	2-1/2	10	2-1/2	4	--	NA20D	2	10d	8575	270	38.14	1.20	6785	225	30.18	1.00
8 x 6	KHW86	--	3/10	7-1/2	5-3/8	2-1/2	10	2-1/2	4	--	NA20D	2	10d	8575	270	38.14	1.20	6785	225	30.18	1.00
8 x 8	KHW88	--	3/10	7-1/2	7-1/8	2-1/2	10	2-1/2	4	--	NA20D	2	10d	8575	270	38.14	1.20	6785	225	30.18	1.00
8 x 10	KHW810	--	3/10	7-1/2	9-1/8	2-1/2	10	2-1/2	4	--	NA20D	2	10d	8575	270	38.14	1.20	6785	225	30.18	1.00
8 x 12	KHW812	--	3/10	7-1/2	11-1/8	2-1/2	10	2-1/2	4	--	NA20D	2	10d	8575	270	38.14	1.20	6785	225	30.18	1.00
8 x 14	KHW814	--	3/10	7-1/2	13-1/8	2-1/2	10	2-1/2	4	--	NA20D	2	10d	8575	270	38.14	1.20	6785	225	30.18	1.00
8 x 16	KHW816	--	3/10	7-1/2	15-1/8	2-1/2	10	2-1/2	4	--	NA20D	2	10d	8575	270	38.14	1.20	6785	225	30.18	1.00

1) Factored uplift resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) Refer to the respective Nailer Options chart on page 123 for hangers installed on wood nailers.
3) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long, 10d nails are 0.148" dia. x 3" long, 16d nails are 0.162" dia. x 3-1/2" long, NA20D nails are 0.192" dia. x 2-1/2" long and are included with KHW hangers.



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JH Multi-Purpose Joist Hanger

These strap-style hangers are designed to support trusses, joists, or purlins. JH models may be bent along the flange allowing builders to use the hangers in top mount, face mount, or combination applications.

Materials: 18 gauge

Finish: G90 galvanizing

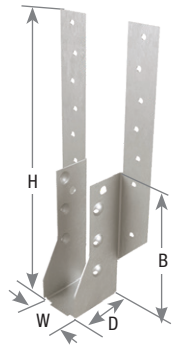
Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:

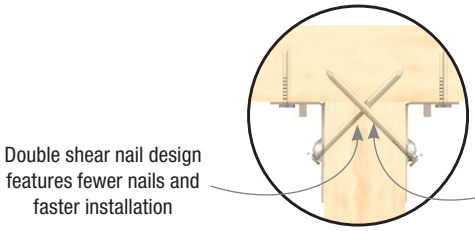
- Use all specified fasteners. See Product Notes, page 16.
- Joist nails must be driven at a 30° to 45° angle through the joist or truss into the header to achieve listed loads. **Slant / double shear nails must be used to achieve listed load values.**
- If installing in top mount configuration, field bend top flange over header.
- 16d sinkers (0.148" dia x 3-1/4") may be used where 10d common are specified with no load reduction.



Typical JH20 installation



JH20



MiTek Stock No.	Ref. No.	Ga.	Dimensions (in) W	H	D	B	TF	Header Size	Fastener Schedule[2,3] Header Top Qty	Header Face Qty	Header Type	Joist Qty	Joist Type	Unit	D Fir-L Factored Resistance Download 100%	D Fir-L Factored Resistance Uplift[1] 115%	S-P-F Factored Resistance Download 100%	S-P-F Factored Resistance Uplift[1] 115%
JH20	--	18	1-9/16	10-1/16	2-1/4	5-1/8	1-3/16	2 x 6	2	4	10d	6	10d	Lbs	4750	2415	3730	1900
														kN	21.13	10.74	16.59	8.45
							1-7/16	2 x 8	2	8	10d	6	10d	Lbs	4750	2415	3730	1900
														kN	21.13	10.74	16.59	8.45
							7/16	2 x 10	2	12	10d	6	10d	Lbs	4750	2415	3730	1900
														kN	21.13	10.74	16.59	8.45
							--	2 x 12	--	14	10d	6	10d	Lbs	4750	2415	3730	1900
														kN	21.13	10.74	16.59	8.45

1) Factored uplift resistances have been increased 15% for short-term loads such as wind and earthquake; no further increase allowed.
2) Nails must be driven at a 30° to 45° angle through the joist or truss into header to achieve the table loads.
3) **NAILS:** 10d nails are 0.148" dia. x 3" long. 16d sinkers (0.148" dia. x 3-1/4" long) may be used where 10d commons are specified with no reduction in load.

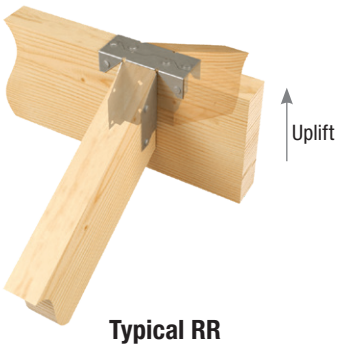
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RR Ridge Rafter Hanger

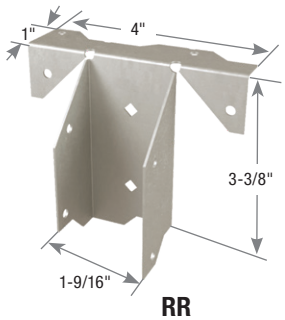
The RR Ridge Rafter supports rafter pitches up to 7:12 (30°).
Nesting top flange for back-to-back installation on 2x support beams.

Materials: 18 gauge
Finish: G90 galvanizing

Installation:
- Use all specified fasteners. See Product Notes, page 16.
- The rafter end at the ridge must be plumb cut to achieve published loads.
- Optional diamond nail holes can be used to fasten RR to end of rafter before setting rafter into place.



Typical RR installation



RR

MiTek Stock No.	Ref. No.	Steel Gauge	Min Rafter Size	Fastener Schedule[2] Header Qty	Header Type	Rafter Qty	Rafter Type	Unit	D Fir-L Factored Resistance[1] Download 100%	D Fir-L Uplift 115%	S-P-F Factored Resistance[1] Download 100%	S-P-F Uplift 115%
RR	RR	18	2 x 6	4	10d x 1-1/2	4	10d x 1-1/2	Lbs	590	380	465	300
								kN	2.67	1.80	1.89	1.29
				4	LL915	4	LL915	Lbs	705	345	500	245
								kN	3.14	1.53	2.22	1.09

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; no further increase allowed.
2) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long, LL915 denotes a LumberLok Screw, #9 x 1-3/8" long.

LS Light Slope Rafter Hangers

A field-adjustable seat gives the LS hanger application flexibility.

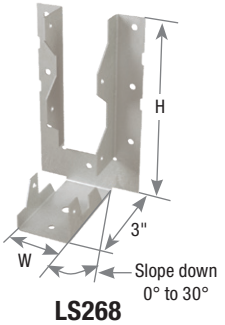
The LS hanger slopes from 0° to 30° down (0 to 7:12 pitch down).

Materials: 18 gauge
Finish: G90 galvanizing
Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:
- Use all specified fasteners. See Product Notes, page 16.
- The LS can be field adjusted to slopes from 0° to 30° down.



Typical LS268 installation



LS268

MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in) W	Dimensions (in) H	Fastener Schedule[2] Header Qty	Header Type	Joist Qty	Joist Type	D Fir-L Factored Resistance Lbs Vertical 100%	Lbs Uplift[1] 115%	kN Vertical 100%	kN Uplift[1] 115%	S-P-F Factored Resistance Lbs Vertical 100%	Lbs Uplift[1] 115%	kN Vertical 100%	kN Uplift[1] 115%
LS268	--	18	1-9/16	5-1/2	7	16d	7	10d x 1-1/2	1860	1270	8.27	5.65	1460	1000	6.49	4.45
LS210	--	18	1-9/16	7-7/8	9	16d	9	10d x 1-1/2	2245	1950	9.99	8.67	1760	1530	7.83	6.81

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; no further increase allowed.
2) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long, 16d nails are 0.162" dia. x 3-1/2" long.

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LSSH Slope/Skew Hangers

The LSSH series connects rafters to ridge beams in vaulted roof structures. This series is field adjustable to meet a variety of skew and/or slope applications. Slopes and skews 0° to 45°.

Materials: See chart

Finish: G-185 Galvanizing

Options: See chart for Corrosion Finish Options

Codes: Factored resistances are derived from data submitted to various North American building code evaluators

Installation:

- Use all specified fasteners. See Product Notes, page 16.

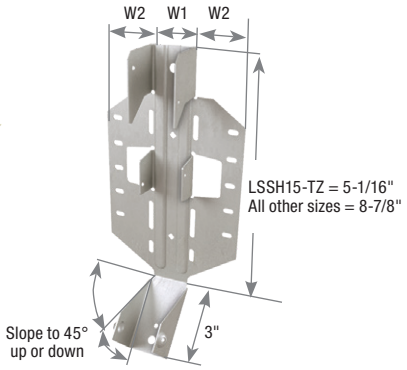
Steps:

1. Position LSSH connector against plumb-cut end of joist. Fasten joist side flanges on both sides with 10d (0.148") x 1-1/2" HDG nails. Bend seat up to fit against joist bottom and drive (1) 10d (0.148") x 1-1/2" HDG nail through bottom seat into rafter bottom. Drive (2) 10d (0.148") x 1-1/2" HDG nails at downward angle through dimpled nailing guides.
2. Lean connector and rafter end against ridge beam at desired position. Install specified 10d (0.148" x 3") HDG or 16d (0.162" x 3-1/2") HDG nails through nail holes into ridge beam at right 90° angle. If skewing the rafter, only drive nails into ridge beam on inside flange.
3. Bend flange to desired angle.
4. Hammer outside flange until edge touches header. Fasten outside flange to ridge by driving specified 10d (0.148" x 3") HDG or 16d (0.162" x 3-1/2") HDG nails through nail holes.

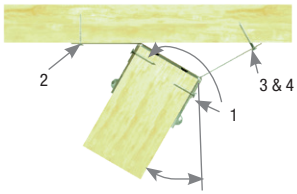
- Web stiffeners are required for all wood I-Joist installations.
- Designer may consider adding a tension restraint for the supported member for roof slopes exceeding 6/12. Refer to pages 120-121.



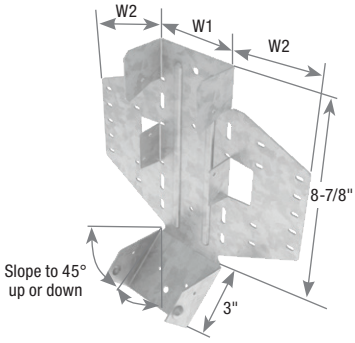
Typical LSSH179-TZ installation



LSSH210-TZ



Skew to 45° maximum



LSSH35-TZ

Rafter Width (in)	MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in)			Fastener Schedule[2,3]				D Fir-L Factored Resistance				S-P-F Factored Resistance				Corrosion Finish
							Header		Rafter		Lbs		kN		Lbs		kN		
				W1	W2	H	Qty	Type	Qty	Type	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%	
SLOPED ONLY HANGERS																			
1-1/2	LSSH15-TZ	LSSJ26LZ, LSSJ26RZ, LSSJ28LZ, LSSJ28RZ	18	1-9/16	1-3/4	5-1/16	6	10d HDG	7	10d x 1-1/2 HDG	1520	870	6.76	3.87	1300	835	5.78	3.71	
1-1/2	LSSH210-TZ	LSSJ210LZ, LSSJ210RZ	18	1-9/16	1-3/4	8-13/16	10	10d HDG	7	10d x 1-1/2 HDG	2460	1565	10.94	6.96	2020	1430	8.99	6.36	
1-3/4	LSSH179-TZ	LSSR1.81Z	18	1-13/16	1-5/8	8-13/16	10	10d HDG	7	10d x 1-1/2 HDG	2460	1565	10.94	6.96	2020	1430	8.99	6.36	
2 - 2-1/8	LSSH20-TZ	LSSR2.1Z	18	2-1/8	2-1/2	8-13/16	10	10d HDG	7	10d x 1-1/2 HDG	2065	1415	9.19	6.29	1685	1300	7.50	5.78	
2-1/4 - 2-5/16	LSSH23-TZ	LSSR2.37Z	18	2-5/16	2-3/8	8-13/16	10	10d HDG	7	10d x 1-1/2 HDG	2065	1415	9.19	6.29	1685	1300	7.50	5.78	
2-1/2	LSSH25-TZ	LSSR2.56Z	16	2-9/16	2-3/4	8-13/16	18	16d HDG	12	10d x 1-1/2 HDG	3735	1705	16.61	7.58	2980	1575	13.26	7.01	
2-5/8	LSSH26-TZ	--	16	2-11/16	2-5/8	8-13/16	18	16d HDG	12	10d x 1-1/2 HDG	3735	1705	16.61	7.58	2980	1575	13.26	7.01	
3	LSSH31-TZ	LSSR210-2Z	16	3-1/8	3-3/4	8-13/16	18	16d HDG	12	10d x 1-1/2 HDG	4505	2315	20.04	10.30	3860	2145	17.17	9.54	
3-1/2	LSSH35-TZ	LSSR410Z	16	3-9/16	3-1/2	8-13/16	18	16d HDG	12	10d x 1-1/2 HDG	4505	2315	20.04	10.30	3860	2145	17.17	9.54	
SKEWED HANGERS or SLOPED & SKEWED HANGERS																			
1-1/2	LSSH15-TZ	LSSJ26LZ, LSSJ26RZ, LSSJ28LZ, LSSJ28RZ	18	1-9/16	1-3/4	5-1/16	6	10d HDG	7	10d x 1-1/2 HDG	930	785	4.14	3.49	820	755	3.65	3.36	
1-1/2	LSSH210-TZ	LSSJ210LZ, LSSJ210RZ	18	1-9/16	1-3/4	8-13/16	10	10d HDG	7	10d x 1-1/2 HDG	2460	1565	10.94	6.96	2020	1430	8.99	6.36	
1-3/4	LSSH179-TZ	LSSR1.81Z	18	1-13/16	1-5/8	8-13/16	10	10d HDG	7	10d x 1-1/2 HDG	2460	1565	10.94	6.96	2020	1430	8.99	6.36	
2 - 2-1/8	LSSH20-TZ	LSSR2.1Z	18	2-1/8	2-1/2	8-13/16	10	10d HDG	7	10d x 1-1/2 HDG	2065	1415	9.19	6.29	1685	1300	7.50	5.78	
2-1/4 - 2-5/16	LSSH23-TZ	LSSR2.37Z	18	2-5/16	2-3/8	8-13/16	10	10d HDG	7	10d x 1-1/2 HDG	2065	1415	9.19	6.29	1685	1300	7.50	5.78	
2-1/2	LSSH25-TZ	LSSR2.56Z	16	2-9/16	2-3/4	8-13/16	14	16d HDG	12	10d x 1-1/2 HDG	2245	1705	9.99	7.58	1830	1575	8.14	7.01	
2-5/8	LSSH26-TZ	--	16	2-11/16	2-5/8	8-13/16	14	16d HDG	12	10d x 1-1/2 HDG	2245	1705	9.99	7.58	1830	1575	8.14	7.01	
3	LSSH31-TZ	LSSR210-2Z	16	3-1/8	3-3/4	8-13/16	14	16d HDG	12	10d x 1-1/2 HDG	2670	2315	11.88	10.30	2195	2145	9.76	9.54	
3-1/2	LSSH35-TZ	LSSR410Z	16	3-9/16	3-1/2	8-13/16	14	16d HDG	12	10d x 1-1/2 HDG	2670	2315	11.88	10.30	2195	2145	9.76	9.54	

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; no further increase allowed.
2) For interior dry applications with use of untreated wood, standard bright nails are acceptable.
3) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long, 10d nails are 0.148" dia. x 3" long, 16d nails are 0.162" dia. x 3-1/2" long.
New products or updated product information are designated in blue font.

Corrosion Finish Key
Stainless Steel
HDG Triple Zinc

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SKH / SKHH Skewed 45° Hangers

SKH – Standard 45° skew hanger allows for a 40° to 50° skew range, without hanger modification

SKHH – For heavier applications

AVAILABLE IN GOLD COAT

Materials: 14 or 16 gauge

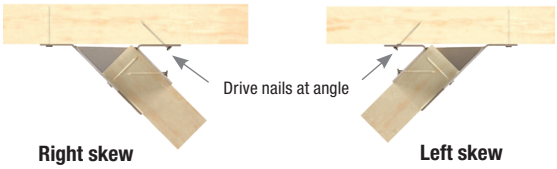
Finish: G90 galvanizing

Options: See chart for Corrosion Finish Options

Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:

- Use all specified fasteners. See Product Notes, page 16.
- The hangers listed are for standard sizes and will accommodate a 40° to 50° skew range.
- Most sizes do not require a bevel cut for installation. Refer to chart footnote identified with an asterisk.
- Illustrations show left and right skews. (SKH_L = skewed left; SKH_R = skewed right)
- For I-Joist installations, web stiffeners are required.
- Refer to illustration for staggered I-Joist application for double 2", 2-5/16", and 2-1/2" models.
- For double I-Joist installations, web stiffeners between I-Joists are required.



Right skew

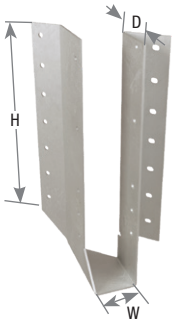
Left skew



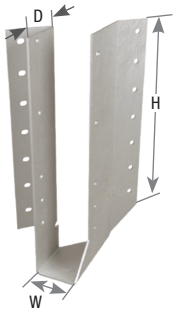
SKH26R
right skew



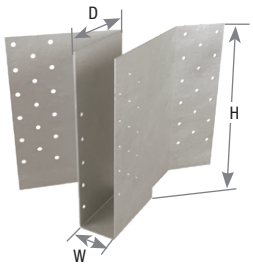
SKH26L
left skew



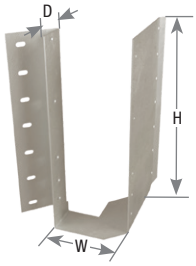
SKH210R



SKH210L



SKHH210L
left skew



SKHH210L-2
left skew



Typical SKH26L
installation
left skew

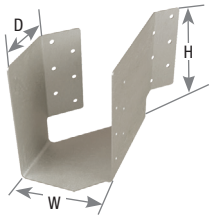
Beam / Joist Size	MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in)			Fastener Schedule[2]				D Fir-L Factored Resistance				S-P-F Factored Resistance				Corrosion Finish
							Header		Joist		Lbs		kN		Lbs		kN		
				W	H	D	Qty	Type	Qty	Type	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%	
2 x 4	SKH24L/R	SUR/L24	16	1-9/16	3-1/4	1-7/8	4	16d	4	10d x 1-1/2	805	1030	3.58	4.58	635	810	2.82	3.60	
2 x 6-8	SKH26L/R	SUR/L26	16	1-9/16	5-1/4	1-7/8	6	16d	6	10d x 1-1/2	1415	2480	6.29	11.03	1110	1945	4.94	8.65	
	SKHH26L/R	--	16	1-5/8	5-1/8	3-1/4	18	16d	12	10d x 1-1/2	3040	1615	13.52	7.18	2495	1285	11.10	5.72	
2 x 8-12	SKH28L/R	--	16	1-9/16	7-1/4	1-7/8	10	16d	8	10d x 1-1/2	2325	2480	10.34	11.03	1825	1945	8.12	8.65	
	SKHH28L/R	--	16	1-5/8	7	3-1/4	26	16d	16	10d x 1-1/2	4280	2225	19.04	9.90	3365	1745	14.97	7.76	
2 x 10-14	SKH210L/R	SUR/L210, SUR/L214	16	1-9/16	9-1/4	1-7/8	14	16d	10	10d x 1-1/2	2845	2855	12.66	12.70	2230	2240	9.92	9.96	
	SKHH210L/R	--	16	1-5/8	9	4-1/4	34	16d	20	10d x 1-1/2	4505	2780	20.04	12.37	3655	2180	16.26	9.70	
1-3/4 x 9-1/4 - 14	SKH1720L/R	SUR/L1.81/9	16	1-13/16	9-1/8	1-7/8	14	10d	10	10d x 1-1/2	3440	2855	15.30	12.70	2700	2240	12.01	9.96	
1-3/4 x 11-1/4 - 18	SKH1724L/R	SUR/L1.81/11, SUR/L1.81/14	16	1-13/16	11-1/8	1-7/8	16	10d	10	10d x 1-1/2	4640	2855	20.64	12.70	3645	2240	16.21	9.96	
2 - 2-1/8 x 9-1/4 - 14	SKH2020L/R	SUR/L2.06/9, SUR/L2.1/9	16	2-1/8	9	1-7/8	14	10d	10	10d x 1-1/2	3440	2855	15.30	12.70	2700	2240	12.01	9.96	
2 - 2-1/8 x 11-1/4 - 18	SKH2024L/R	SUR/L2.06/11, SUR/L2.1/11	16	2-1/8	11	1-7/8	16	10d	10	10d x 1-1/2	4640	2855	20.64	12.70	3645	2240	16.21	9.96	
2-1/4 - 2-5/16 x 9-1/4 - 14	SKH2320L/R	SUR/L2.37/9	16	2-3/8	8-7/8	1-7/8	14	10d	10	10d x 1-1/2	3440	2855	15.30	12.70	2700	2240	12.01	9.96	
2-1/4 - 2-5/16 x 11-1/4 - 18	SKH2324L/R	SUR/L2.37/11, SUR/L2.37/14	16	2-3/8	10-7/8	1-7/8	16	10d	10	10d x 1-1/2	4640	2855	20.64	12.70	3645	2240	16.21	9.96	

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; no further increase allowed.
2) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long, 10d nails are 0.148" dia. x 3" long, 16d nails are 0.162" dia. x 3-1/2" long, 16d x 2-1/2 nails are 1.162" dia. x 2-1/2" long.
* Bevel cut required on the end of supported joist.

Corrosion Finish Key
Stainless Steel
HDG Triple Zinc

Continued on next page

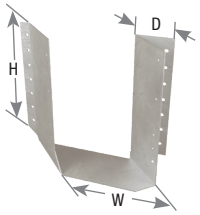
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SKHH46LIF
left skew, inverted flange



Typical SKH2520R-2 staggered I-Joist installation right skew



SKH2520R-2
right skew

Beam / Joist Size	MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in)			Fastener Schedule[2]				D Fir-L Factored Resistance				S-P-F Factored Resistance				Corrosion Finish
							Header		Joist		Lbs		kN		Lbs		kN		
				W	H	D	Qty	Type	Qty	Type	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%	
3 x 6-8	SKH36L/R	--	16	2-9/16	4-3/4	1-3/8	6	16d	6	10d x 1-1/2	1590	2855	7.07	12.70	1250	2240	5.56	9.96	
3 x 8-12	SKH38L/R	--	16	2-9/16	6-3/4	1-3/8	10	16d	8	10d x 1-1/2	2515	2855	11.19	12.70	1970	2240	8.76	9.96	
3 x 10-14	SKH310L/R	--	16	2-9/16	8-3/4	1-3/8	14	16d	10	10d x 1-1/2	3465	2855	15.41	12.70	2720	2240	12.10	9.96	
3 x 12 - 14 - 16	SKH312L/R	--	16	2-9/16	10-3/4	1-3/8	16	16d	10	10d x 1-1/2	3890	2855	17.30	12.70	3055	2240	13.59	9.96	
2-1/2 x 9-1/4 - 14	SKH2520L/R	SUR/L2.56/9	16	2-9/16	8-5/8	1-7/8	14	10d	10	10d x 1-1/2	3440	2855	15.30	12.70	2700	2240	12.01	9.96	
2-1/2 x 11-1/4 - 16	SKH2524L/R	SUR/L2.56/11, SUR/L2.56/14	16	2-9/16	10-3/4	1-7/8	16	10d	10	10d x 1-1/2	4640	2855	20.64	12.70	3645	2240	16.21	9.96	
2-5/8 x 9-1/4 - 14	SKH2620L/R	--	16	2-11/16	8-11/16	1-7/8	14	10d	10	10d x 1-1/2	3440	2855	15.30	12.70	2700	2240	12.01	9.96	
2-5/8 x 11-1/4 - 16	SKH2624L/R	--	16	2-11/16	10-11/16	1-7/8	16	10d	10	10d x 1-1/2	4640	2855	20.64	12.70	3645	2240	16.21	9.96	
(2) 2 x 6-8	SKH26L/R-2 *	SUR/L26-2	16	3-1/16	4-1/2	1-3/8	6	16d	6	10d	1760	2480	7.83	11.03	1380	1945	6.14	8.65	
	SKHH26L/R-2	HSUR/L26-2	14	3-1/16	5-1/4	2	12	16d	4	16d x 2-1/2	2895	1615	12.88	7.18	2270	1285	10.10	5.72	
	SKHH26L/R-2IF	HSUR/LC26-2	14	3-1/16	5-1/4	2	12	16d	4	16d x 2-1/2	2895	1615	12.88	7.18	2270	1285	10.10	5.72	
(2) 2 x 8-12	SKH28L/R-2 *	--	16	3-1/16	6-1/2	1-3/8	10	16d	8	10d	3900	2480	17.35	11.03	3060	1945	13.61	8.65	
(2) 2 x 10-14	SKH210L/R-2 *	SUR/L210-2	16	3-1/16	8-1/2	1-3/8	14	16d	10	10d	4960	2855	22.06	12.70	3895	2240	17.33	9.96	
	SKHH210L/R-2	HSUR/L210-2, HSUR/L214-2	14	3-1/16	8-1/2	2	20	16d	6	16d x 2-1/2	5350	3800	23.80	16.90	4200	2985	18.68	13.28	
	SKHH210L/R-2IF	HSUR/LC210-2	14	3-1/16	8-1/2	2	20	16d	6	16d x 2-1/2	5350	3800	23.80	16.90	4200	2985	18.68	13.28	
(2) 2 x 12-16	SKH212L/R-2 *	SUR/L214-2	16	3-1/16	10-1/2	1-3/8	16	16d	10	10d	4825	2855	21.46	12.70	3790	2240	16.86	9.96	
3-1/2 x 8-14	SKH410L/R *	SUR/L410	14	3-9/16	8-1/2	2-1/2	16	16d	10	16d	4130	2855	18.37	12.70	3240	2240	14.41	9.96	
3-1/2 x 12-18	SKH414L/R *	SUR/L414	14	3-9/16	12-1/2	2-1/2	24	16d	10	16d	8720	2855	38.79	12.70	6845	2240	30.45	9.96	
4 x 6-8	SKH46L/R *	SUR/L46	14	3-9/16	4-3/4	2-1/2	10	16d	6	16d	2520	2480	11.21	11.03	1980	1945	8.81	8.65	
	SKHH46L/R	HSUR/L46	14	3-9/16	5-1/4	2-1/2	12	16d	6	16d	2895	1615	12.88	7.18	2270	1285	10.10	5.72	
	SKHH46L/RIF	HSUR/LC46	14	3-9/16	5-1/4	2-1/2	12	16d	6	16d	2895	1615	12.88	7.18	2270	1285	10.10	5.72	
4 x 10-14	SKH410L/R *	SUR/L410	14	3-9/16	8-1/2	2-1/2	16	16d	10	16d	4130	2855	18.37	12.70	3240	2240	14.41	9.96	
	SKHH410L/R	HSUR/L410	14	3-9/16	8-1/2	2-1/2	20	16d	10	16d	5350	3800	23.80	16.90	4200	2985	18.68	13.28	
	SKHH410L/RIF	HSUR/LC410	14	3-9/16	8-1/2	2-1/2	20	16d	10	16d	5350	3800	23.80	16.90	4200	2985	18.68	13.28	
4 x 14-18	SKH414L/R *	SUR/L414	14	3-9/16	12-1/2	2-1/2	22	16d	10	16d	8720	2855	38.79	12.70	6845	2240	30.45	9.96	
	SKHH414L/R	HSUR/L414	14	3-9/16	12-1/2	2-1/2	26	16d	10	16d	7380	3800	32.83	16.90	5790	2985	25.76	13.28	
	SKHH414L/RIF	HSUR/LC414	14	3-9/16	12-1/2	2-1/2	26	16d	10	16d	7380	3800	32.83	16.90	5790	2985	25.76	13.28	
(2) 2 - 2-1/8 x 9-1/4 - 14	SKH2020L/R-2 *	HSUR/L4.12/9, HSUR/L4.28/9	14	4-3/16	9-1/4	3-1/2	14	10d	10	10d	5320	3490	23.66	15.52	4175	2740	18.57	12.19	
(2) 2 - 2-1/8 x 11-1/4 - 18	SKH2024L/R-2 *	HSUR/L4.12/11, HSUR/L4.12/14, HSUR/L4.12/16, HSUR/L4.28/11	14	4-3/16	11-1/4	3-1/2	16	10d	10	10d	4950	3485	22.02	15.50	3885	2735	17.28	12.17	
(2) 2-5/16 x 9-1/4 - 14	SKH2320L/R-2 *	HSUR/L4.75/9	14	4-7/8	9-1/4	3-1/2	14	10d	10	10d	5320	3490	23.66	15.52	4175	2740	18.57	12.19	
(2) 2-5/16 x 11-1/4 - 18	SKH2324L/R-2 *	HSUR/L4.75/11, HSUR/L4.75/14, HSUR/L4.75/16	14	4-7/8	11-1/4	3-1/2	16	10d	10	10d	4950	3485	22.02	15.50	3885	2735	17.28	12.17	
(2) 2-1/2 x 9-1/4 - 14	SKH2520L/R-2 *	HSUR/L5.12/9	14	5-1/8	9-1/4	3-1/2	14	10d	10	10d	5320	3490	23.66	15.52	4175	2740	18.57	12.19	
(2) 2-1/2 x 11-1/4 - 16	SKH2524L/R-2 *	HSUR/L5.12/11, HSUR/L5.12/14, HSUR/L5.12/16	14	5-1/8	11-1/4	3-1/2	16	10d	10	10d	4950	3485	22.02	15.50	3885	2735	17.28	12.17	

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; no further increase allowed.
2) **NAILS:** 10d nails are 0.148" dia. x 3" long, 16d nails are 0.162" dia. x 3-1/2" long, 16d x 2-1/2 nails 0.162" dia. x 2-1/2" long.
* Bevel cut required on the end of supported joist.

Corrosion Finish Key
Stainless Steel
HDG
Triple Zinc

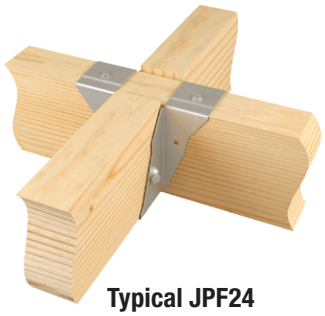
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Materials: 20 gauge
Finish: G90 galvanizing
Options: See chart for Corrosion Finish Options
Codes: Load values are derived from data submitted to various North American building code evaluators

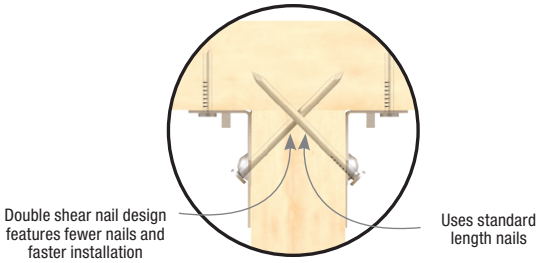
Installation:
- Use all specified fasteners. See Product Notes, page 16.
- Diamond holes allow optional header nailing.
- Joist nails must be driven at a 30° to 45° angle through the purlin into the header to achieve listed loads. **Slant / double shear nails must be used to achieve listed load values.**
- 16d sinkers (0.148" dia. x 3-1/4") may be used where 10d commons are specified with no load reduction.

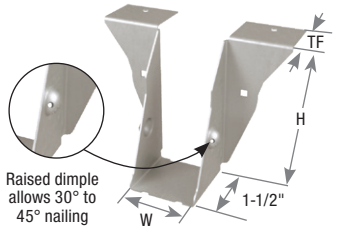


Typical JPF24 installation



Typical JPF24 back-to-back installation





JPF24

Purlin Size	MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in)			Fastener Schedule[3]						Unit	D Fir-L Factored Resistance		S-P-F Factored Resistance		Corrosion Finish
							Min/ Max	Header[2]			Joist			Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%	
				W	H	TF		Top Qty	Face Qty	Type	Qty	Type						
2 x 4	JPF24	PF24	20	1-9/16	3-3/8	1-1/16	Min	2	--	10d	2	10d	Lbs	1755	675	1380	530	
													kN	7.81	3.00	6.14	2.36	
							Max	2	2	10d	2	10d	Lbs	1995	890	1565	695	
													kN	8.87	3.96	6.96	3.09	
2 x 6	JPF26	PF26	20	1-9/16	5-3/8	1-1/16	Min	2	--	10d	2	10d	Lbs	1755	675	1380	530	
													kN	7.81	3.00	6.14	2.36	
							Max	2	2	10d	2	10d	Lbs	1995	890	1565	695	
													kN	8.87	3.96	6.96	3.09	

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) JPF cannot be used back to back on a single ply header when optional nailing is used.
3) **NAILS:** 10d nails are 0.148" dia. x 3" long.

Corrosion Finish Key Stainless Steel HDG Triple Zinc

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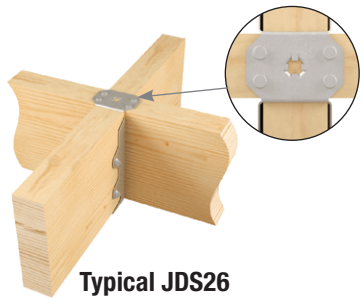
Materials: 18 gauge

Finish: G90 galvanizing

Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:

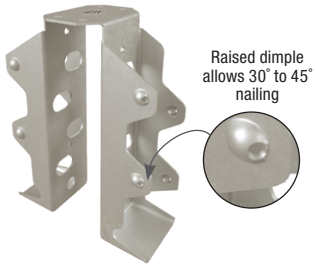
- Use all specified fasteners. See Product Notes, page 16.
- Joist nails must be driven at a 30° to 45° angle through the purlin into the header to achieve listed loads. **Slant / double shear nails must be used to achieve listed load values.**



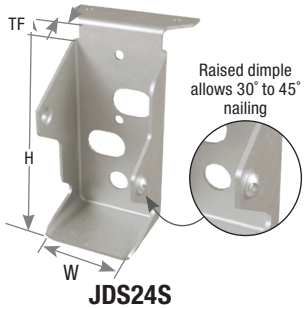
Typical JDS26 installation



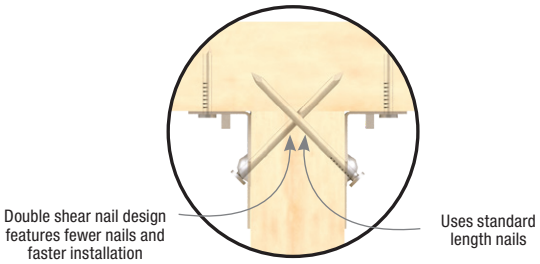
Typical JDS24S installation

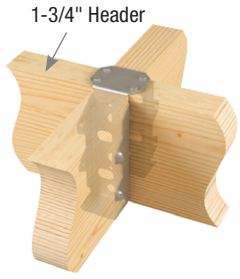


JDS26
(JDS24 similar)

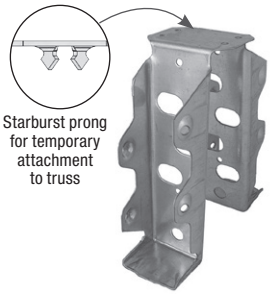


JDS24S





JDS26-175 installation



JDS26-175

Purlin Size	MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in)			Fastener Schedule[2]						Unit	D Fir-L Factored Resistance		S-P-F Factored Resistance	
								Header			Each Purlin						
				W	H	TF	Min/ Max	Top Qty	Face Qty	Type	Qty	Type		Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%
2 x 4 single	JDS24S	PF24B	18	1-9/16	3-1/2	3/4	Min	1	2	10d x 1-1/2	2	10d x 1-1/2	Lbs	655	285	655	285
													kN	2.91	1.27	2.91	1.27
							Max	2	--	10d x 1-1/2	2	10d	Lbs	960	655	760	535
													kN	4.27	2.91	3.38	2.38
2 x 4 saddle	JDS24	PFD24B	18	1-9/16	3-1/2	1-9/16	Min	2	4	10d x 1-1/2	2	10d x 1-1/2	Lbs	1310	570	1310	570
													kN	5.83	2.54	5.83	2.54
							Max	4	--	10d x 1-1/2	2	10d	Lbs	1925	1305	1520	1070
													kN	8.56	5.80	6.76	4.76
2 x 6 single	JDS26S	PF26B	18	1-9/16	5-1/2	3/4	Min	1	2	10d x 1-1/2	4	10d x 1-1/2	Lbs	785	580	785	580
													kN	3.49	2.58	3.49	2.58
							Max	2	--	10d x 1-1/2	4	10d	Lbs	1455	780	1325	710
													kN	6.47	3.47	5.89	3.16
2 x 6 saddle	JDS26-175	--	18	1-9/16	5-7/16	1-3/4	Min	2	4	10d x 1-1/2	4	10d x 1-1/2	Lbs	1805	1330	1750	1290
													kN	8.03	5.92	7.78	5.74
							Max	4	--	10d x 1-1/2	4	10d	Lbs	3335	1785	2645	1415
													kN	14.83	7.94	11.77	6.29
	JDS26	PFD26B	18	1-9/16	5-1/2	1-9/16	Min	2	4	10d x 1-1/2	4	10d x 1-1/2	Lbs	1570	1160	1570	1160
													kN	6.98	5.16	6.98	5.16
							Max	4	--	10d x 1-1/2	4	10d	Lbs	2910	1555	2645	1415
													kN	12.94	6.92	11.77	6.29

1) Factored uplift resistances have been increased 15% for short-term loads such as wind and earthquake; no further increase allowed.
2) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long, 10d nails are 0.148" dia. x 3" long.

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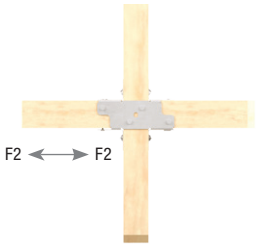
TUS / DTUS Undersaddle Hangers

TUS – For a single ply purlin

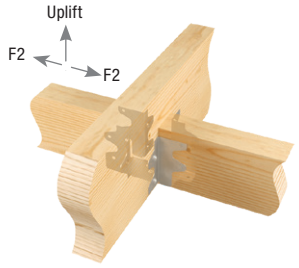
DTUS – For a single ply purlin with a 2-ply saddle dimension

Materials: 20 gauge
Finish: G90 galvanizing

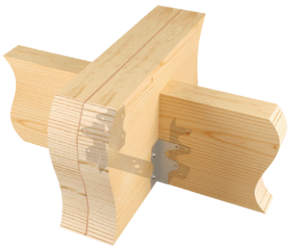
Installation:
- Use all specified fasteners. See Product Notes, page 16.
- Attaches with standard 1-1/2" joist hanger nails that can be installed with a positive placement nail gun or be hand driven.
- Other 1-1/2" fasteners with a shear value equal or greater than a 10d nail may be used.

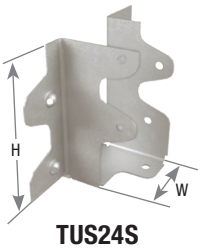


Bottom View

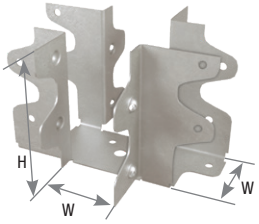


Typical TUS24 installation

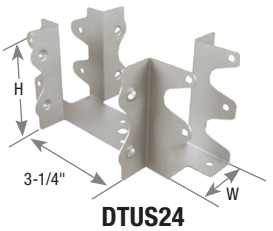

Typical DTUS24 installation



TUS24S



TUS24



DTUS24

Joist Size	MiTek Stock No.	Ref. No.	Ga.	Dimensions (in)		Fastener Schedule[2]						Unit	D Fir-L Factored Resistance			S-P-F Factored Resistance		
						Header			Joist				Download	Uplift[1]	F2[1]	Download	Uplift[1]	F2[1]
						Qty			Qty									
				W	H	Face	Bottom	Type	Face	Bottom	Type		100%	115%	115%	100%	115%	115%
2 x 4 - 6 single	TUS24S	--	20	1-9/16	3	4	1	8d x 1-1/2	4	1	8d x 1-1/2	Lbs	980	955	385	770	750	275
												kN	4.36	4.25	1.71	3.43	3.34	1.22
								10d x 1-1/2			10d x 1-1/2	Lbs	980	955	385	770	750	275
												kN	4.36	4.25	1.71	3.43	3.34	1.22
								LL915			LL915	Lbs	980	955	385	770	750	275
												kN	4.36	4.25	1.71	3.43	3.34	1.22
2 x 4 - 6 saddle	TUS24	--	20	1-9/16	3	4	1	8d x 1-1/2	4	1	8d x 1-1/2	Lbs	980	955	1120	770	750	795
												kN	4.36	4.25	4.98	3.43	3.34	3.54
								10d x 1-1/2			10d x 1-1/2	Lbs	980	955	1120	770	750	795
												kN	4.36	4.25	4.98	3.43	3.34	3.54
								LL915			LL915	Lbs	980	955	1120	770	750	795
												kN	4.36	4.25	4.98	3.43	3.34	3.54
2 x 4 - 6 saddle	DTUS24	--	20	1-9/16	3	4	1	8d x 1-1/2	4	1	8d x 1-1/2	Lbs	980	955	1120	770	750	795
												kN	4.36	4.25	4.98	3.43	3.34	3.54
								10d x 1-1/2			10d x 1-1/2	Lbs	980	955	1120	770	750	795
												kN	4.36	4.25	4.98	3.43	3.34	3.54
								LL915			LL915	Lbs	980	955	1120	770	750	795
												kN	4.36	4.25	4.98	3.43	3.34	3.54

1) Factored uplift resistances have been increased 15% for short-term loads such as wind and earthquake; no further increase allowed.
2) **NAILS:** 8d x 1-1/2 nails are 0.131" dia. x 1-1/2" long, 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long, LL915 denotes a MiTek LumberLok structural wood screw, #9 x 1-3/8" long.

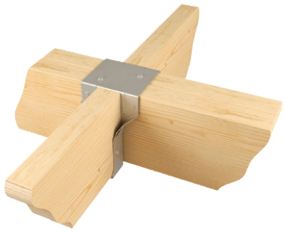
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FHD Panel Hangers

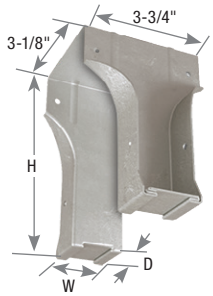
The FHD26 hanger straddles the header and receives a joist from both sides.

Materials: 18 gauge
Finish: G90 galvanizing

Installation:
- Use all specified fasteners. See Product Notes, page 16.
- In panelized construction, installers are allowed to nail through both the sheathing and the hanger top flange with (1) 10d nail. The nail should be centered in the top flange and be no closer than 1/4" from the back or front edge of the top flange.



Typical FHD26 installation



FHD26

Joist Size	MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in) W	H	D	Fastener Schedule[3] Header Top Qty	Header Face Qty	Header Type	Joist Qty	Joist Type	Unit	D Fir-L Factored Resistance[1] Vertical 100%	D Fir-L Uplift 115%[2]	S-P-F Factored Resistance[1] Vertical 100%	S-P-F Uplift 115%[2]
2 x 6	FHD26	PFDS26	18	1-9/16	5-3/8	1-1/2	2	2	16d	2	10d x 1-1/2	Lbs	1575	335	1235	260
												kN	7.01	1.49	5.49	1.16

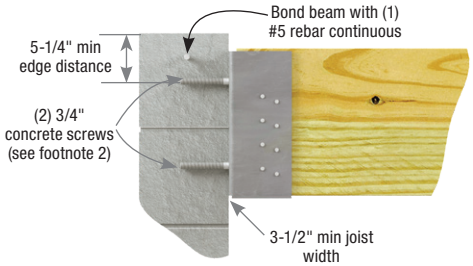
1) Loads listed are per side.
2) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
3) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long, 16d nails are 0.162" dia. x 3-1/2" long. 10d x 1-1/2 nails may be substituted for 16d header nails with a maximum load of 960 lbs.

UMH Universal Masonry Hangers

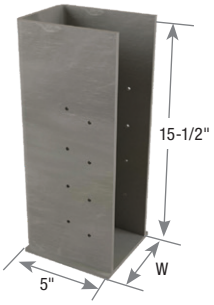
A versatile solution for hanging beams from masonry walls. Face mount design allows hanger to be used with beam heights from 16" to 24". Available in a variety of widths for solid sawn, glulam, or engineered lumber beams.

Materials: 1/4" steel
Finish: Primer
Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:
- Use all specified fasteners. See Product Notes, page 16.
- Fully grouted and reinforced concrete block or cast-in-place concrete with a minimum of (1) #5 rebar continuous to footing with standard hook at bolt locations.
- Minimum joist width is 3-1/2".



Typical UMH installation



UMH

MiTek Stock No.	Ref. No.	Steel Gauge	W (in)	Fastener Schedule Header[2] Qty	Header Screw Anchor	Joist[3] Qty	Joist Type	Unit	D Fir-L Factored Resistance Masonry 2,500 psi Vertical 100%	Masonry 2,500 psi Uplift[1] 115%	Cast-in-Place Concrete 3,000 psi Vertical 100%	Cast-in-Place Concrete 3,000 psi Uplift[1] 115%	S-P-F Factored Resistance Masonry 2,500 psi Vertical 100%	Masonry 2,500 psi Uplift[1] 115%	Cast-in-Place Concrete 3,000 psi Vertical 100%	Cast-in-Place Concrete 3,000 psi Uplift[1] 115%
UMH358	MBHU3.56/16KT, MBHU3.56/18KT	3	3-5/8	2	3/4"	16	16d	Lbs	6610	4390	9455	7770	6610	4390	7445	6785
								kN	29.40	19.53	42.06	34.56	29.40	19.53	33.12	30.18
UMH458	--	3	4-5/8	2	3/4"	16	16d	Lbs	6610	4390	9455	7770	6610	4390	7445	6785
								kN	29.40	19.53	42.06	34.56	29.40	19.53	33.12	30.18
UMH538	--	3	5-3/8	2	3/4"	16	16d	Lbs	6610	4390	9455	7770	6610	4390	7445	6785
								kN	29.40	19.53	42.06	34.56	29.40	19.53	33.12	30.18
UMH558	MBHU5.50/16KT, MBHU5.50/18KT	3	5-5/8	2	3/4"	16	16d	Lbs	6610	4390	9455	7770	6610	4390	7445	6785
								kN	29.40	19.53	42.06	34.56	29.40	19.53	33.12	30.18
UMH718	--	3	7-1/8	2	3/4"	16	16d	Lbs	6610	4390	9455	7770	6610	4390	7445	6785
								kN	29.40	19.53	42.06	34.56	29.40	19.53	33.12	30.18

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; no further increase allowed.
2) Fasten UMH hanger to concrete structure with (2) 3/4" dia. DeWalt Screw-Bolt+ screw anchors or equal with 5" minimum embedment. Screw anchors shall be installed in masonry with grouted cells in accordance with manufacturer's installation specifications.
3) **NAILS:** 16d nails are 0.162" dia. x 3-1/2" long.

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LGUM and HGUM Masonry Girder Hangers are high-capacity beam/girder hangers designed for installation to masonry or concrete walls. The LGUM and HGUM hangers use MiTek's WS structural wood screws (supplied) to attach the beam to hanger and screw anchors (supplied) to attach to the masonry or concrete wall. These hangers eliminate the need for constructing beam pockets.

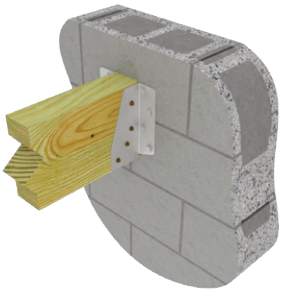
Materials: LGUM – 12 gauge; HGUM – 7 gauge

Finish: G90 galvanizing

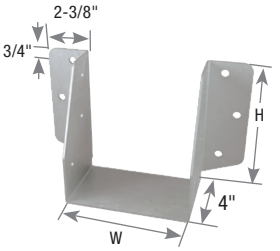
Options: See Specialty Options chart on page 163

Installation:

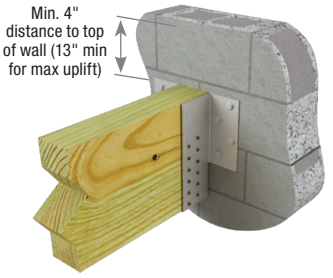
- MiTek's WS3 structural wood screws and screw anchors are supplied with hangers. Substituting other fasteners may reduce capacity.
- Beams comprised of multiple plies must be adequately fastened to act as a single member.
- Beam height dimension (H) must be specified when ordering HGUM hangers.
- Moisture barrier between beam and wall may be required by local jurisdiction.



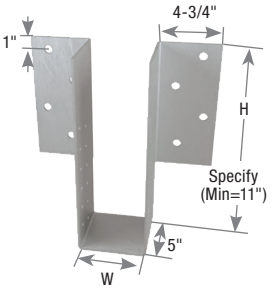
Typical LGUM installation



LGUM



Typical HGUM installation



HGUM

MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in)			Fastener Schedule				Unit	D Fir-L Factored Resistance			S-P-F Factored Resistance		
						CMU/ Concrete		Joist				Uplift (115%)[1] CMU / Concrete[2,3]			Uplift (115%)[1] CMU / Concrete[2,3]	
			W	H[4]	D	Qty	Screw Anchor[5]	Qty	WS Screws[6]		CMU/ Concrete[2,3] 100%	4" Min. to Top of Wall	13" Min. to Top of Wall	CMU/ Concrete[2,3] 100%	4" Min. to Top of Wall	13" Min. to Top of Wall
Double 2x Sizes																
LGUM26-2	LGUM26-2-SDS	12	3-5/16	5-7/16	4	4	3/8" x 4"	4	WS3	Lbs	10840	3485	3485	8745	2810	2810
										kN	48.22	15.50	15.50	38.90	12.50	12.50
LGUM28-2	LGUM28-2-SDS	12	3-5/16	7-3/16	4	6	3/8" x 4"	6	WS3	Lbs	13120	4540	4540	10580	3660	3660
										kN	58.36	20.19	20.19	47.06	16.28	16.28
LGUM210-2	LGUM210-2-SDS	12	3-5/16	9-3/16	4	8	3/8" x 4"	8	WS3	Lbs	16225	5490	5490	13085	4425	4425
										kN	72.17	24.42	24.42	58.20	19.68	19.68
Triple 2x Sizes																
LGUM26-3	LGUM26-3-SDS	12	4-15/16	5-1/2	4	4	3/8" x 4"	4	WS3	Lbs	10840	3485	3485	8745	2810	2810
										kN	48.22	15.50	15.50	38.90	12.50	12.50
LGUM28-3	LGUM28-3-SDS	12	4-15/16	7-1/4	4	6	3/8" x 4"	6	WS3	Lbs	13120	4540	4540	10580	3660	3660
										kN	58.36	20.19	20.19	47.06	16.28	16.28
LGUM210-3	LGUM210-3-SDS	12	4-15/16	9-1/4	4	8	3/8" x 4"	8	WS3	Lbs	16225	5490	5490	13085	4425	4425
										kN	72.17	24.42	24.42	58.20	19.68	19.68

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; no further increase allowed.
2) Masonry compressive strength shall be minimum 1,500 psi.
3) Minimum concrete strength f'_c = 2,000 psi.
4) "Specify" denotes the required supported beam height that must be specified at the time of ordering.
5) Use DeWalt Screw-Bolt™+ (included); or equal, installed in accordance with manufacturer's specification.
6) MiTek's WS3 structural wood screws are 1/4" dia. x 3" long and are included with hangers.

Continued on next page

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MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in)			Fastener Schedule				Unit	D Fir-L Factored Resistance			S-P-F Factored Resistance		
						CMU/ Concrete		Joist				Uplift (115%)[1] CMU / Concrete[2,3]			Uplift (115%)[1] CMU / Concrete[2,3]	
			W	H[4]	D	Qty	Screw Anchor[5]	Qty	WS Screws[6]		CMU/ Concrete[2,3] 100%	4" Min. to Top of Wall	13" Min. to Top of Wall	CMU/ Concrete[2,3] 100%	4" Min. to Top of Wall	13" Min. to Top of Wall
Quadruple 2x Sizes																
LGUM26-4	LGUM26-4-SDS	12	6-9/16	5-7/16	4	4	3/8" x 4"	4	WS3	Lbs	10840	3485	3485	8745	2810	2810
										kN	48.22	15.50	15.50	38.90	12.50	12.50
LGUM28-4	LGUM28-4-SDS	12	6-9/16	7-3/16	4	6	3/8" x 4"	6	WS3	Lbs	13120	4540	4540	10580	3660	3660
										kN	58.36	20.19	20.19	47.06	16.28	16.28
LGUM210-4	LGUM210-4-SDS	12	6-9/16	9-3/16	4	8	3/8" x 4"	8	WS3	Lbs	16225	5490	5490	13085	4425	4425
										kN	72.17	24.42	24.42	58.20	19.68	19.68
4x Sizes																
LGUM46	LGUM46-SDS	12	3-5/8	4-7/8	4	4	3/8" x 4"	4	WS3	Lbs	10840	3485	3485	8745	2810	2810
										kN	48.22	15.50	15.50	38.90	12.50	12.50
LGUM48	LGUM48-SDS	12	3-5/8	6-7/8	4	6	3/8" x 4"	6	WS3	Lbs	13120	4540	4540	10580	3660	3660
										kN	58.36	20.19	20.19	47.06	16.28	16.28
LGUM410	LGUM410-SDS	12	3-5/8	8-7/8	4	8	3/8" x 4"	8	WS3	Lbs	16225	5490	5490	13085	4425	4425
										kN	72.17	24.42	24.42	58.20	19.68	19.68
Engineered Wood & Structural Lumber Sizes (Heavy Duty)																
HGUM525	HGUM5.25-SDS	7	5-1/4	Specify 11 to 30	5	8	5/8" x 5"	24	WS3	Lbs	26165	7010	15890	20780	5570	12620
										kN	116.39	31.18	70.68	92.43	24.78	56.14
HGUM550	HGUM5.50-SDS	7	5-1/2		5	8	5/8" x 5"	24	WS3	Lbs	26165	7010	15890	20780	5570	12620
										kN	116.39	31.18	70.68	92.43	24.78	56.14
HGUM700	HGUM7.00-SDS	7	7		5	8	5/8" x 5"	24	WS3	Lbs	26165	7010	15890	20780	5570	12620
										kN	116.39	31.18	70.68	92.43	24.78	56.14
HGUM725	HGUM7.25-SDS	7	7-1/4		5	8	5/8" x 5"	24	WS3	Lbs	26165	7010	15890	20780	5570	12620
										kN	116.39	31.18	70.68	92.43	24.78	56.14
HGUM900	HGUM9.00-SDS	7	9		5	8	5/8" x 5"	24	WS3	Lbs	26165	7010	15890	20780	5570	12620
										kN	116.39	31.18	70.68	92.43	24.78	56.14

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; no further increase allowed.
2) Masonry compressive strength shall be minimum 1,500 psi.
3) Minimum concrete strength f'_c = 2,000 psi.
4) "Specify" denotes the required supported beam height that must be specified at the time of ordering.
5) Use DeWalt Screw-Bolt™+ (included); or equal, installed in accordance with manufacturer's specification.
6) MiTek's WS3 structural wood screws are 1/4" dia. x 3" long and are included with hangers.

Specialty Options Chart –
Refer to Specialty Options pages 294-295 for additional details.

Option	Inverted Flange
Range	One Inverted-Flange option
Factored Resistance	50% of table download 75% of table uplift load
Ordering	Add *IF* and right *(R)* or left *(L)* to product number. Ex. HGUM525_H=18_IFL



Typical HGUM one inverted flange, left shown

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These hangers are designed to support standard lumber joists, I-Joists, or beams. Easy installation into concrete block walls makes the MPH an attractive alternative to fabricating seats in masonry (or attaching ledgers) to support joists or beams.

Materials: 12 gauge

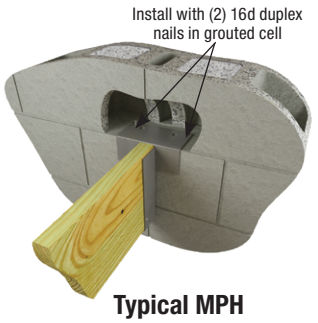
Finish: Primer

Options: All nominal lumber sizes are available for rough full size lumber. See Specialty Options Chart on page 165

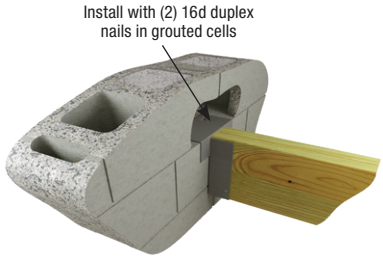
Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:

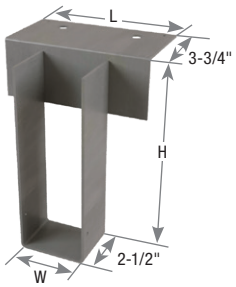
- Use all specified fasteners. See Product Notes, page 16.
- 16d duplex nails are not supplied with MPH hangers.
- Place hanger into position on top of concrete block. Install (2) 16d duplex nails (0.162" dia. x 3-1/2" double head) through the top flange nail holes. Then continue laying the next course of block.
- A minimum of one course shall be laid over hanger top flange and one course below hanger top flange. Courses adjacent to the top flange shall be subsequently grouted.
- **These products do not provide uplift resistance.**



Typical MPH single ply installation



Typical MPH double ply installation



MPH

Beam/ Joist Size	MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in)			Fastener Schedule[2]				D Fir-L Factored Resistance[1]		S-P-F Factored Resistance[1]	
							Block		Joist		Vertical 100%		Vertical 100%	
				W	H	L	Qty	Type	Qty	Type	Lbs	kN	Lbs	kN
Standard Lumber Sizes														
2 x 10	MPH210	WM210	12	1-9/16	9-1/4	7	2	16d duplex	2	10d x 1-1/2	4705	20.93	3695	16.44
2 x 12	MPH212	WM212	12	1-9/16	11-1/4	7	2	16d duplex	2	10d x 1-1/2	4705	20.93	3695	16.44
2 x 14	MPH214	WM214	12	1-9/16	13-1/8	7	2	16d duplex	2	10d x 1-1/2	4705	20.93	3695	16.44
2 x 16	MPH216	WM216	12	1-9/16	15-1/8	7	2	16d duplex	2	10d x 1-1/2	4705	20.93	3695	16.44
(2) 2 x 10	MPH210-2	WM210-2	12	3-1/8	9-1/4	7	2	16d duplex	2	10d	6215	27.65	4880	21.71
(2) 2 x 12	MPH212-2	WM212-2	12	3-1/8	11-1/4	7	2	16d duplex	2	10d	6215	27.65	4880	21.71
(2) 2 x 14	MPH214-2	WM214-2	12	3-1/8	13-1/8	7	2	16d duplex	2	10d	6215	27.65	4880	21.71
(2) 2 x 16	MPH216-2	WM216-2	12	3-1/8	15-1/8	7	2	16d duplex	2	10d	6215	27.65	4880	21.71
3 x 10	MPH310	WM310	12	2-9/16	9-1/4	7	2	16d duplex	2	10d x 1-1/2	4705	20.93	3695	16.44
3 x 12	MPH312	WM312	12	2-9/16	11-1/4	7	2	16d duplex	2	10d x 1-1/2	4705	20.93	3695	16.44
3 x 14	MPH314	WM314	12	2-9/16	13-1/8	7	2	16d duplex	2	10d x 1-1/2	4705	20.93	3695	16.44
3 x 16	MPH316	WM316	12	2-9/16	15-1/8	7	2	16d duplex	2	10d x 1-1/2	4705	20.93	3695	16.44
4 x 10	MPH410	WM410	12	3-9/16	9-1/4	7	2	16d duplex	2	10d	6215	27.65	4880	21.71
4 x 12	MPH412	WM412	12	3-9/16	11-1/4	7	2	16d duplex	2	10d	6215	27.65	4880	21.71
4 x 14	MPH414	WM414	12	3-9/16	13-1/8	7	2	16d duplex	2	10d	6215	27.65	4880	21.71
4 x 16	MPH416	WM416	12	3-9/16	15-1/8	7	2	16d duplex	2	10d	6215	27.65	4880	21.71
6 x 10	MPH610	WM610	12	5-9/16	9-1/4	7	2	16d duplex	2	10d	6215	27.65	4880	21.71
Engineered Lumber Sizes														
1-1/2 x 9-1/4	MPH210	WM29.25	12	1-9/16	9-1/4	7	2	16d duplex	2	10d x 1-1/2	4705	20.93	3695	16.44
1-1/2 x 9-1/2	MPH1595	WM29.5	12	1-9/16	9-1/2	7	2	16d duplex	2	10d x 1-1/2	4705	20.93	3695	16.44
1-1/2 x 11-1/4	MPH212	WM211.25	12	1-9/16	11-1/4	7	2	16d duplex	2	10d x 1-1/2	4705	20.93	3695	16.44
1-1/2 x 11-7/8	MPH15118	WM211.88	12	1-9/16	11-7/8	7	2	16d duplex	2	10d x 1-1/2	4705	20.93	3695	16.44
1-1/2 x 14	MPH1514	--	12	1-9/16	14	7	2	16d duplex	2	10d x 1-1/2	4705	20.93	3695	16.44
1-3/4 x 9-1/2	MPH1795	WM9	12	1-13/16	9-1/2	7	2	16d duplex	2	10d x 1-1/2	4705	20.93	3695	16.44
1-3/4 x 11-7/8	MPH17118	WM11	12	1-13/16	11-7/8	7	2	16d duplex	2	10d x 1-1/2	4705	20.93	3695	16.44
1-3/4 x 14	MPH1714	WM14	12	1-13/16	14	7	2	16d duplex	2	10d x 1-1/2	4705	20.93	3695	16.44
1-3/4 x 16	MPH1716	WM16	12	1-13/16	16	7	2	16d duplex	2	10d x 1-1/2	4705	20.93	3695	16.44
Engineered Lumber Sizes														
2-5/16 x 9-1/2	MPH2395	--	12	2-3/8	9-1/2	7	2	16d duplex	2	10d x 1-1/2	6215	27.65	4880	21.71
2-5/16 x 11-7/8	MPH23118	WM3511.88	12	2-3/8	11-7/8	7	2	16d duplex	2	10d x 1-1/2	6215	27.65	4880	21.71
2-5/16 x 14	MPH2314	WM3514	12	2-3/8	14	7	2	16d duplex	2	10d x 1-1/2	6215	27.65	4880	21.71
2-5/16 x 16	MPH2316	WM3516	12	2-3/8	16	7	2	16d duplex	2	10d x 1-1/2	6215	27.65	4880	21.71
2-5/16 x 18	MPH2318	WM3518	12	2-3/8	18	7	2	16d duplex	2	10d x 1-1/2	6215	27.65	4880	21.71
2-5/16 x 20	MPH2320	WM3520	12	2-3/8	20	7	2	16d duplex	2	10d x 1-1/2	6215	27.65	4880	21.71

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Beam/ Joist Size	MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in)			Fastener Schedule[3]				D Fir-L Factored Resistance[1]		S-P-F Factored Resistance[1]	
							Block		Joist		Vertical 100%		Vertical 100%	
				W	H[2]	L	Qty	Type	Qty	Type	Lbs	kN	Lbs	kN
Engineered Lumber Sizes														
2-1/2 x 9-1/4	MPH25925	--	12	2-1/2	9-1/4	7	2	16d duplex	2	10d x 1-1/2	6215	27.65	4880	21.71
2-1/2 x 9-1/2	MPH2595	--	12	2-1/2	9-1/2	7	2	16d duplex	2	10d x 1-1/2	6215	27.65	4880	21.71
2-1/2 x 11-1/4	MPH25112	--	12	2-1/2	11-1/4	7	2	16d duplex	2	10d x 1-1/2	6215	27.65	4880	21.71
2-1/2 x 11-7/8	MPH25118	--	12	2-1/2	11-7/8	7	2	16d duplex	2	10d x 1-1/2	6215	27.65	4880	21.71
2-1/2 x 14	MPH2514	WMI314	12	2-1/2	14	7	2	16d duplex	2	10d x 1-1/2	6215	27.65	4880	21.71
2-1/2 x 16	MPH2516	WMI316	12	2-1/2	16	7	2	16d duplex	2	10d x 1-1/2	6215	27.65	4880	21.71
2-1/2 x 18	MPH2518	WMI318	12	2-1/2	18	7	2	16d duplex	2	10d x 1-1/2	6215	27.65	4880	21.71
2-1/2 x 20	MPH2520	WMI320	12	2-1/2	20	7	2	16d duplex	2	10d x 1-1/2	6215	27.65	4880	21.71
2-1/2 x 22	MPH2522	--	12	2-1/2	22	7	2	16d duplex	2	10d x 1-1/2	6215	27.65	4880	21.71
2-1/2 x 24	MPH2524	--	12	2-1/2	24	7	2	16d duplex	2	10d x 1-1/2	6215	27.65	4880	21.71
2-1/2 x 26	MPH2526	--	12	2-1/2	26	7	2	16d duplex	2	10d x 1-1/2	6215	27.65	4880	21.71
3 x 9-1/4	MPH210-2	WM29.25-2	12	3-1/8	9-1/4	7	2	16d duplex	2	10d	6215	27.65	4880	21.71
3 x 9-1/2	MPH1595-2	WM29.5-2	12	3-1/8	9-1/2	7	2	16d duplex	2	10d	6215	27.65	4880	21.71
3 x 11-1/4	MPH15112-2	WM211.25-2	12	3-1/8	11-1/4	7	2	16d duplex	2	10d	6215	27.65	4880	21.71
3 x 11-7/8	MPH15118-2	WM211.88-2	12	3-1/8	11-7/8	7	2	16d duplex	2	10d	6215	27.65	4880	21.71
3-1/2 x 9-1/4	MPH410	WM410	12	3-9/16	9-1/4	7	2	16d duplex	2	10d	6215	27.65	4880	21.71
3-1/2 x 9-1/2	MPH1795-2	WM3.56/9.5	12	3-5/8	9-1/2	7	2	16d duplex	2	10d	6215	27.65	4880	21.71
3-1/2 x 11-1/4	MPH412	WM412	12	3-9/16	11-1/4	7	2	16d duplex	2	10d	6215	27.65	4880	21.71
3-1/2 x 11-7/8	MPH17118-2	WM3.56/11.88	12	3-5/8	11-7/8	7	2	16d duplex	2	10d	6215	27.65	4880	21.71
3-1/2 x 12	MPH3512	WMI412	12	3-1/2	12	7	2	16d duplex	2	10d	6215	27.65	4880	21.71
3-1/2 x 14	MPH3514	WMI414	12	3-1/2	14	7	2	16d duplex	2	10d	6215	27.65	4880	21.71
3-1/2 x 16	MPH3516	WMI416	12	3-1/2	16	7	2	16d duplex	2	10d	6215	27.65	4880	21.71
3-1/2 x 18	MPH3518	WMI418	12	3-1/2	18	7	2	16d duplex	2	10d	6215	27.65	4880	21.71
3-1/2 x 20	MPH3520	WMI420	12	3-1/2	20	7	2	16d duplex	2	10d	6215	27.65	4880	21.71
4-5/8 x 11-7/8	MPH23118-2	WM3511.88-2	12	4-5/8	11-7/8	7	2	16d duplex	2	10d	6215	27.65	4880	21.71
4-5/8 x 14	MPH2314-2	WM3514-2	12	4-5/8	14	7	2	16d duplex	2	10d	6215	27.65	4880	21.71
4-5/8 x 16	MPH2316-2	WM3516-2	12	4-5/8	16	7	2	16d duplex	2	10d	6215	27.65	4880	21.71
4-5/8 x 18	MPH2318-2	WM3518-2	12	4-5/8	18	7	2	16d duplex	2	10d	6215	27.65	4880	21.71
4-5/8 x 20	MPH2320-2	WM3520-2	12	4-5/8	20	7	2	16d duplex	2	10d	6215	27.65	4880	21.71
5-1/4 x 9-1/2	MPH5595	WM5.50/9.5	12	5-5/8	9-1/2	7	2	16d duplex	2	10d	6215	27.65	4880	21.71
5-1/4 x 11-7/8	MPH55118	WM5.50/11.88	12	5-5/8	11-7/8	7	2	16d duplex	2	10d	6215	27.65	4880	21.71
7 x 9-1/2	MPH3595-2	WMI49.5-2	12	7-1/8	9-1/2	8	2	16d duplex	2	10d	6215	27.65	4880	21.71
7 x 11-1/4	MPH35112-2	WMI411.25-2	12	7-1/8	11-1/4	8	2	16d duplex	2	10d	6215	27.65	4880	21.71
7 x 11-7/8	MPH35118-2	WMI411.88-2	12	7-1/8	11-7/8	8	2	16d duplex	2	10d	6215	27.65	4880	21.71
7 x 14	MPH3514-2	WMI414-2	12	7-1/8	14	8	2	16d duplex	2	10d	6215	27.65	4880	21.71
7 x 16	MPH3516-2	WMI416-2	12	7-1/8	16	8	2	16d duplex	2	10d	6215	27.65	4880	21.71
7 x 18	MPH3518-2	WMI418-2	12	7-1/8	18	8	2	16d duplex	2	10d	6215	27.65	4880	21.71
Glulam Sizes														
3-1/8 x glulam	MPH325	--	12	3-1/4	specify	7	2	16d duplex	2	10d	6215	27.65	4880	21.71
5-1/8 x glulam	MPH525	--	12	5-1/4	specify	7	2	16d duplex	2	10d	6215	27.65	4880	21.71

1) Masonry compressive strength shall be minimum 2,000 psi.
2) "Specify" denotes the required supported beam height that must be specified at time of ordering.
3) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long, 10d nails are 0.148" dia. x 3" long, 16d duplex nails are 0.162" dia. x 3-1/2" long, double headed nails and shall be installed in grouted cells in accordance to manufacturer's installation specifications.

Specialty Options Chart

Refer to Specialty Options pages 294, 296-297 for additional details.

Option	Skewed[1,3]	Sloped Seat[2]	Sloped / Skewed[1,2,3]	Top Flange Offset
Range	1˚ to 60˚	1˚ to 45˚	See Sloped Seat and Skewed	-- --
Factored Resistance	100% of table load	100% of table load	100% of table load	**Hanger Width** / **% of table load:** 3-1/2" or less — 60% 3-9/16" to 5-1/2" — 75% 5-9/16" to 7-1/2" — 85%
Ordering	Add *SK,* angle required, right *(R)* or left *(L),* and square cut *(SQ)* or bevel cut *(BV)* to product number. Ex. MPH210_SK45R_SQ	Add *SL,* slope required, and up *(U)* or down *(D),* to product number. Ex. MPH210_SL30D	See Sloped Seat and Skewed. Ex. MPH210_SK45R_SQ_SL30D	Add *OS,* and right *(R)* or left *(L),* to product number. Ex. MPH210_OSL

1) Skewed hangers with skews greater than 15° may have all joist nailing on outside flange.
2) Sloped or sloped / skewed hangers with slopes greater than 15° may have additional joist nails.
3) For skewed hangers, the required cut type (square or bevel) of joist member may vary based on skew angle and width of hanger. Some square cut hangers will require custom pricing due to welded back plate.

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Versatile heavy-duty top flange hanger attaches to both wood and masonry. Unique design allows builders to use one style hanger on the job when the structure has a variety of support materials.

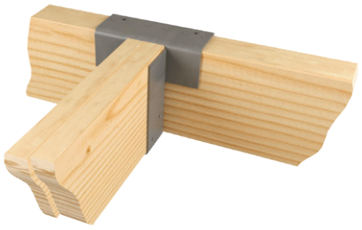
Materials: Top Flange – 1/4" steel; Stirrup – 7 gauge

Finish: Primer

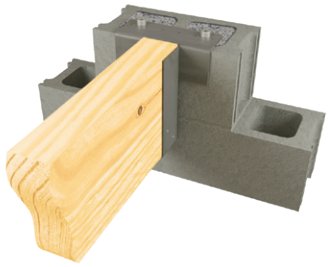
Options: See Specialty Options Chart on page 167

Installation:

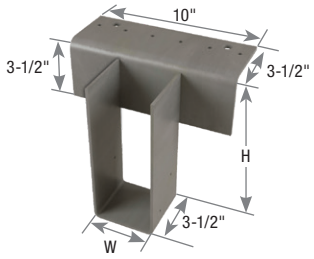
- Use all specified fasteners. See Product Notes, page 16.
- NA21 nails are included with hangers where specified.
- **NA21 nails are not recommended for use with LVL, PSL, or LSL headers.**
- Masonry design load values apply to both solid concrete tie beams and grout-filled CMU walls.
- Alternate installation – Use (2) 1/2" x 4" DeWalt Screw-Bolts or equal for loads up to 3,455 lbs. when attaching to CMU. Loads shall not exceed table loads.



Typical HWUH410 wood-to-wood installation



Typical HWUH410 wood-to-masonry installation



HWUH

Beam/ Joist Size	MiTek Stock No.	Ref. No.	Dimensions (in)		Install Type	Fastener Schedule[2]				D Fir-L Factored Resistance				S-P-F Factored Resistance			
						Header		Joist		Lbs		kN		Lbs		kN	
			W	H		Qty	Type	Qty	Type	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%
2 x 4 - 6	HWUH26	--	1-5/8	5-3/8	Wood	6	10d	4	10d x 1-1/2	6700	995	29.80	4.43	5260	780	23.40	3.47
					Masonry	2	1/2" x 6" J-Bolt	4	10d x 1-1/2	5010	2035	22.29	9.05	3930	1595	17.48	7.09
2 x 8	HWUH28	--	1-5/8	7-1/8	Wood	6	10d	4	10d x 1-1/2	6700	995	29.80	4.43	5260	780	23.40	3.47
					Masonry	2	1/2" x 6" J-Bolt	4	10d x 1-1/2	5010	2035	22.29	9.05	3930	1595	17.48	7.09
2 x 10	HWUH210	--	1-5/8	9-1/8	Wood	6	10d	4	10d x 1-1/2	6700	995	29.80	4.43	5260	780	23.40	3.47
					Masonry	2	1/2" x 6" J-Bolt	4	10d x 1-1/2	5010	2035	22.29	9.05	3930	1595	17.48	7.09
2 x 12	HWUH212	--	1-5/8	11	Wood	6	10d	4	10d x 1-1/2	6700	995	29.80	4.43	5260	780	23.40	3.47
					Masonry	2	1/2" x 6" J-Bolt	4	10d x 1-1/2	5010	2035	22.29	9.05	3930	1595	17.48	7.09
2 x 14	HWUH214	--	1-5/8	13	Wood	6	10d	4	10d x 1-1/2	6700	995	29.80	4.43	5260	780	23.40	3.47
					Masonry	2	1/2" x 6" J-Bolt	4	10d x 1-1/2	5010	2035	22.29	9.05	3930	1595	17.48	7.09
2 x 16	HWUH216	--	1-5/8	16	Wood	6	10d	4	10d x 1-1/2	6700	995	29.80	4.43	5260	780	23.40	3.47
					Masonry	2	1/2" x 6" J-Bolt	4	10d x 1-1/2	5010	2035	22.29	9.05	3930	1595	17.48	7.09
3 x 6	HWUH36	--	2-5/8	5-3/8	Wood	6	10d	4	10d	6700	995	29.80	4.43	5260	780	23.40	3.47
					Masonry	2	1/2" x 6" J-Bolt	4	10d	5010	2035	22.29	9.05	3930	1595	17.48	7.09
3 x 8	HWUH38	--	2-5/8	7-1/8	Wood	6	10d	4	10d	6700	995	29.80	4.43	5260	780	23.40	3.47
					Masonry	2	1/2" x 6" J-Bolt	4	10d	5010	2035	22.29	9.05	3930	1595	17.48	7.09
3 x 10	HWUH310	--	2-5/8	9-1/8	Wood	6	10d	4	10d	6700	995	29.80	4.43	5260	780	23.40	3.47
					Masonry	2	1/2" x 6" J-Bolt	4	10d	5010	2035	22.29	9.05	3930	1595	17.48	7.09
3 x 12	HWUH312	--	2-5/8	11	Wood	6	10d	4	10d	6700	995	29.80	4.43	5260	780	23.40	3.47
					Masonry	2	1/2" x 6" J-Bolt	4	10d	5010	2035	22.29	9.05	3930	1595	17.48	7.09
3 x 14	HWUH314	--	2-5/8	13	Wood	6	10d	4	10d	6700	995	29.80	4.43	5260	780	23.40	3.47
					Masonry	2	1/2" x 6" J-Bolt	4	10d	5010	2035	22.29	9.05	3930	1595	17.48	7.09
3 x 16	HWUH316	--	2-5/8	16	Wood	6	10d	4	10d	6700	995	29.80	4.43	5260	780	23.40	3.47
					Masonry	2	1/2" x 6" J-Bolt	4	10d	5010	2035	22.29	9.05	3930	1595	17.48	7.09
(2) 2 x 6	HWUH26-2	--	3-1/8	5-3/8	Wood	6	10d	4	10d	6700	995	29.80	4.43	5260	780	23.40	3.47
					Masonry	2	1/2" x 6" J-Bolt	4	10d	5010	2035	22.29	9.05	3930	1595	17.48	7.09
(2) 2 x 8	HWUH28-2	--	3-1/8	7-1/8	Wood	6	10d	4	10d	6700	995	29.80	4.43	5260	780	23.40	3.47
					Masonry	2	1/2" x 6" J-Bolt	4	10d	5010	2035	22.29	9.05	3930	1595	17.48	7.09
(2) 2 x 10	HWUH210-2	--	3-1/8	9-1/8	Wood	6	10d	4	10d	6700	995	29.80	4.43	5260	780	23.40	3.47
					Masonry	2	1/2" x 6" J-Bolt	4	10d	5010	2035	22.29	9.05	3930	1595	17.48	7.09
(2) 2 x 12	HWUH212-2	--	3-1/8	11	Wood	6	10d	4	10d	6700	995	29.80	4.43	5260	780	23.40	3.47
					Masonry	2	1/2" x 6" J-Bolt	4	10d	5010	2035	22.29	9.05	3930	1595	17.48	7.09

1) Factored uplift resistances have been increased 15% for short-term loads such as wind and earthquake; no further increase allowed.
2) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long, 10d nails are 0.148" dia. x 3" long.

Continued on next page

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Beam/ Joist Size	MiTek Stock No.	Ref. No.	Dimensions (in)		Install Type	Fastener Schedule[2]				D Fir-L Factored Resistance				S-P-F Factored Resistance			
						Header		Joist		Lbs		kN		Lbs		kN	
			W	H		Qty	Type	Qty	Type	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%
(2) 2 x 14	HWUH214-2	--	3-1/8	13	Wood	6	10d	4	10d	6700	995	29.80	4.43	5260	780	23.40	3.47
					Masonry	2	1/2" x 6" J-Bolt	4	10d	5010	2035	22.29	9.05	3930	1595	17.48	7.09
(2) 2 x 16	HWUH216-2	--	3-1/8	16	Wood	6	10d	4	10d	6700	995	29.80	4.43	5260	780	23.40	3.47
					Masonry	2	1/2" x 6" J-Bolt	4	10d	5010	2035	22.29	9.05	3930	1595	17.48	7.09
4 x 6	HWUH46	--	3-9/16	5-3/8	Wood	6	NA21	4	10d	8625	705	38.37	3.14	6775	555	30.14	2.47
					Masonry	2	1/2" x 6" J-Bolt	4	10d	5010	2035	22.29	9.05	3930	1595	17.48	7.09
4 x 8	HWUH48	--	3-9/16	7-1/8	Wood	6	NA21	4	10d	8625	705	38.37	3.14	6775	555	30.14	2.47
					Masonry	2	1/2" x 6" J-Bolt	4	10d	5010	2035	22.29	9.05	3930	1595	17.48	7.09
4 x 10	HWUH410	--	3-9/16	9-1/8	Wood	6	NA21	4	10d	8625	705	38.37	3.14	6775	555	30.14	2.47
					Masonry	2	1/2" x 6" J-Bolt	4	10d	5010	2035	22.29	9.05	3930	1595	17.48	7.09
4 x 12	HWUH412	--	3-9/16	11	Wood	6	NA21	4	10d	8625	705	38.37	3.14	6775	555	30.14	2.47
					Masonry	2	1/2" x 6" J-Bolt	4	10d	5010	2035	22.29	9.05	3930	1595	17.48	7.09
4 x 14	HWUH414	--	3-9/16	13	Wood	6	NA21	4	10d	8625	705	38.37	3.14	6775	555	30.14	2.47
					Masonry	2	1/2" x 6" J-Bolt	4	10d	5010	2035	22.29	9.05	3930	1595	17.48	7.09
4 x 16	HWUH416	--	3-9/16	16	Wood	6	NA21	4	10d	8625	705	38.37	3.14	6775	555	30.14	2.47
					Masonry	2	1/2" x 6" J-Bolt	4	10d	5010	2035	22.29	9.05	3930	1595	17.48	7.09
6 x 6	HWUH66	--	5-1/2	5-3/8	Wood	6	NA21	4	10d	8625	705	38.37	3.14	6775	555	30.14	2.47
					Masonry	2	1/2" x 6" J-Bolt	4	10d	5010	2035	22.29	9.05	3930	1595	17.48	7.09
6 x 8	HWUH68	--	5-1/2	7-1/8	Wood	6	NA21	4	10d	8625	705	38.37	3.14	6775	555	30.14	2.47
					Masonry	2	1/2" x 6" J-Bolt	4	10d	5010	2035	22.29	9.05	3930	1595	17.48	7.09
6 x 10	HWUH610	--	5-1/2	9-1/8	Wood	6	NA21	4	10d	8625	705	38.37	3.14	6775	555	30.14	2.47
					Masonry	2	1/2" x 6" J-Bolt	4	10d	5010	2035	22.29	9.05	3930	1595	17.48	7.09
6 x 12	HWUH612	--	5-1/2	11	Wood	6	NA21	4	10d	8625	705	38.37	3.14	6775	555	30.14	2.47
					Masonry	2	1/2" x 6" J-Bolt	4	10d	5010	2035	22.29	9.05	3930	1595	17.48	7.09
6 x 14	HWUH614	--	5-1/2	13	Wood	6	NA21	4	10d	8625	705	38.37	3.14	6775	555	30.14	2.47
					Masonry	2	1/2" x 6" J-Bolt	4	10d	5010	2035	22.29	9.05	3930	1595	17.48	7.09
6 x 16	HWUH616	--	5-1/2	16	Wood	6	NA21	4	10d	8625	705	38.37	3.14	6775	555	30.14	2.47
					Masonry	2	1/2" x 6" J-Bolt	4	10d	5010	2035	22.29	9.05	3930	1595	17.48	7.09
8 x 6	HWUH86	--	7-1/2	5-3/8	Wood	6	NA21	4	10d	8625	705	38.37	3.14	6775	555	30.14	2.47
					Masonry	2	1/2" x 6" J-Bolt	4	10d	5010	2035	22.29	9.05	3930	1595	17.48	7.09
8 x 8	HWUH88	--	7-1/2	7-1/8	Wood	6	NA21	4	10d	8625	705	38.37	3.14	6775	555	30.14	2.47
					Masonry	2	1/2" x 6" J-Bolt	4	10d	5010	2035	22.29	9.05	3930	1595	17.48	7.09
8 x 10	HWUH810	--	7-1/2	9-1/8	Wood	6	NA21	4	10d	8625	705	38.37	3.14	6775	555	30.14	2.47
					Masonry	2	1/2" x 6" J-Bolt	4	10d	5010	2035	22.29	9.05	3930	1595	17.48	7.09
8 x 12	HWUH812	--	7-1/2	11	Wood	6	NA21	4	10d	8625	705	38.37	3.14	6775	555	30.14	2.47
					Masonry	2	1/2" x 6" J-Bolt	4	10d	5010	2035	22.29	9.05	3930	1595	17.48	7.09
8 x 14	HWUH814	--	7-1/2	13	Wood	6	NA21	4	10d	8625	705	38.37	3.14	6775	555	30.14	2.47
					Masonry	2	1/2" x 6" J-Bolt	4	10d	5010	2035	22.29	9.05	3930	1595	17.48	7.09
8 x 16	HWUH816	--	7-1/2	16	Wood	6	NA21	4	10d	8625	705	38.37	3.14	6775	555	30.14	2.47
					Masonry	2	1/2" x 6" J-Bolt	4	10d	5010	2035	22.29	9.05	3930	1595	17.48	7.09

1) Factored uplift resistances have been increased 15% for short-term loads such as wind and earthquake; no further increase allowed.
2) **NAILS:** 10d nails are 0.148" dia. x 3" long, NA21 nails are 0.192" dia. x 1-3/4" long and are included with 4x, 6x, and 8x HWUH hangers.

Specialty Options Chart

Refer to Specialty Options pages 294, 296-297 for additional details.

Option	Skewed[1,3]	Sloped Seat[2]	Sloped / Skewed[1,2,3]	Top Flange Offset		Saddle
Range	1˚ to 45˚	1˚ to 45˚	See Sloped Seat and Skewed	-- --		-- --
Factored Resistance	100% of table load	100% of table load	100% of table load	**Hanger Width** 3-1/2" or less 3-9/16" to 5-1/2" 5-9/16"˝ to 7-1/2"	**% of table load:** 60% 75% 85%	100% of table load per side
Ordering	Add *SK,* angle required, right *(R)* or left *(L),* and square cut (*SQ*) or bevel cut (*BV*) to product number. Ex. HWUH410_SK45R_SQ	Add *SL,* slope required, and up *(U)* or down *(D),* to product number. Ex. HWUH410_SL30D	See Sloped Seat and Skewed. Ex. HWUH410_SK45R_SQ_SL30D	Add *OS,* and right *(R)* or left *(L),* to product number. Ex. HWUH410_OSL		Add *SA,* and saddle width required to product number. Ex. HWUH410_SA=5-1/2"

1) Skewed hangers with skews greater than 15° may have all joist nailing on outside flange.
2) Sloped or sloped / skewed hangers with slopes greater than 15° may have additional joist nails.
3) For skewed hangers, the required cut type (square or bevel) of joist member may vary based on skew angle and width of hanger. Some square cut hangers will require custom pricing due to welded back plate.

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The Fire Wall Hanger is designed for attaching truss, I-joist, solid sawn lumber, or engineered wood floor framing members to double wall top plates or minimum 2-ply 2x solid sawn header fire rated wood frame walls. The advanced design allows the installation of the FWH **before** the 5/8" gypsum wallboard (drywall) is attached and permits the building project to be completely framed-up, and weather-tight before the gypsum wallboard sheathing work starts.

Materials: 14 gauge

Finish: G90 galvanizing

Codes: Factored resistances are derived from data submitted to various North American building code evaluators

Options: See Specialty Options chart on page 169

Installation:

- Install the face of hanger flanges tight to stud wall framing.
- The end of the truss/joist should measure 1-5/8" from the face of the supporting wall. See Figure 1.
- The truss/joist should bear fully on the FWH seat with a gap no greater than 1/8" between the end of the supported member and the hanger. See Figure 1.
- **Gypsum Wallboard Installation** – Use the FWH-T template to slot cut the gypsum wallboard. See FWH-T Template Sequence. Slide the gypsum wallboard into position and fasten to the framing members meeting the minimum requirements specified by code.

2 Hour Fire-Rating

FWH hangers are tested per ASTM E814 standards. When installed on one side of a maximum 2 hour fire-rated wall assembly, the penetration of the MiTek FWH Fire Wall Hanger through the gypsum wallboard will not reduce the fire resistive rating of the 2 hour fire resistive assembly.

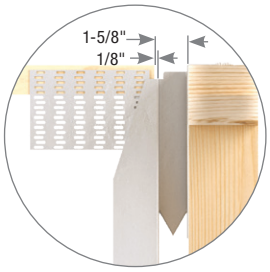
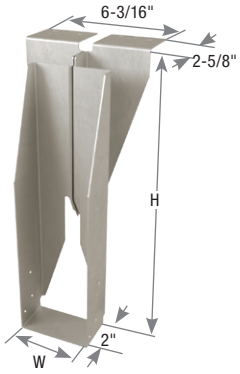
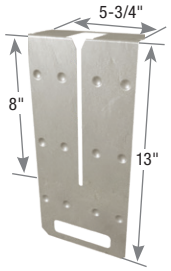


Figure 1

Typical FWH Side View



FWH

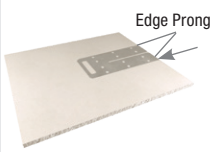


FWH-T template
(must be ordered separately)

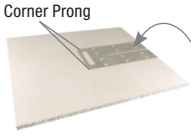
Geometry Table

Joist Size	MiTek Stock No.	Ref. No.	Dimensions (in)	
			W	H
2 x 8	FWH28	--	1-9/16	7-1/8
2 x 10	FWH210	--	1-9/16	9-1/8
2 x 12	FWH212	--	1-9/16	11-1/8
1-3/4 x 9-1/2	FWH1795	DGHF1.81/9.5	1-13/16	9-7/16
1-3/4 x 11-7/8	FWH17118	DGHF1.81/11.88	1-13/16	11-13/16
1-3/4 x 14	FWH1714	DGHF1.81/14	1-13/16	13-15/16
1-3/4 x 16	FWH1716	DGHF1.81/16	1-13/16	15-15/16
2 - 2-1/8 x 9-1/2	FWH2095	DGHF2.1/9.5	2-1/8	9-7/16
2 - 2-1/8 x 11-7/8	FWH20118	DGHF2.1/11.88	2-1/8	11-13/16
2 - 2-1/8 x 14	FWH2014	DGHF2.1/14	2-1/8	13-15/16
2 - 2-1/8 x 16	FWH2016	DGHF2.1/16	2-1/8	15-15/16
2-5/16 x 9-1/2	FWH2395	DGHF2.37/9.5	2-3/8	9-7/16
2-5/16 x 11-7/8	FWH23118	DGHF2.37/11.88	2-3/8	11-13/16
2-5/16 x 14	FWH2314	DGHF2.37/14	2-3/8	13-15/16
2-5/16 x 16	FWH2316	DGHF2.37/16	2-3/8	15-15/16
2-5/16 x 18	FWH2318	DGHF2.37/18	2-3/8	17-15/16
2-5/16 x 20	FWH2320	DGHF2.37/20	2-3/8	19-15/16
2-1/2 x 9-1/2	FWH2595	DGHF2.56/9.5	2-9/16	9-7/16
2-1/2 x 11-7/8	FWH25118	DGHF2.56/11.88	2-9/16	11-13/16
2-1/2 x 14	FWH2514	DGHF2.56/14	2-9/16	13-15/16
2-1/2 x 16	FWH2516	DGHF2.56/16	2-9/16	15-15/16
2-1/2 x 18	FWH2518	DGHF2.56/18	2-9/16	17-15/16
2-1/2 x 20	FWH2520	DGHF2.56/20	2-9/16	19-15/16
3-1/2 x 9-1/2	FWH3595	DGHF3.62/9.5	3-9/16	9-7/16
3-1/2 x 11-7/8	FWH35118	DGHF3.62/11.88	3-9/16	11-13/16
3-1/2 x 14	FWH3514	DGHF3.62/14	3-9/16	13-15/16
3-1/2 x 16	FWH3516	DGHF3.62/16	3-9/16	15-15/16
3-1/2 x 18	FWH3518	DGHF3.62/18	3-9/16	17-15/16
3-1/2 x 20	FWH3520	DGHF3.62/20	3-9/16	19-15/16
3-1/2 x 22	FWH3522	DGHF3.62/22	3-9/16	21-15/16
3-1/2 x 24	FWH3524	DGHF3.62/24	3-9/16	23-15/16

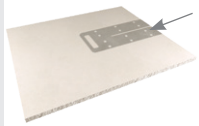
FWH-T Template Installation Sequence



1) Align the FWH-Template slot with the mark in the gypsum wallboard and engage the prongs into edge of gypsum wallboard



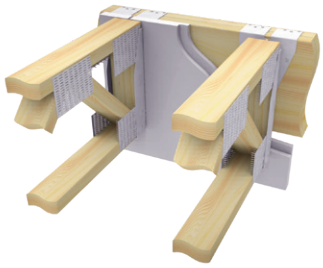
2) Rotate the template and press down on the end to engage the corner prongs



3) Run the gypsum wallboard cutter down the template to cut the slot

Continued on next page

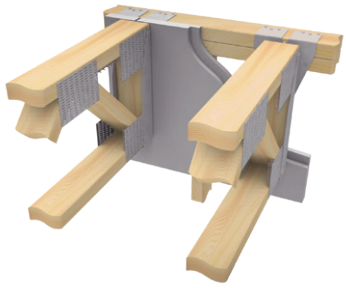
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Typical FWH solid sawn header installation



Typical FWH stud wall installation



Typical FWH stud wall with (2) layers of 5/8" gypsum wallboard installation

Factored Resistance Table

Product	Installation Types	Fastener Schedule[5]					Wood Species	Factored Resistance							
		Header			Joist			Solid Sawn Header		2-Ply 2x Wall Top Plate		2-Ply 2x Wall Top Plate with Stud Below[2]		Uplift 115%[1]	
								Download 100%		Download 100%		Download 100%			
		Top Qty	Face Qty	Type	Qty	Type		Lbs	kN	Lbs	kN	Lbs	kN	Lbs	kN
FWH (All stock sizes)	See Footnote #4 for Applicable Installations	6	--	10d	6	10d x 1-1/2	D Fir-L	3360	14.95	2525	11.23	--	--	285	1.27
			2	10d	6	10d x 1-1/2		3450	15.35	2525	11.23	--	--	685	3.05
			4									4375	19.46		
		6	--	10d	6	10d x 1-1/2	S-P-F	2525	11.23	2185	9.72	--	--	230	1.02
			2	10d	6	10d x 1-1/2		2625	11.68	2185	9.72	--	--	630	2.80
			4									3440	15.30		

1) Factored uplift resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) Factored downloads require at least one 2x stud at each hanger location and 4 face nails into 2-ply top plate.
3) Web stiffeners are required on I-Joist applications. Install per I-Joist manufacturer specifications.
4) Applicable installations include:
- Without gypsum wallboard or structural sheathing
- Over (1) or (2) layers of 5/8" gypsum wallboard
- Over (1) layer of structural sheathing and (1) layers of 5/8" gypsum wallboard
- Back-to-back installation on minimum 2x6 wall. **Wall design by Building Designer**

5) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long, 10d nails are 0.148" dia. x 3" long.
New products or updated product information are designated in blue font.

Specialty Options Chart – Refer to Specialty Options pages 294 and 296 for additional details.

Option	Skewed[1]	Top Flange Offset
Range	1° to 70°	--
Factored Resistance	80% of table load on skews up to 45°. 70% of table load on skews 46° to 70°	70% of table download. Max uplift: 285-lb (D Fir-L), 260-lb (S-P-F)
Ordering	Add *SK,* angle required, right *(R)* or left *(L),* and square cut *(SQ)* to product number. Ex. FWH3514_SK45R_SQ	Add *OS,* and right *(R)* or left *(L),* to product number. Ex. FWH3595_OSR

1) Skewed hangers with skews greater than 15° may have all joist nailing on outside flange.
New products or updated product information are designated in blue font.

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FWHBP Fire Wall Hangers for Beams and Purlins

MiTek has expanded the FWH Fire Wall Hanger series to include the higher load carrying capacity FWHBP, the Fire Wall Hanger for Beams and Purlins. The FWHBP transfers the load into the supporting wall thru bearing on the top plates and directly attaching to the stud pack or post below. As with the FWH hanger, the advanced design allows you to install the hangers before the drywall is attached, allowing your project to be completely framed-up and weather-tight before the drywall sheathing shows up on site.

Materials: 12 gauge

Finish: Primer

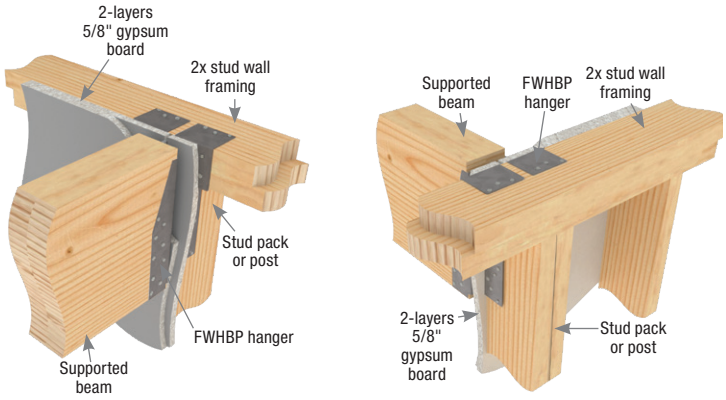
Options: See Specialty Options chart on page 171

Installation:

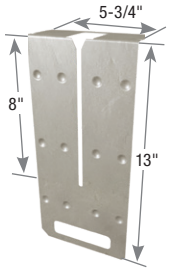
- Install the face of hanger flanges tight to stud wall framing.
- The end of the truss/joist should measure 1-5/8" from the face of the supporting wall.
- The truss/joist should bear fully on the FWHBP seat with a gap no greater than 1/8" between the end of the supported member and the hanger.
- **Gypsum Wallboard Installation** – Use the FWH-T template to slot cut the gypsum wallboard. See FWH-T Template Sequence. Slide the gypsum wallboard into position and fasten to the framing members meeting the minimum requirements specified by code.

2 Hour Fire-Rating

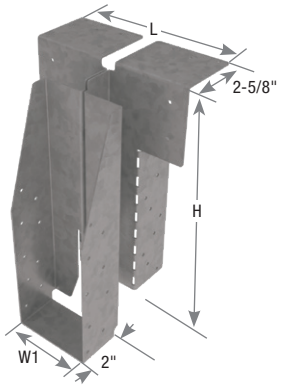
FWH hangers are tested per ASTM E814 standards. When installed on one side of a maximum 2 hour fire-rated wall assembly, the penetration of the MiTek FWH Fire Wall Hanger through the gypsum wallboard will not reduce the fire resistive rating of the 2 hour fire resistive assembly.



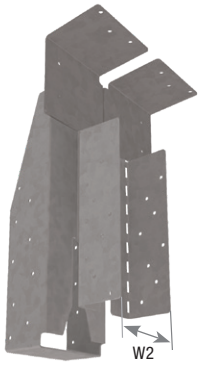
Typical FWHBP attachment to top plate/beam and stud pack/post



FWH-T template
(must be ordered separately)



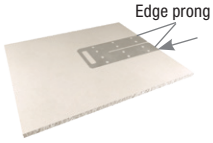
FWHBP Hanger



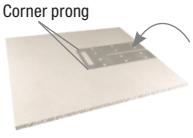
FWHBP Stud Pack Width

FWH-T Template Installation Sequence

1) Align the FWH-Template slot with the mark in the gypsum wallboard and engage the prongs into edge of gypsum wallboard



2) Rotate the template and press down on the end to engage the corner prongs



3) Run the gypsum wallboard cutter down the template to cut the slot



Continued on next page

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Joist Size (in)	MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in)				Fastener Schedule[5]					D Fir-L Factored Resistance				S-P-F Factored Resistance			
				W1	W2[3]	H	L[4]	Header Top Qty	Header Face Qty	Header Stud Qty	Joist Qty	Type	Download (100%) 2-Ply 2x Wall Top Plate[1]		Uplift 115%[2]		Download (100%) 2-Ply 2x Wall Top Plate[1]		Uplift 115%[2]	
													Lbs	kN	Lbs	kN	Lbs	kN	Lbs	kN
3-1/2 x 11-7/8	FWHBP35118	--	12	3-9/16	Specify	11-7/8	7-1/8	6	4	16	18	10d	12190	54.22	5715	25.42	9680	43.06	5015	22.31
3-1/2 x 14	FWHBP3514					13-15/16														
3-1/2 x 16	FWHBP3516					15-15/16														
3-1/2 x 18	FWHBP3518					17-15/16														
3-1/2 x 20	FWHBP3520					19-15/16														
3-1/2 x 22	FWHBP3522					21-15/16														
3-1/2 x 24	FWHBP3524					23-15/16														
5-1/4 x 11-7/8	FWHBP52118	--	12	5-3/8	Specify	11-7/8	7-15/16	6	4	16	18	10d	12190	54.22	5715	25.42	9680	43.06	5015	22.31
5-1/4 x 14	FWHBP5214					13-15/16														
5-1/4 x 16	FWHBP5216					15-15/16														
5-1/4 x 18	FWHBP5218					17-15/16														
5-1/4 x 20	FWHBP5220					19-15/16														
5-1/4 x 22	FWHBP5222					21-15/16														
5-1/4 x 24	FWHBP5224					23-15/16														
7 x 11-7/8	FWHBP71118	--	12	7-1/8	Specify	11-7/8	9-11/16	6	4	16	18	10d	8410	37.41	5715	25.42	7130	31.72	5015	22.31
7 x 14	FWHBP7114					13-15/16														
7 x 16	FWHBP7116					15-15/16														
7 x 18	FWHBP7118					17-15/16														
7 x 20	FWHBP7120					19-15/16														
7 x 22	FWHBP7122					21-15/16														
7 x 24	FWHBP7124					23-15/16														

1) Factored download resistance is for a 2-Ply Top Plate with stud pack (or post) below without wall and floor sheathing attached.
2) Factored uplift resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
3) "Specify" denotes required stud pack/post width must be specified when ordering. Minimum 3" for a 2-ply 2x stud pack.
4) Length "L" applies where "W2" equals 3-1/8" for 2-ply stud pack. Larger "W2" widths will result in a larger length "L".
5) **NAILS:** 10d nails are 0.148" dia. x 3" long.
New products or updated product information are designated in blue font.

Specialty Options Chart – Refer to Specialty Options pages 294 and 296 for additional details.

Option	Skewed[1]
Range	1˚ to 70˚
Factored Resistance	70% of table load
Ordering	Add *SK,* angle required, right *(R)* or left *(L),* and square cut *(SQ)* to product number. Ex. FWHBP3514_SK45L_SQ

1) Skewed hangers with skews greater than 15° may have all joist nailing on outside flange.

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FWHH Heavy-Duty Fire Wall Hangers

The MiTek FWHH Heavy-Duty Fire Wall Hanger is designed to support beams and purlins at header locations. The higher capacity of the FWHH is achieved through top flange bearing along with added face and beam/purlin nailing. As with the FWH hanger, the advanced design allows you to install the hangers **before** the drywall is attached, allowing your project to be completely framed-up and weather-tight before the drywall sheathing shows up on site.

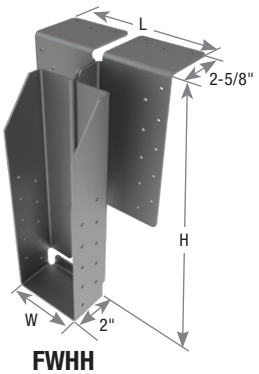
Materials: 12 gauge
Finish: Primer
Options: See Specialty Options chart on page 173

Installation:

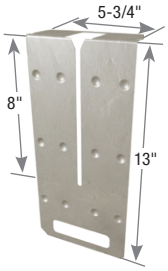
- Install the FWHH hanger flanges tight to the face of the header.
- A minimum 2-ply 2x10 header is required for proper installation.
- The beam/purlin should bear fully on the FWHH seat with a gap no greater than 1/8" between the end of the supported member and the hanger.
- Gypsum Wallboard Installation - Use the FWH-T template to slot cut the gypsum wallboard. See FWH-T Template Sequence. Slide the gypsum wallboard into position and fasten to the framing members meeting the minimum requirements specified by code.

2 Hour Fire-Rating

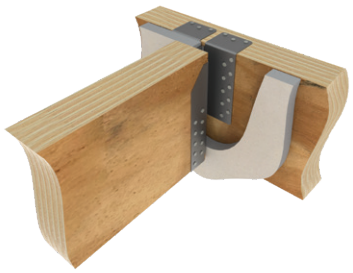
FWH hangers are tested per ASTM E814 standards. When installed on one side of a maximum 2 hour fire-rated wall assembly, the penetration of the MiTek FWH Fire Wall Hanger through the gypsum wallboard will not reduce the fire resistive rating of the 2 hour fire resistive assembly.



FWHH



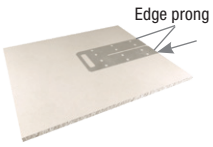
FWH-T template
(must be ordered separately)



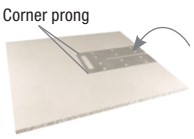
Typical FWHH installation

FWH-T Template Installation Sequence

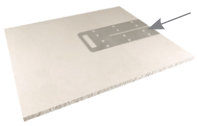
1) Align the FWH-Template slot with the mark in the gypsum wallboard and engage the prongs into edge of gypsum wallboard



2) Rotate the template and press down on the end to engage the corner prongs



3) Run the gypsum wallboard cutter down the template to cut the slot



Joist Size (in)	MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in)			Fastener Schedule[3]					D Fir-L Factored Resistance				S-P-F Factored Resistance			
							Header			Joist		Download 100%[1]		Uplift 115%[2]		Download 100%[1]		Uplift 115%[2]	
				W	H	L	Top Qty	Face Qty	Type	Qty	Type	Lbs	kN	Lbs	kN	Lbs	kN	Lbs	kN
3-1/2 x 9-1/2	FWHH3595	--	12	3-9/16	9-7/16	7-3/16	6	20	10d	20	10d x 1-1/2	11900	52.93	6455	28.71	9670	43.01	5760	25.62
3-1/2 x 11-7/8	FWHH35118				11-13/16														
3-1/2 x 14	FWHH3514				13-15/16														
3-1/2 x 16	FWHH3516				15-15/16														
3-1/2 x 18	FWHH3518				17-15/16														
3-1/2 x 20	FWHH3520				19-15/16														
3-1/2 x 22	FWHH3522				21-15/16														
3-1/2 x 24	FWHH3524				23-15/16														

1) Factored uplift resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long, 10d nails are 0.148" dia. x 3" long.
New products or updated product information are designated in blue font.

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Joist Size (in)	MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in)			Fastener Schedule[3]					D Fir-L Factored Resistance				S-P-F Factored Resistance			
							Header			Joist		Download 100%[1]		Uplift 115%[2]		Download 100%[1]		Uplift 115%[2]	
				W	H	L	Top Qty	Face Qty	Type	Qty	Type	Lbs	kN	Lbs	kN	Lbs	kN	Lbs	kN
5-1/4 x 9-1/4	FWHH52925	--	12	5-3/8	9-1/8	8-1/2	6	20	10d	20	10d x 1-/2	11900	52.93	6455	28.71	9670	43.01	5760	25.62
5-1/4 x 9-1/2	FWHH5295				9-7/16														
5-1/4 x 11-7/8	FWHH52118				11-13/16														
5-1/4 x 14	FWHH5214				13-15/16														
5-1/4 x 16	FWHH5216				15-15/16														
5-1/4 x 18	FWHH5218				17-15/16														
5-1/4 x 20	FWHH5220				19-15/16														
5-1/4 x 22	FWHH5222				21-15/16														
5-1/4 x 24	FWHH5224				23-15/16														
5-1/2 x 9-1/4	FWHH55925	--	12	5-9/16	9-1/8	8-1/2	6	20	10d	20	10d x 1-/2	11900	52.93	6455	28.71	9670	43.01	5760	25.62
5-1/2 x 9-1/2	FWHH5595				9-7/16														
5-1/2 x 11-7/8	FWHH55118				11-13/16														
5-1/2 x 14	FWHH5514				13-15/16														
5-1/2 x 16	FWHH5516				15-15/16														
5-1/2 x 18	FWHH5518				17-15/16														
5-1/2 x 20	FWHH5520				19-15/16														
5-1/2 x 22	FWHH5522				21-15/16														
5-1/2 x 24	FWHH5524				23-15/16														
7 x 11-7/8	FWHH71118	--	12	7-1/8	11-13/16	10-1/4	6	20	10d	20	10d x 1-1/2	8395	37.34	6455	28.71	6645	29.56	5760	25.62
7 x 14	FWHH7114				13-15/16														
7 x 16	FWHH7116				15-15/16														
7 x 18	FWHH7118				17-15/16														
7 x 20	FWHH7120				19-15/16														
7 x 22	FWHH7122				21-15/16														
7 x 24	FWHH7124				23-15/16														

1) Factored uplift resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long, 10d nails are 0.148" dia. x 3" long.
New products or updated product information are designated in blue font.

Specialty Options Chart – Refer to Specialty Options pages 294 and 296 for additional details.

Option	Skewed[1]
Range	1° to 70°
Factored Resistance	70% of table load
Ordering	Add *SK,* angle required, right *(R)* or left *(L),* and square cut *(SQ)* to product number. Ex. FWHH3516_SK60R_SQ

1) Skewed hangers with skews greater than 15° may have all joist nailing on outside flange.

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The FWHFM hanger fastens to the wide face of a balloon framed SCL column thereby eliminating the additive perpendicular-to-grain bearing stresses in the wall top and bottom plates seen with platform framing. The advanced design allows you to install the hangers **before** the gypsum wallboard (drywall) is attached, allowing your project to be completely framed-up and weather-tight before the gypsum wallboard sheathing shows up on site.

Features and Benefits:

- Face mount hanger design installs with nails
- Attaches to the wide face of columns
- Hanger web accommodates 2-plies of 5/8" gypsum wallboard
- Achieve full table loads with or without drywall installation

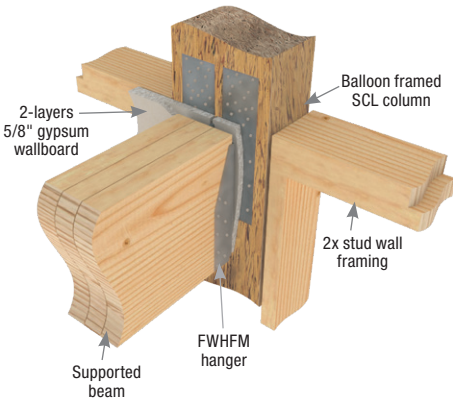
Materials: 12 gauge
Finish: Primer
Options: See Specialty Options chart on page 175

Installation:

- Install the face of hanger flanges tight to SCL column/framing.
- The end of the truss/joist should measure 1-5/8" from the face of the supporting column.
- The truss/joist should bear fully on the FWHFM seat with a gap no greater than 1/8" between the end of the supported member and the hanger.
- **Gypsum Wallboard Installation** – Use the FWH-T template to slot cut the gypsum wallboard. See FWH-T Template Sequence. Slide the gypsum wallboard into position and fasten to the framing members meeting the minimum requirements specified by code.

2 Hour Fire-Rating

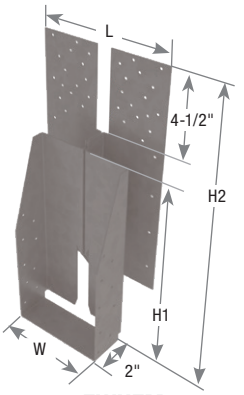
FWH hangers are tested per ASTM E814 standards. When installed on one side of a maximum 2 hour fire-rated wall assembly, the penetration of the MiTek FWH Fire Wall Hanger through the gypsum wallboard will not reduce the fire resistive rating of the 2 hour fire resistive assembly.



FWHFM installation typique



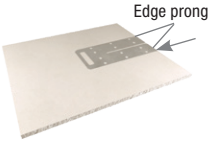
FWH-T template
(must be ordered separately)



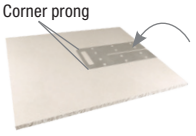
FWHFM

FWH-T Template Installation Sequence

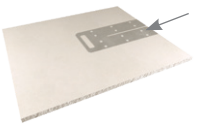
1) Align the FWH-Template slot with the mark in the gypsum wallboard and engage the prongs into edge of gypsum wallboard



2) Rotate the template and press down on the end to engage the corner prongs



3) Run the gypsum wallboard cutter down the template to cut the slot



Continued on next page

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Joist Size (in)	MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in)				Fastener Schedule[3]				D Fir-L Factored Resistance				S-P-F Factored Resistance			
								Header		Joist		Download 100%[1]		Uplift 115%[2]		Download 100%[1]		Uplift 115%[2]	
				W	H1	H2	L	Face Qty	Type	Qty	Type	Lbs	kN	Lbs	kN	Lbs	kN	Lbs	kN
3-1/2 x 9-1/4	FWHFM35925	--	12	3-9/16	9-1/16	13-9/16	4-11/16	40	10d	18	10d x 1-1/2	10730	47.73	5260	23.40	8935	39.74	4615	20.53
3-1/2 x 9-1/2	FWHFM3595				9-5/16	13-13/16													
3-1/2 x 11-7/8	FWHFM35118				11-11/16	16-3/16													
3-1/2 x 14	FWHFM3514				13-13/16	18-5/16													
3-1/2 x 16	FWHFM3516				15-13/16	20-5/16													
3-1/2 x 18	FWHFM3518				17-13/16	22-5/16													
3-1/2 x 20	FWHFM3520				19-13/16	24-5/16													
3-1/2 x 22	FWHFM3522				21-13/16	26-5/16													
3-1/2 x 24	FWHFM3524				23-13/16	28-5/16													
4 - 4-3/16 x 9-1/4	FWHFM42925	--	12	4-3/16	9-1/16	13-9/16	5-5/16	40	10d	18	10d x 1-1/2	10730	47.73	5260	23.40	8935	39.74	4615	20.53
4 - 4-3/16 x 9-1/2	FWHFM4295				9-5/16	13-13/16													
4 - 4-3/16 x 11-7/8	FWHFM42118				11-7/16	15-15/16													
4 - 4-3/16 x 14	FWHFM4214				13-5/8	18-1/8													
4 - 4-3/16 x 16	FWHFM4216				15-5/8	20-1/8													
4 - 4-3/16 x 18	FWHFM4218				17-5/8	22-1/8													
4 - 4-3/16 x 20	FWHFM4220				19-5/8	24-1/8													
4 - 4-3/16 x 22	FWHFM4222				21-5/8	26-1/8													
4 - 4-3/16 x 24	FWHFM4224				23-5/8	28-1/8													
5-1/4 x 9-1/4	FWHFM52925	--	12	5-3/8	9-1/16	13-9/16	6-1/2	40	10d	18	10d x 1-1/2	10730	47.73	5260	23.40	8935	39.74	4615	20.53
5-1/4 x 9-1/2	FWHFM5295				9-5/16	13-13/16													
5-1/4 x 11-7/8	FWHFM52118				11-5/8	16-1/8													
5-1/4 x 14	FWHFM5214				13-13/16	18-5/16													
5-1/4 x 16	FWHFM5216				15-13/16	20-5/16													
5-1/4 x 18	FWHFM5218				17-13/16	22-5/16													
5-1/4 x 20	FWHFM5220				19-23/28	24-5/16													
5-1/4 x 22	FWHFM5222				21-13/16	26-5/16													
5-1/4 x 24	FWHFM5224				23-13/16	28-5/16													
7 x 11-7/8	FWHFM71118	--	12	7-1/8	11-11/16	16-3/16	8-1/4	40	10d	18	10d x 1-1/2	8165	36.32	5260	23.40	6740	29.98	4615	20.53
7 x 14	FWHFM7114				13-13/16	18-5/16													
7 x 16	FWHFM7116				15-13/16	20-5/16													
7 x 18	FWHFM7118				17-13/16	22-5/16													
7 x 20	FWHFM7120				19-13/16	24-5/16													
7 x 22	FWHFM7122				21-13/16	26-5/16													
7 x 24	FWHFM7124				23-13/16	28-5/16													

1) Factored download resistance is for attachment to the wide face of a supporting column.
2) Factored uplift resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
3) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long, 10d nails are 0.148" dia. x 3" long.
New products or updated product information are designated in blue font.

Specialty Options Chart – Refer to Specialty Options pages 320-321 for additional details.

Option	Skewed[1]
Range	1˚ to 70˚
Factored Resistance	70% of table load
Ordering	Add *SK,* angle required, right *(R)* or left *(L),* and square cut *(SQ)* to product number. Ex. FWHFM5214_SK60L_SQ

1) Skewed hangers with skews greater than 15° may have all joist nailing on outside flange.

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Wood I-Joist Installation to Wood

Sloped I-Joists
Use sloped seat hangers and beveled web stiffeners whenever the slope exceeds the following: 1/2:12 for seat bearing lengths of 2-1/2" or less; 3/8:12 for bearing lengths between 2-1/2" and 3-1/2"; and 1/4:12 for bearing lengths in excess of 3-1/2".

Multiple I-Joist Plies
Fasten together multiple plies of wood joists, in accordance with the manufacturer's installation guidelines, such that the joists act as a single unit.

I-Joist Rotation
It may be necessary to install straps, blocking, or sheathing to restrain torsional rotation of a supporting wood I-Joist when using top mount I-Joist hangers.

Fasteners
Install only the specified nails. The flanges of wood I-Joists may split if larger diameter nails or longer nails are installed. Do not install nails larger than 16d common wire nails (0.162" diameter) into the web stiffeners in the wood I-Joist.

Backer Blocks
Pattern the nails used to install backer blocks or web stiffeners in wood I-Joists to avoid splitting the block. The nail pattern should be sufficiently spaced to avoid the same grain line, particularly with solid sawn backer blocks. Backer blocks must be installed on wood I-Joist acting as the header, or supporting member. Install in accordance with the I-Joist manufacturer's installation guidelines. The nails used to install hangers mounted to an I-Joist header must penetrate through the web and into the backer block on the opposite side.

Top Flange Hangers

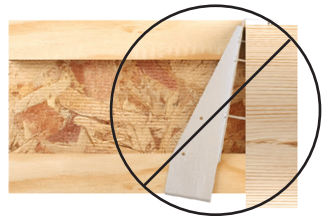
The thickness of the hanger metal and nail heads on top mount hangers must be evaluated for the effect on subsequent sheathing. Ensure that the top mount hanger is installed so the flanges of the hanger are not over-spread which tends to elevate the supported I-Joist causing uneven floor surfaces and squeaking. Similarly, ensure that the hanger is installed plumb such that the face flanges of the hanger are mounted firmly against the wide-face surface of the header.



Flush framing



Hanger over-spread



Hanger not plumb

Correct Slant Nail Installation



Always secure wood I-Joist using 10d (0.148") x 1-1/2" nail driven at a 30° to 45° angle and firmly seated



Common Nailing Errors

Wrong Angle

When a nail is driven into the bottom flange of the wood I-Joist parallel to the glue lines, separation of veneers can occur which substantially reduces the design loads of the connection.



Nail Too Long

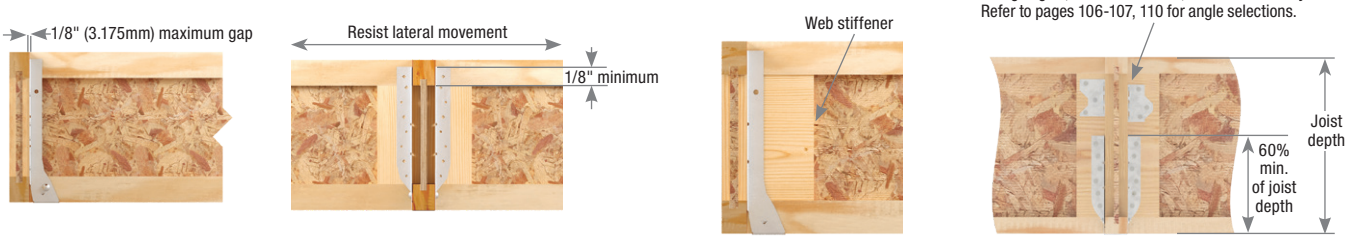
When using nails longer than MiTek's recommended nails, bottom flange splitting may occur. Also, this can raise the wood I-Joist off the seat, resulting in uneven surfaces and squeaky floors along with reduced factored resistance.

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Support Height & Lateral Stability

Hangers for joists **without web stiffeners** must support the I-Joist's top flange and provide lateral resistance with no less than 1⁄8" contact.

Hangers for joists **with web stiffeners** must support a minimum of 60% of joist depth or potential joist rotation must be addressed.



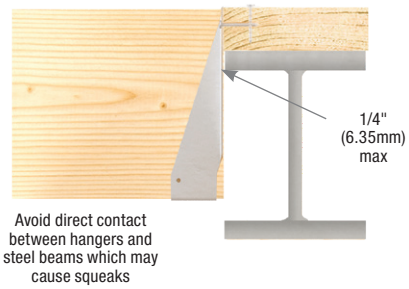
(Top flange support requirements can be verified in this sections charts under Web Stiffener Reqd. Column.)

Nailer Installations

Correct Hanger Attachment to Nailer
A nailer or sill plate is considered to be any wood member attached to a steel beam, concrete block wall, concrete stem wall, or other structure unsuitable for nailing, which is used as a nailing surface for top mount hangers to hold beams or joists.

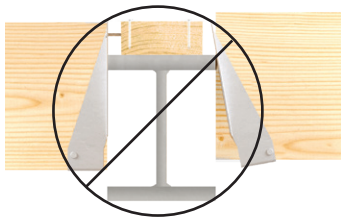
Nailer Sized Correctly
Top flange of hanger is fully supported and recommended nails have full penetration into nailer, resulting in a carried member hanging safely at the proper height.

The nailer must be sized to fit the support width as shown and be of sufficient thickness to satisfy recommended top flange nailing requirements. A design professional must specify nailer attachment to steel beams.



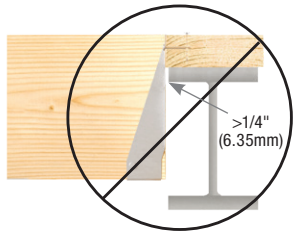
Correct Attachment

Wrong Nailer Size Causes Component Failure



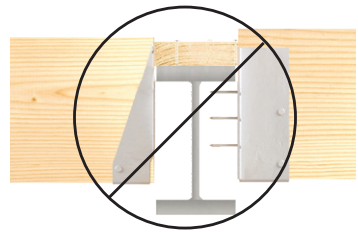
Too Narrow

Top flange not fully supported can cause nail breakout. Or, by fully supporting top flange, hanger is tilted back, causing lifting of carried member which results in uneven surfaces and squeaky floors.



Too Wide

Loading can cause cross grain breaking of nailer. The recommended nailer overhang is 1⁄4" maximum per side.



Too Thin

Top flange nailing cannot fully penetrate nailer, causing reduced factored resistance. Never use hangers which require multiple face nails since the factored resistance are dependent on all nail holes being used.

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Hanger Type	MiTek Series	Steel Gauge	Supporting Member									Supported Member						100% Factored Resistance (Lbs.) Range		
																		Header Material		
			Beam/Joist/Rafter (rect shapes)	I-Joist	Truss (2x)	Floor Truss 4x	Nailer	Glulam	Wall	Post	Rim Joist	Beam/Joist/Rafter (rect shapes)	I-Joist	Truss (2x)	Floor Truss 4x	Glulam	Stringer	LVL	S-P-F	D Fir-L
Face Mount	THF	16 or 12	•	•				•				•	•	•	•			6,680 - 6,855	5,245 - 5,380	6,680 - 6,855
	THFI	18	•	•				•				•	•	•	•			2,345 - 4,605	1,845 - 3,615	2,345 - 4,605
	IHFL	18	•	•	•			•			•		•			•		3,240 - 4,420	2,425 - 3,310	3,240 - 4,420
	IHF	16	•	•	•			•					•			•		3,845 - 5,655	2,900 - 4,280	3,845 - 5,655
	HUS	16	•		•			•			•	•		•		•		6,090 - 9,625	5,195 - 8,070	6,090 - 9,625
	HD	14	•	•	•			•			•	•	•	•	•	•		3,010 - 7,715	2,290 - 6,965	3,010 - 7,715
	HDQIF	14	•		•			•		•	•	•	•	•	•	•		4,975 - 8,460	4,460 - 7,385	4,975 - 8,460
	THD	14 or 12	•		•			•				•	•	•	•	•		10,625 - 11,705	9,815 - 11,245	10,625 - 11,705
	THDH	12	•		•			•				•	•	•	•	•		12,470 - 17,720	9,730 - 15,330	12,470 - 17,720
	LGU	10	•		•			•				•		•	•	•		10,760	8,655	10,760
	MGU	10	•					•				•		•		•		17,465	14,055	17,465
	HGU	7	•		•			•				•		•	•	•		20,240	20,240	20,240
Top Mount	TFL	18	•	•		•	•	•				•	•	•	•			2,370	1,960	2,495
	THO	18, 16 or 12	•	•		•	•	•				•	•	•	•			1,485 - 5,090	1,250 - 7,225	1,595 - 9,205
	TFI	16	•	•		•	•	•				•	•	•	•			3,685 - 4,675	3,290 - 4,175	4,190 - 5,315
	BPH	12	•		•	•	•	•	•		•	•	•	•	•	•		4,415 - 5,300	3,965 - 4,340	5,050 - 5,530
	HBPH	12	•		•	•	•				•	•	•	•	•			10,405 - 11,005	8,635 - 8,640	10,405 - 11,005
	PHM	7 - Top Flange, 10 - Stirrup	•			•	•	•				•	•	•	•	•		5,090 - 5,395	4,450 - 4,665	5,670 - 5,940
	PHXU	7	•			•	•	•				•	•	•	•	•		6,370 - 9,575	6,075 - 8,280	7,740 - 10,550
	HLBH	7	•				•					•		•	•	•		14,725 - 15,295	11,730 - 12,215	14,940 - 15,560
	KEGQ	3 - Top Flange; 7 - U-Strap	•					•				•				•		30,875	24,235	30,875
Glulam	HD	14	•		•			•			•	•	•	•	•	•		5,030 - 7,690	4,180 - 6,510	5,030 - 7,690
	HDQIF	14	•		•			•		•	•	•	•	•	•	•		8,135 - 8,460	6,545 - 7,385	8,135 - 8,460
	GHF	12 or 7	•					•				•				•		3,980 - 18,875	3,125 - 14,820	3,980 - 18,875
	THDH	12	•		•			•				•	•	•	•	•		12,430 - 17,720	9,725 - 15,330	12,430 - 17,720
	HGU	7	•		•			•				•		•	•	•		20,240	20,240	20,240
	KLEG [1]	7	•					•				•				•		15,060	12,950	15,060
	KMEG [1]	7	•					•				•				•		17,555	15,095	17,555
	KEG [1]	1/4" - Top Flange,	•					•				•				•		23,125 - 27,785	19,890 - 23,895	23,125 - 27,785
	KHHB	7	•					•				•				•		9,545	7,495	9,545
	KGB	7	•					•				•		•		•		10,165	7,980	10,165
	KHGB	7	•					•				•		•		•		10,165	7,980	10,165
	KGLT [2]	3 - Top Flange, 7 - Stirrup	•				•	•				•		•		•		15,325	12,030	15,325
	KHGLT [2]	3 - Top Flange, 7 - Stirrup	•					•				•				•		19,455	15,275	19,455
	KGLS	3 - Top Flange, 7 - Stirrup	•					•				•		•		•		15,570 - 29,850	12,225 - 23,435	15,570 - 29,850
	KHGLS	3 - Top Flange, 7 - Stirrup	•					•				•				•		30,595 - 32,630	24,020 - 25,615	30,595 - 32,630
	KGLST	3 - Top Flange, 7 - Stirrup	•					•				•		•		•		19,265 - 37,825	15,125 - 29,695	19,265 - 37,825
	KHGLST	3 - Top Flange, 7 - Stirrup	•					•				•				•		28,575 - 40,505	22,435 - 31,800	28,575 - 40,505
	LGU	10	•		•			•				•		•	•	•		10,760	8,655	10,760
	MGU	10	•					•				•		•		•		17,465	14,055	17,465
Slope/Skew	LSSH	18 or 16	•	•	•			•				•	•	•	•	•	•	1,295 - 5,065	1,015 - 3,980	1,295 - 5,065

1) KEG, KEGQ, KLEG, KMEG hangers assume factored resistences with top flange.

2) When an I-Joist is used as a header, designer must evaluate if a web stiffener or backer block is required.

• Represents common applications and product configurations. Consult MiTek for additional applications and/or optional product configurations.
New products or updated product information are designated in blue font.

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The THFI is a face mount hanger designed to attach EWP I-joist members to wood headers. The unique design of the THFI combines the installation ease of a top mount hanger with the installation flexibility of a face mount hanger. Because the side flanges extend to the top chord of the I-joist, web stiffeners are not required. The THFI hangers also feature strategically placed Seat Cleats® which lock the bottom flange of the I-joist to the hanger eliminating the need for joist nails to be installed.

The innovative top flange alignment tabs with the holding cleats assist the placing and alignment of the hanger prior to nailing by hanging onto the header with holding cleats biting into the wood. If the alignment tabs are not desired or a deeper height member is to be carried, the tabs can be easily bent out of the way. Alignment tabs do not contribute to the allowable design values of the THFI hangers.

Materials: 18 gauge

Finish: G90 galvanizing

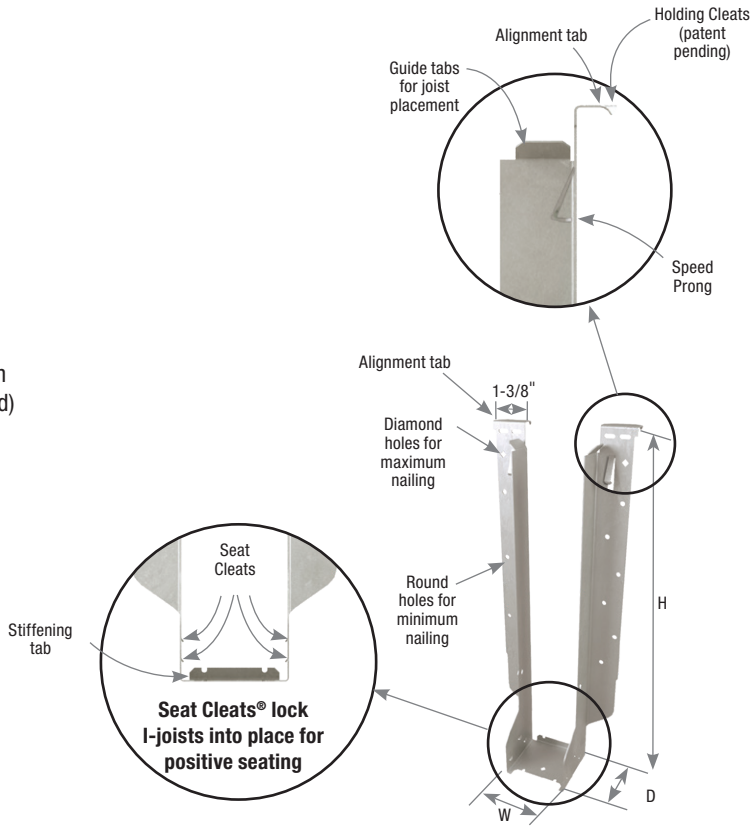
Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:

- Use all specified fasteners.
- Alignment tabs are not structural and can be bent back or removed to assist hanger placement.
- Web stiffeners are not required for THFI hangers unless specified by the I-joist manufacturer. Web stiffeners are not required for lateral stability.
- For additional uplift capacity, install (2) 10d x 1-1/2" nails through diamond holes and into the joist member. (web stiffeners required)
- THFI2514 model has diamond holes in the header flange for Min/Max nailing option. For the Max nailing option, install nails in both the round and diamond shaped header holes.



Typical THFI installation



THFI2514

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IHFL / IHF Face Mount I-Joist Hangers

IHFL (18GA) and IHF (16GA) series face mount hangers feature speed prongs for temporary placement and seat cleats to grab the bottom flange of the supported I-joist. Diamond holes in header and joist allow for optional Max nailing for customized fastening to match factored resistance needed. Install nails in all fastener holes where the Max factored resistance is needed while lighter load capacities can be achieved with a quick installation of round holes only, saving you time and money on the jobsite.

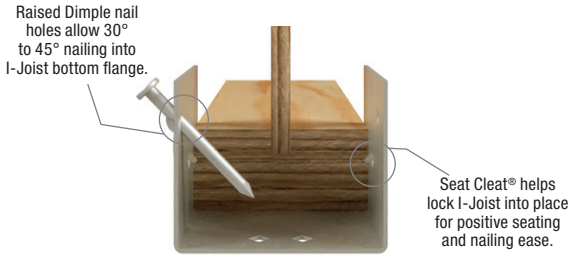
Features:

- Seat Cleats lock bottom chord of I-joist eliminating need for joist nails
- Dimples with diamond nail holes for optional joist nailing when higher uplift resistances are needed
- Min/Max nailing provide flexible installation options

Materials: IHFL – 18 gauge; IHF – 16 gauge
Finish: G90 galvanizing
Options: See Specialty Options chart

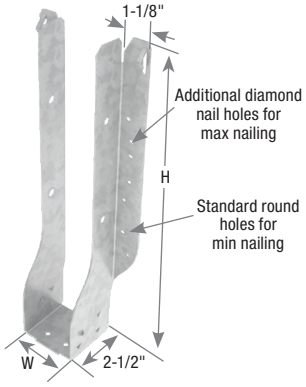
Installation:

- Use all specified fasteners.
- Position I-joist into hangers and tap or push into place to fully seat joist and engage cleats.
- Web stiffeners are not required unless specified by the I-joist manufacturer.
- **Min Nailing** – Fill all round nail holes.
- **Max Nailing** – Fill all round and diamond holes.





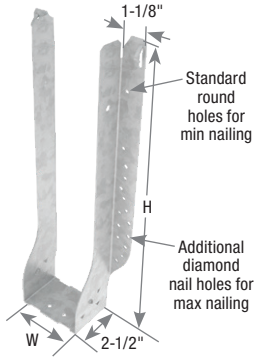
Typical IHFL2514 min nailing installation



IHFL2514



Typical IHF3516 max nailing installation



IHF3516

Specialty Options Chart – refer to Specialty Options pages 294-295 for additional details

Option	Skewed[1,3,4,5]	Sloped Seat[2,3,4]	Sloped / Skewed[1,2,3,4]	Inverted Flange[4]
Range	1˚ to 67-1/2˚ when width is 1-3/4" or less. 1˚ to 50˚ on all others.	1˚ to 45˚	See Sloped Seat and Skewed	Not available in widths less than 2-1/4"
Factored Resistance	100% of table load. 75% of uplift load on skews greater than 15˚.	100% of table load	80% of table load. 75% of uplift load on skews greater than 15˚.	100% of table load. 65% of table load when nailing into the support members end grain.
Ordering	Add *SK,* angle required, right *(R)* or left *(L),* and square cut *(SQ)* or bevel cut *(BV)* to product number. Example: IHFL23925_SK45R_BV	Add *SL,* slope required, and up *(U)* or down *(D),* to product number. Example: IHFL23925_SL30D	See Sloped Seat and Skewed Example: IHFL23925_SK45R_BV_SL30D	Add *IF,* to product number. Example: IHFL23925_IF

1) Skewed hangers with skews greater than 15° may have all joist nailing on outside flange.
2) Sloped or sloped / skewed hangers with slopes greater than 15° may have additional joist nails.
3) For skewed hangers, the required cut type (square or bevel) of joist member may vary based on skew angle and width of hanger. Some square cut hangers will require custom pricing due to welded back plate.
4) Modifications to IHFL or IHF hangers do not feature seat cleats or optional nailing.
5) Skewed hangers may require web stiffeners to be installed in order to facilitate joist nail installation.

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THF Face Mount I-Joist Hangers

Designed to provide lateral support for the top chords of I-Joists in depths up to 16".

Materials: See EWP Face Mount Hangers charts, page 186
Finish: G90 galvanizing
Options: See Specialty Options chart
Codes: Load values are derived from data submitted to various North American building code evaluators

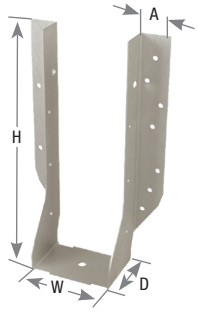
Installation:
- Use all specified fasteners. See Product Notes, page 16.
- Web stiffeners are required for I-Joist installations.



Typical THF double I-Joist to LVL installation



Typical THF I-Joist to I-Joist installation



THF

Specialty Options Chart – refer to Specialty Options pages 294-295 for additional details

Option	Skewed[1,3]	Sloped Seat[2]	Sloped / Skewed[1,2,3]	Inverted Flange
Range	1˚ to 67-1/2˚ when width is 1-3/4" or less. 1˚ to 50˚ on all others.	1˚ to 45˚	See Sloped Seat and Skewed	Not available in widths less than 2-1/4"
Factored Resistance	100% of table load. 75% of uplift load on skews greater than 15˚.	100% of table load	80% of table load. 75% of uplift load on skews greater than 15˚.	100% of table load. 65% of table load when nailing into the support members end grain.
Ordering	Add SK, angle required, right (R) or left (L), and square cut (SQ) or bevel cut (BV) to product number. Example: THF23118-2_SK45R_BV	Add SL, slope required, and up (U) or down (D), to product number. Example: THF23118-2_SL30D	See Sloped Seat and Skewed Example: THF23118-2_SK45R_BV_SL30D	Add IF, to product number. Example: THF23118-2_IF

1) Skewed hangers with skews greater than 15° may have all joist nailing on outside flange.
2) Sloped or sloped / skewed hangers with slopes greater than 15° may have additional joist nails.
3) For skewed hangers, the required cut type (square or bevel) of joist member may vary based on skew angle and width of hanger. Some square cut hangers will require custom pricing due to welded back plate.

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Designed to support LVL, LSL, and PSL beams and headers in medium load conditions.

Materials: See EWP Face Mount Hangers charts, pages 187-189

Finish: G90 galvanizing

Options: See Specialty Options chart

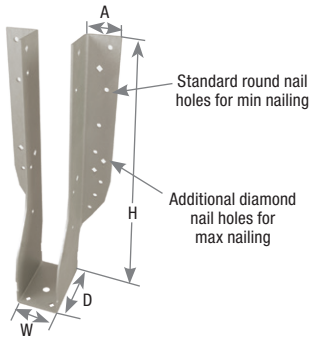
Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:

- Use all specified fasteners. See Product Notes, page 16.
- **Min Nailing** – Fill all round nail holes.
- **Max Nailing** – Fill all round and diamond nail holes.



Typical HD installation



HD

Specialty Options Chart – refer to Specialty Options pages 294-295 for additional details

Option	Skewed[1,3]	Sloped Seat[2]	Sloped / Skewed[1,2,3]	Inverted Flange
Range	1˚ to 67-1/2˚ when width is 1-3/4" or less. 1˚ to 50˚ on all others.	1˚ to 45˚	See Sloped Seat and Skewed	Not available in widths less than 2-1/4"
Factored Resistance	100% of table load. 75% of uplift load on skews greater than 15˚.	100% of table load	80% of table load. 75% of uplift load on skews greater than 15˚.	100% of table load. 65% of table load when nailing into the support members end grain.
Ordering	Add *SK,* angle required, right *(R)* or left *(L), and* square cut *(SQ) or* bevel cut *(BV)* to product number. Example: HD410_SK45R_SQ	Add *SL,* slope required, and up *(U)* or down *(D),* to product number. Example: HD410_SL30D	See Sloped Seat and Skewed Example: HD410_SK45R_SQ_SL30D	Add *IF,* to product number. Example: HD410_IF

1) Skewed hangers with skews greater than 15° may have all joist nailing on outside flange.
2) Sloped or sloped / skewed hangers with slopes greater than 15° may have additional joist nails.
3) For skewed hangers, the required cut type (square or bevel) of joist member may vary based on skew angle and width of hanger. Some square cut hangers will require custom pricing due to welded back plate.
4) HD option hangers may be manufactured as welded products to achieve listed loads. Welded products have a primer finish.

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HDQIF Inverted Flange Face Mount Hangers

Inverted flange face mount hangers fasten to LVL, LSL and PSL beams and headers with MiTek's WS structural wood screws.

Materials: See EWP Face Mount Hangers charts, pages 187-189

Finish: G90 galvanizing

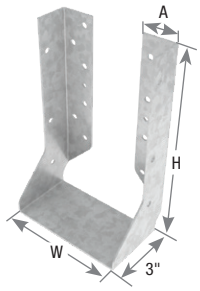
Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:

- Use all specified fasteners. See Product Notes, page 16.
- MiTek's WS15 (1/4" dia. x 1-1/2" long) and WS3 (1/4" dia. x 3" long) structural wood screws are supplied with HDQIF hangers.



Typical HDQIF inverted flange installation



HDQIF

HUS Face Mount Hangers

Designed for medium load conditions. Extended 3" deep seat provides extra truss bearing.

Materials: 16 gauge

Finish: G90 galvanizing

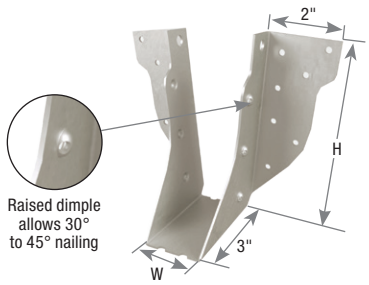
Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:

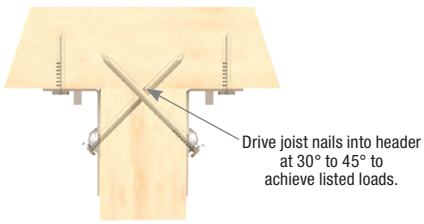
- Use all specified fasteners. See Product Notes, page 16.
- Joist nails must be driven at a 30° to 45° angle through the joist into the header to achieve listed loads. **Slant / double shear nails must be used to achieve listed load values.**



Typical HUS installation



HUS



Typical HUS double shear installation

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THD / THDH Face Mount Hangers

THD – Medium capacity hanger for LVL, LSL, and PSL beams

THDH – Heavy capacity hanger for LVL, LSL, and PSL beams

Materials: See EWP Face Mount Hangers charts, pages 187-189

Finish: G90 galvanizing

Options: Rough/ Full sizes available for THD series. See Specialty Options chart

Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:

- Use all specified fasteners. See Product Notes, page 16.
- **THD** – Drive bend line nails into header at 45° to achieve listed loads.
- **THDH** – Drive joist nails into header at 30° to 45° to achieve listed loads.

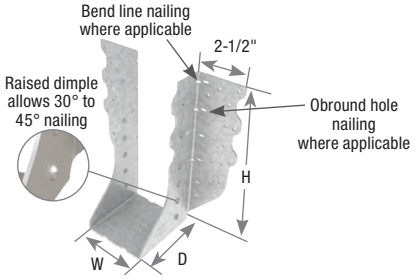


Typical THDH installation

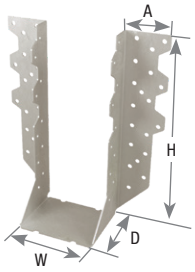


Typical THD installation

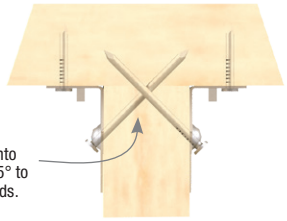
Some model designs may vary from illustration shown



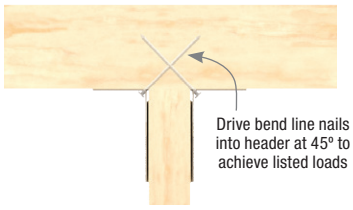
THDH



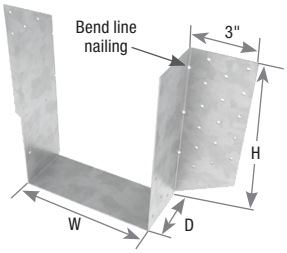
THD410



Typical THDH double shear installation



Typical bend line nailing installation



THD7210

Specialty Options Chart

– refer to Specialty Options pages 294-295 for additional details

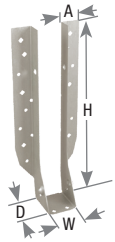
Option	MiTek Series	Skewed[1,3,4]	Sloped Seat[2]	Sloped / Skewed[1,2,3,4]	Inverted Flange
Range	THD	1˚ to 45˚	1˚ to 45˚	See Sloped Seat and Skewed	THD410 – THD414 One flange THD610 – THD7210 Two flange
	THDH				N/A
Factored Resistance	THD	85% of table load	65% of table load	65% of table load	100% of table load 65% of table load when nailing into the support members end grain
	THDH	85% of table load 50% of table uplift load	85% of table load	52% of table load 50% of table uplift load	N/A
Ordering	THD	Add *SK*, angle required, right *(R)* or left *(L)*, and square cut *(SQ)* or bevel cut *(BV)* to product number. Ex. THDH410_SK45R_BV	Add *SL,* slope required, and up *(U)*or down *(D),* to product number. Ex: THDH410_SL30D	See Sloped Seat and Skewed Ex. THDH410_SK45R_BV_SL30D	**One flange option:** Add *IF,* and right *(R)* or left *(L),* to product number. Ex. THD410_IFR **Two flange option:** Add *IF,* to product number. Ex. THD610_IF
	THDH				N/A

1) Skewed hangers with skews greater than 15° may have all joist nailing on outside flange. All skewed THDH hangers have joist nails on one side only.
2) Sloped or sloped / skewed hangers with slopes greater than 15° may have additional joist nails.
3) THDH models - Skewed hangers typically require a bevel cut. A square cut option may be available as a custom.
4) THD models - For skewed hangers, the required cut type (square or bevel) of joist member may vary based on skew angle and width of hanger. Some square cut hangers will require custom pricing due to welded back plate.

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Joist Size (in)	MiTek Stock No.	Ref. No.	GA	Dimensions (in) W	H	D	A	Fastener Schedule[3] Min/ Max	Header Qty	Header Type	Joist Qty	Joist Type	D Fir-L Factored Resistance Lbs Vertical 100%	Lbs Uplift[1] 115%	kN Vertical 100%	kN Uplift[1] 115%	S-P-F Factored Resistance Lbs Vertical 100%	Lbs Uplift[1] 115%	kN Vertical 100%	kN Uplift[1] 115%
1-3/4 x 9-1/4 - 9-1/2	IHFL17925	IUS1.81/9.5, LF179	18	1-3/4	8-15/16	2-1/2	1-1/8	Min	8	10d	--	--	3240	90	14.41	0.40	2425	90	10.79	0.40
								Max			2	10d x 1-1/2		405		1.80		385		1.71
1-3/4 x 11-7/8	IHFL17112	IUS1.81/11.88, LF1711	18	1-3/4	10-15/16	2-1/2	1-1/8	Min	10	10d	--	--	4420	90	19.66	0.40	3310	90	14.72	0.40
								Max			2	10d x 1-1/2		405		1.80		385		1.71
1-3/4 x 14	IHFL1714	IUS1.81/14, LF1714	18	1-3/4	13-3/8	2-1/2	1-1/8	Min	12	10d	--	--	4420	90	19.66	0.40	3310	90	14.72	0.40
								Max			2	10d x 1-1/2		405		1.80		385		1.71
2 x 9-1/2	IHFL20925	IUS2.06/9.5, LF209	18	2-1/16	8-3/4	2-1/2	1-1/8	Min	8	10d	--	--	3240	90	14.41	0.40	2425	90	10.79	0.40
								Max			2	10d x 1-1/2		405		1.80		385		1.71
2 x 11-7/8	IHFL20112	IUS2.06/11.88, LF2011	18	2-1/16	11-5/16	2-1/2	1-1/8	Min	10	10d	--	--	4420	90	19.66	0.40	3310	90	14.72	0.40
								Max			2	10d x 1-1/2		405		1.80		385		1.71
	IHF20112	MIU2.1/11	16	2-1/16	11-3/16	2-1/2	1-1/8	Min	10	10d	--	--	4420	90	19.66	0.40	3310	90	14.72	0.40
								Max	24	16d	2	10d x 1-1/2	5655	605	25.15	2.69	4280	585	19.04	2.60
2 x 14	IHFL2014	IUS2.06/14, LF2014	18	2-1/16	13-3/16	2-1/2	1-1/8	Min	12	10d	--	--	4420	90	19.66	0.40	3310	90	14.72	0.40
								Max			2	10d x 1-1/2		405		1.80		385		1.71
	IHF2014	--	16	2-1/16	13-1/4	2-1/2	1-1/8	Min	12	10d	--	--	4420	90	19.66	0.40	3310	90	14.72	0.40
								Max	28	16d	2	10d x 1-1/2	5655	605	25.15	2.69	4280	585	19.04	2.60
2 x 16	IHFL2016	IUS2.06/16	18	2-1/16	15-11/16	2-1/2	1-1/8	Min	14	10d	--	--	4420	90	19.66	0.40	3310	90	14.72	0.40
								Max			2	10d x 1-1/2		405		1.80		385		1.71
2-5/16 x 9-1/2	IHFL23925	IUS2.37/9.5, LF239	18	2-5/16	9-3/16	2-1/2	1-1/8	Min	8	10d	--	--	3240	90	14.41	0.40	2425	90	10.79	0.40
								Max			2	10d x 1-1/2		405		1.80		385		1.71
2-5/16 x 11-7/8	IHFL23112	IUS2.37/11.88, LF2311	18	2-5/16	11-3/16	2-1/2	1-1/8	Min	10	10d	--	--	4420	90	19.66	0.40	3310	90	14.72	0.40
								Max			2	10d x 1-1/2		405		1.80		385		1.71
	IHF23112	MIU2.37/11	16	2-5/16	11-3/16	2-1/2	1-1/8	Min	10	10d	--	--	4420	90	19.66	0.40	3310	90	14.72	0.40
								Max	24	16d	2	10d x 1-1/2	5655	605	25.15	2.69	4280	585	19.04	2.60
2-5/16 x 14	IHFL2314	IUS2.37/14, LF2314	18	2-5/16	13-1/2	2-1/2	1-1/8	Min	12	10d	--	--	4420	90	19.66	0.40	3310	90	14.72	0.40
								Max			2	10d x 1-1/2		405		1.80		385		1.71
	IHF2314	MIU2.37/14	16	2-5/16	13-1/2	2-1/2	1-1/8	Min	12	10d	--	--	4420	90	19.66	0.40	3310	90	14.72	0.40
								Max	28	16d	2	10d x 1-1/2	5655	605	25.15	2.69	4280	585	19.04	2.60
2-5/16 x 16	IHFL2316	IUS2.37/16	18	2-5/16	15-9/16	2-1/2	1-1/8	Min	14	10d	--	--	4420	90	19.66	0.40	3310	90	14.72	0.40
								Max			2	10d x 1-1/2		405		1.80		385		1.71
2-1/2 x 9-1/4 - 9-1/2	THFI2595	IUS2.56/9.25	18	2-5/8	9-1/2	2	1-3/8	--	8	10d	--	--	1845	90	8.21	0.40	1700	90	7.56	0.40
	IHFL25925	LF259	18	2-1/2	9-1/8	2-1/2	1-1/8	Min	8	10d	--	--	3240	90	14.41	0.40	2425	90	10.79	0.40
								Max			2	10d x 1-1/2		405		1.80		385		1.71
2-1/2 x 11-1/4 - 11-7/8	THFI25118	IUS2.56/11.88	18	2-5/8	11-7/8	2	1-3/8	--	10	10d	--	--	1845	90	8.21	0.40	1700	90	7.56	0.40
	IHFL25112	LF2511	18	2-1/2	11-1/8	2-1/2	1-1/8	Min	10	10d	--	--	4420	90	19.66	0.40	3310	90	14.72	0.40
								Max			2	10d x 1-1/2		405		1.80		405		1.80
2-1/2 x 14	THFI2514	IUS2.56/14	18	2-5/8	14	2	1-3/8	Min	12	10d	--	--	3155	90	14.03	0.40	2910	90	12.94	0.40
								Max	14		--	--								
	IHFL2514	LF2514	18	2-1/2	13-7/16	2-1/2	1-1/8	Min	12	10d	--	--	4420	90	19.66	0.40	3310	90	14.72	0.40
								Max			2	10d x 1-1/2		405		1.80		385		1.71
	IHF2514	MIU2.56/14	16	2-1/2	13-7/16	2-1/2	1-1/8	Min	12	10d	--	--	4420	90	19.66	0.40	3310	90	14.72	0.40
								Max	28	16d	2	10d x 1-1/2	5655	605	25.15	2.69	4280	585	19.04	2.60

1) Factored uplift resistance has been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) Web stiffeners may be required by I-Joist manufacturers.
3) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long, 10d nails are 0.148" dia. x 3" long, 16d nails are 0.162" dia. x 3-1/2" long.
Vertical downward loads address hanger/header/fastener limitations only. Refer to the EWP manufacturer for joist limitations.

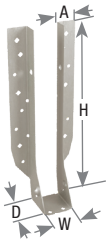


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Joist Size (in)	MiTek Stock No.	Ref. No.	GA	Dimensions (in)				Fastener Schedule[3]					D Fir-L Factored Resistance				S-P-F Factored Resistance			
									Header		Joist		Lbs		kN		Lbs		kN	
				W	H	D	A	Min/ Max	Qty	Type	Qty	Type	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%
2-1/2 x 16	IHFL2516	IUS2.56/16	18	2-1/2	15-1/2	2-1/2	1-1/8	Min	14	10d	--	--	4420	90	19.66	0.40	3310	90	14.72	0.40
								Max			2	10d x 1-1/2		405		1.80		385		1.71
3-1/2 x 9-1/4 - 9-1/2	IHFL35925	IUS3.56/9.5, LF359	18	3-1/2	8-5/8	2-1/2	1-1/8	Min	10	10d	--	--	4420	90	19.66	0.40	3310	90	14.72	0.40
								Max			2	10d x 1-1/2		405		1.80		385		1.71
	IHF35925	MIU3.56/9	16	3-1/2	8-5/8	2-1/2	1-1/8	Min	10	10d	--	--	4420	90	19.66	0.40	3310	90	14.72	0.40
								Max	24	16d	2	10d x 1-1/2	5655	605	25.15	2.69	4280	585	19.04	2.60
3-1/2 x 11-1/4 - 11-7/8	IHFL35112	IUS3.56/11.88, LF3511	18	3-1/2	10-5/8	2-1/2	1-1/8	Min	10	10d	--	--	4420	90	19.66	0.40	3310	90	14.72	0.40
								Max			2	10d x 1-1/2		405		1.80		385		1.71
	IHF35112	MIU3.56/11	16	3-1/2	10-5/8	2-1/2	1-1/8	Min	10	10d	--	--	4420	90	19.66	0.40	3310	90	14.72	0.40
								Max	24	16d	2	10d x 1-1/2	5655	605	25.15	2.69	4280	585	19.04	2.60
3-1/2 x 14	IHFL3514	IUS3.56/14, LF3514	18	3-1/2	12-15/16	2-1/2	1-1/8	Min	12	10d	--	--	4420	90	19.66	0.40	3310	90	14.72	0.40
								Max			2	10d x 1-1/2		405		1.80		385		1.71
	IHF3514	MIU3.56/14	16	3-1/2	12-15/16	2-1/2	1-1/8	Min	12	10d	--	--	4420	90	19.66	0.40	3310	90	14.72	0.40
								Max	28	16d	2	10d x 1-1/2	5655	605	25.15	2.69	4280	585	19.04	2.60
3-1/2 x 16	IHFL3516	IUS3.56/16	18	3-1/2	15	2-1/2	1-1/8	Min	14	10d	--	--	4420	90	19.66	0.40	3310	90	14.72	0.40
								Max			2	10d x 1-1/2		405		1.80		385		1.71
	IHF3516	MIU3.56/16	16	3-1/2	15	2-1/2	1-1/8	Min	14	10d	--	--	4420	90	19.66	0.40	3310	90	14.72	0.40
								Max	30	16d	2	10d x 1-1/2	5655	605	25.15	2.69	4280	585	19.04	2.60
3-1/2 x 18	IHF3518	MIU3.56/18	16	3-1/2	16-9/16	2-1/2	1-1/8	Min	14	10d	--	--	4420	90	19.66	0.40	3310	90	14.72	0.40
								Max	30	16d	2	10d x 1-1/2	5655	605	25.15	2.69	4280	585	19.04	2.60
4 - 4-3/16 x 9-1/2	IHF20925-2	MIU4.12/9, MIU4.28/9	16	4-3/16	8-11/16	2-1/2	1-1/8	Min	10	10d	--	--	3845	90	17.10	0.40	2900	90	12.90	0.40
								Max	24	16d	2	10d x 1-1/2	5655	605	25.15	2.69	4280	585	19.04	2.60
4 - 4-3/16 x 11-7/8	IHF20112-2	MIU4.12/11, MIU4.28/11	16	4-3/16	11	2-1/2	1-1/8	Min	10	10d	--	--	3845	90	17.10	0.40	2900	90	12.90	0.40
								Max	24	16d	2	10d x 1-1/2	5655	605	25.15	2.69	4280	585	19.04	2.60
4 - 4-3/16 x 14	IHF2014-2	MIU4.12/14, MIU4.28/14	16	4-3/16	13-5/8	2-1/2	1-1/8	Min	12	10d	--	--	3845	90	17.10	0.40	2900	90	12.90	0.40
								Max	28	16d	2	10d x 1-1/2	5655	605	25.15	2.69	4280	585	19.04	2.60
4-5/8 x 9-1/4	IHF23925-2	MIU4.75/9	16	4-3/4	8-3/8	2-1/2	1-1/8	Min	10	10d	--	--	3845	90	17.10	0.40	2900	90	12.90	0.40
								Max	24	16d	2	10d x 1-1/2	5655	605	25.15	2.69	4280	585	19.04	2.60
4-5/8 x 11-1/4	THF23118-2	MIU4.75/11	16	4-3/4	10-11/16	2-1/2	1-1/4	--	16	10d	6	10d	6855	3185	30.49	14.17	5380	2610	23.93	11.61
4-5/8 x 14	THF23140-2	MIU4.75/14	12	4-3/4	13-5/16	2-1/2	1-1/4	--	20	10d	6	10d	6680	3185	29.71	14.17	5245	2610	23.33	11.61
4-5/8 x 16	THF23160-2	MIU4.75/16	12	4-3/4	15-15/16	2-1/2	1-1/4	--	24	10d	6	10d	6680	3185	29.71	14.17	5245	2610	23.33	11.61
5 x 9-1/4	IHF25925-2	MIU5.12/9	16	5-1/8	8-3/16	2-1/2	1-1/8	Min	10	10d	--	--	3845	90	17.10	0.40	2900	90	12.90	0.40
								Max	24	16d	2	10d x 1-1/2	5655	605	25.15	2.69	4280	585	19.04	2.60
5 x 11-1/4	IHF25112-2	MIU5.12/11	16	5-1/8	10-7/16	2-1/2	1-1/8	Min	10	10d	--	--	3845	90	17.10	0.40	2900	90	12.90	0.40
								Max	24	16d	2	10d x 1-1/2	5655	605	25.15	2.69	4280	585	19.04	2.60
5 x 14	THF25140-2	MIU5.12/14	12	5-1/8	13-1/8	2-1/2	1-1/4	--	20	10d	6	10d	6680	3185	29.71	14.17	5245	2610	23.33	11.61
5 x 16	THF25160-2	MIU5.12/16	12	5-1/8	15-3/4	2-1/2	1-1/4	--	24	10d	6	10d	6680	3185	29.71	14.17	5245	2610	23.33	11.61
7 x 9-1/4	HD7100	HU410-2	14	7-1/8	9	2-1/2	1-1/16	Min	14	16d	6	16d	5030	2460	22.37	10.94	4180	2200	18.59	9.79
								Max	18		8			3745		16.66		3480		15.48
7 x 11-1/4	HD7120	HU412-2	14	7-1/8	10-11/16	2-1/2	1-1/16	Min	16	16d	6	16d	5030	2460	22.37	10.94	4180	2200	18.59	9.79
								Max	22		8		5585	3930	24.84	17.48	4710	3515	20.95	15.64
7 x 14	HD7140	HU414-2	14	7-1/8	13	2-1/2	1-1/16	Min	20	16d	8	16d	5030	3745	22.37	16.66	4180	3480	18.59	15.48
								Max	26		12		7670	4070	34.12	18.10	6430	3640	28.60	16.19

1) Factored uplift resistance has been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) Web stiffeners may be required by I-Joist manufacturers.
3) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long, 10d nails are 0.148" dia. x 3" long, 16d nails are 0.162" dia. x 3-1/2" long.
Vertical downward loads address hanger/header/fastener limitations only. Refer to the EWP manufacturer for joist limitations.

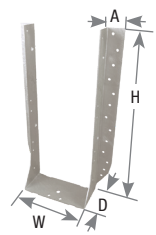


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Joist Size	MiTek Stock No.	Ref. No.	GA	Dimensions (in)				Fastener Schedule[2,3]					D Fir-L Factored Resistance				S-P-F Factored Resistance			
									Header		Joist		Lbs		kN		Lbs		kN	
				W	H	D	A	Min/ Max	Qty	Type	Qty	Type	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%
1-1/2 x 9-1/4 - 9-1/2	IHFL15925	LF159	18	1-1/2	9-1/16	2-1/2	1-1/8	Min	8	10d	--	--	3240	90	14.41	0.40	2425	90	10.79	0.40
								Max			2	10d x 1-1/2		405		1.80		385		1.71
1-1/2 x 11-1/4 - 11-7/8	IHFL15112	IUS1.56/11.88	18	1-1/2	11-1/16	2-1/2	1-1/8	Min	10	10d	--	--	4420	90	19.66	0.40	3310	90	14.72	0.40
								Max			2	10d x 1-1/2		405		1.80		385		1.71
1-1/2 x 14	IHF1514	--	16	1-1/2	13-1/2	2-1/2	1-1/8	Min	12	10d	--	--	4420	90	19.66	0.40	3310	90	14.72	0.40
								Max	28	16d	2	10d x 1-1/2	5655	605	25.15	2.69	4280	585	19.04	2.60
1-3/4 x 5-1/2	HUS175	HU1.81/5	16	1-13/16	5-3/8	3	2	--	14	16d	6	16d	6090	3915	27.09	17.41	5195	3625	23.11	16.12
1-3/4 x 7-1/4	HD1770	HU7	14	1-13/16	7-1/8	2-1/2	1-1/8	Min	12	16d	4	10d x 1-1/2	3010	1430	13.39	6.36	2290	1320	10.19	5.87
								Max	16	16d	8	10d x 1-1/2	5030	2185	22.37	9.72	4180	2050	18.59	9.12
	HUS177	--	16	1-13/16	7-1/8	3	2	--	22	16d	8	16d	8050	5775	35.81	25.69	6875	5345	30.58	23.78
1-3/4 x 9-1/2	IHF17925	MIU1.81/9	16	1-3/4	8-15/16	2-1/2	1-1/8	Min	8	10d	--	--	3240	90	14.41	0.40	2425	90	10.79	0.40
								Max	20	16d	2	10d x 1-1/2	4420	605	19.66	2.69	3310	585	14.72	2.60
	HDQ179IF	HUCQ1.81/9-SDS	14	1-13/16	9	3	13/16	--	8	WS3	4	WS15	4975	1765	22.13	7.85	4460	1765	19.84	7.85
	HD17925	HU9	14	1-13/16	9-1/8	2-1/2	1-1/8	Min	18	16d	6	10d x 1-1/2	5030	2185	22.37	9.72	4180	2050	18.59	9.12
								Max	24	16d	10	10d x 1-1/2	5585	3495	24.84	15.55	4710	3270	20.95	14.55
	HD17925IF	--	14	1-13/16	9-1/8	--	1-1/8	--	18	16d	6	10d x 1-1/2	5030	2185	22.37	9.72	4180	2050	18.59	9.12
	HUS179	HUS1.81/10	16	1-13/16	9-1/8	3	2	--	30	16d	10	16d	9625	8045	42.81	35.79	8070	7455	35.90	33.16
1-3/4 x 11-1/4 - 11-7/8	IHF17112	MIU1.81/11	16	1-3/4	10-15/16	2-1/2	1-1/8	Min	10	10d	--	--	4420	90	19.66	0.40	3310	90	14.72	0.40
								Max	24	16d	2	10d x 1-1/2	5655	605	25.15	2.69	4280	585	19.04	2.60
	HDQ17112IF	HUCQ1.81/11-SDS	14	1-13/16	11	3	13/16	--	10	WS3	6	WS15	5470	2975	24.33	13.23	4775	2595	21.24	11.54
	HD17112	HU11	14	1-13/16	11-3/8	2-1/2	1-1/8	Min	22	16d	6	10d x 1-1/2	5585	2185	24.84	9.72	4710	2050	20.95	9.12
								Max	30	16d	12	10d x 1-1/2	7715	3495	34.32	15.55	6535	3270	29.07	14.55
	HD17112IF	--	14	1-13/16	11-3/8	--	1-1/8	--	22	16d	6	10d x 1-1/2	5585	2185	24.84	9.72	4710	2050	20.95	9.12
	HUS179	HUS1.81/10	16	1-13/16	9-1/8	3	2	--	30	16d	10	16d	9625	8045	42.81	35.79	8070	7455	35.90	33.16
1-3/4 x 14	IHF1714	MIU1.81/14	16	1-3/4	13-3/8	2-1/2	1-1/8	Min	12	10d	--	--	4420	90	19.66	0.40	3310	90	14.72	0.40
								Max	28	16d	2	10d x 1-1/2	5655	605	25.15	2.69	4280	585	19.04	2.60
	HD1714	HU14, U14	14	1-13/16	13-5/16	2-1/2	1-1/8	Min	28	16d	8	10d x 1-1/2	5585	2775	24.84	12.34	4710	2600	20.95	11.57
								Max	36	16d	14	10d x 1-1/2	7715	3495	34.32	15.55	6535	3270	29.07	14.55
	HD1714IF	--	14	1-13/16	13-5/16	--	1-1/8	--	26	16d	8	10d x 1-1/2	5925	3190	26.36	14.19	4655	2505	20.71	11.14
	HDQ1714IF	--	14	1-13/16	13-3/8	3	13/16	--	12	WS3	6	WS15	6730	3175	29.94	14.12	6525	3080	29.02	13.70
	HUS179	HUS1.81/10	16	1-13/16	9-1/8	3	2	--	30	16d	10	16d	9625	8045	42.81	35.79	8070	7455	35.90	33.16
1-3/4 x 16	IHF1716	MIU1.81/16	16	1-13/16	15-3/4	2-1/2	1-1/8	Min	14	10d	--	--	4420	90	19.66	0.40	3310	90	14.72	0.40
								Max	30	16d	2	10d x 1-1/2	5655	605	25.15	2.69	4280	585	19.04	2.60

1) Factored uplift resistance has been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) MiTek's WS15 (1/4" dia. x 1-1/2" long) and WS3 (1/4" dia. x 3" long) structural wood screws are included with HDQ hangers.
3) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long, 16d nails are 0.162" dia. x 3-1/2" long.
Vertical downward loads address hanger/header/fastener limitations only. Refer to the EWP manufacturer for joist limitations.



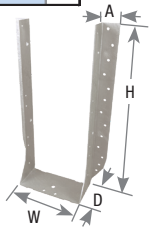
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Joist Size	MiTek Stock No.	Ref. No.	GA	Dimensions (in)				Fastener Schedule[2,3]					D Fir-L Factored Resistance				S-P-F Factored Resistance				Corrosion Finish
									Header		Joist		Lbs		kN		Lbs		kN		
				W	H	D	A	Min/ Max	Qty	Type	Qty	Type	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%	
1-3/4 x 16	HD1714	HU14, U14	14	1-13/16	13-5/16	2-1/2	1-1/8	Min	28	16d	8	10d x 1-1/2	5585	2775	24.84	12.34	4710	2600	20.95	11.57	
								Max	36	16d	14	10d x 1-1/2	7715	3495	34.32	15.55	6535	3270	29.07	14.55	
	HD1714IF	--	14	1-13/16	13-5/16	--	1-1/8	--	26	16d	8	10d x 1-1/2	5925	3190	26.36	14.19	4655	2505	20.71	11.14	
	HDQ1714IF	--	14	1-13/16	13-3/8	3	13/16	--	12	WS3	6	WS15	6730	3175	29.94	14.12	6525	3080	29.02	13.70	
2-11/16 x 9-1/4 - 14	HD27925	HU2.75/10	14	2-3/4	9-3/16	2-1/2	1-1/8	Min	14	16d	6	10d x 1-1/2	5030	2185	22.37	9.72	4180	2050	18.59	9.12	
								Max	20	16d	10	10d x 1-1/2		2775		12.34		2600		11.57	
	THDH27925	--	12	2-3/4	9-1/8	4	2-1/2	--	46	16d	12	16d	12430	7575	55.29	33.70	9725	7345	43.26	32.67	
2-11/16 x 11-1/4 - 16	HD27112	HU2.75/12	14	2-3/4	11-3/16	2-1/2	1-1/8	Min	16	16d	8	10d x 1-1/2	5030	2185	22.37	9.72	4180	2050	18.59	9.12	
								Max	24	16d	12	10d x 1-1/2	5585	3495	24.84	15.55	4710	3270	20.95	14.55	
	THDH27112	--	12	2-3/4	10-7/8	4	2-1/2	--	56	16d	14	16d	14330	7575	63.74	33.70	12265	7345	54.56	32.67	
2-11/16 x 14 - 16	HD2714	HU2.75/14	14	2-3/4	13-3/16	2-1/2	1-1/8	Min	18	16d	8	10d x 1-1/2	5030	2775	22.37	12.34	4180	2600	18.59	11.57	
								Max	26	16d	12	10d x 1-1/2	5585	3495	24.84	15.55	4710	3270	20.95	14.55	
	THDH2714	--	12	2-3/4	12-1/4	4	2-1/2	--	66	16d	16	16d	17720	10030	78.82	44.62	15320	8775	68.15	39.03	
3-1/4 x 9-1/2	THDH3210	HGUS3.25/10	12	3-1/4	9-3/8	4	2-1/2	--	46	16d	12	16d	12430	7575	55.29	33.70	9725	7345	43.26	32.67	
3-1/4 x 10-5/8	THDH3212	HGUS3.25/12	12	3-1/4	10-5/8	4	2-1/2	--	56	16d	14	16d	14330	10030	63.74	44.62	12265	8775	54.56	39.03	
3-1/2 x 5-1/4	THD46	HHUS46	14	3-5/8	5-5/16	3	2	--	18	16d	12	10d	6525	5270	29.02	23.44	6030	4715	26.82	20.97	
	THDH46	HGUS46	12	3-5/8	5-5/16	4	2-1/2	--	20	16d	8	16d	7130	4880	31.72	21.71	5470	4740	24.33	21.08	
3-1/2 x 7-1/4	THD48	HHUS48	14	3-5/8	7-1/16	3	2	--	28	16d	16	10d	7545	4480	33.56	19.93	6970	4005	31.00	17.82	
	THDH48	HGUS48	12	3-5/8	7-1/16	4	2-1/2	--	36	16d	10	16d	12130	5110	53.96	23	9475	5110	42.15	22.73	
3-1/2 x 9-1/4 - 14	HD410	--	14	3-9/16	8-13/16	2-1/2	1-1/8	Min	14	16d	6	10d	5030	2460	22.37	10.94	4180	2200	18.59	9.79	
								Max	20	16d	10	10d	5870	4070	26.11	18.10	4625	3640	20.57	16.19	
	HDQ410IF	HUCQ410-SDS	14	3-9/16	9	3	1-1/2	--	12	WS3	6	WS3	8460	4970	37.63	22.11	7385	4335	32.85	19.28	
	THD410	HHUS410	14	3-5/8	9-1/16	3	2	--	38	16d	20	10d	10625	7715	47.26	34.32	9815	7145	43.66	31.78	
	THDH410	HGUS410	12	3-5/8	9-1/16	4	2-1/2	--	46	16d	12	16d	12430	7575	55.29	33.70	9725	7345	43.26	32.67	
3-1/2 x 11-1/4 - 16	HD412	--	14	3-9/16	10-13/16	2-1/2	1-1/8	Min	16	16d	8	10d	5030	2460	22.37	10.94	4180	2200	18.59	9.79	
								Max	24	16d	12	10d	7540	4070	33.54	18.10	6965	3640	30.98	16.19	
	HDQ412IF	HUCQ412-SDS	14	3-9/16	11	3	1-1/2	--	14	WS3	6	WS3	8135	5220	36.19	23.22	6545	4965	29.11	22.09	
	THD412	--	14	3-5/8	11	3	2	--	48	16d	20	10d	10625	7715	47.26	34.32	9815	7145	43.66	31.78	
	THDH412	HGUS412	12	3-5/8	11-1/16	4	2-1/2	--	56	16d	14	16d	14330	10030	63.74	44.62	12265	8775	54.56	39.03	
3-1/2 x 14 - 20	HD414	--	14	3-9/16	12-13/16	2-1/2	1-1/8	Min	18	16d	8	10d	5030	2775	22.37	12.34	4180	2600	18.59	11.57	
								Max	26	16d	12	10d	7540	4070	33.54	18.10	6965	3640	30.98	16.19	
	THD414	--	14	3-5/8	12-7/8	3	2	--	58	16d	20	10d	10625	7715	47.26	34.32	9815	7145	43.66	31.78	
	THDH414	HGUS414	12	3-5/8	13-1/16	4	2-1/2	--	66	16d	16	16d	17720	10185	78.82	45.31	15320	8905	68.15	39.61	
3-1/2 x 16 - 22	HD416	--	14	3-9/16	14-13/16	2-1/2	1-1/8	Min	22	16d	10	10d	5870	4070	26.11	18.10	4625	3640	20.57	16.19	
								Max	30	16d	14	10d	7210	4070	32.07	18.10	6660	3640	29.63	16.19	

1) Factored uplift resistance has been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) MiTek's WS15 (1/4" dia. x 1-1/2" long) and WS3 (1/4" dia. x 3" long) structural wood screws are included with HDQ hangers.
3) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long, 10d nails are 0.148" dia. x 3" long, 16d nails are 0.162" dia. x 3-1/2" long.
Vertical downward loads address hanger/header/fastener limitations only. Refer to the EWP manufacturer for joist limitations.

Corrosion Finish Key Stainless Steel HDG Triple Zinc



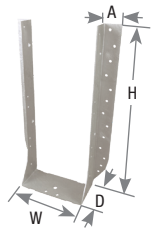
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Joist Size	MiTek Stock No.	Ref. No.	GA	Dimensions (in)				Fastener Schedule[2,3]					D Fir-L Factored Resistance				S-P-F Factored Resistance				Corrosion Finish
									Header		Joist		Lbs		kN		Lbs		kN		
				W	H	D	A	Min/ Max	Qty	Type	Qty	Type	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%	
3-1/2 x 18 - 26	HD418	--	14	3-9/16	16-1/2	2-1/2	1-1/8	--	28	16d	8	10d	7540	3930	33.54	17.48	6965	3515	30.98	15.64	
5-1/4 x 7-1/4	HD68	HU68	14	5-1/2	5-15/16	2-1/2	1-1/8	Min	10	16d	4	16d	3010	1730	13.39	7.70	2290	1545	10.19	6.87	
								Max	14		6		5030	2460	22.37	10.94	4180	2200	18.59	9.79	
	HD68IF	HUC68	14	5-1/2	5-15/16	2-1/2	--	Min	10	16d	4	16d	3010	1730	13.39	7.70	2290	1545	10.19	6.87	
								Max	14		6		5030	2460	22.37	10.94	4180	2200	18.59	9.79	
5-1/4 x 9-1/4 - 11-7/8	HD5210	--	14	5-3/8	7-7/8	2-1/2	1-1/8	Min	14	16d	6	16d	5030	2460	22.37	10.94	4180	2200	18.59	9.79	
								Max	20	16d	10	16d	5870	4070	26.11	18.10	4625	3640	20.57	16.19	
	HDQ5210IF	HUCQ5.25/9-SDS	14	5-1/4	9	3	1-1/2	--	12	WS3	6	WS3	8460	4970	37.63	22.11	7385	4335	32.85	19.28	
	THD610	HHUS5.50/10	12	5-1/2	9	3	2	--	38	16d	20	10d	11705	7715	52.07	34.32	11245	7145	50.02	31.78	
	THDH610	HGUS5.25/10, HGUS5.50/10	12	5-1/2	9	4	2-1/2	--	46	16d	16	16d	12430	10030	55.29	44.62	9725	8775	43.26	39.03	
5-1/4 x 11-1/4 - 16	HD5212	--	14	5-3/8	9-7/8	2-1/2	1-1/8	Min	16	16d	8	16d	5030	2460	22.37	10.94	4180	2200	18.59	9.79	
								Max	24	16d	12	16d	5870	4070	26.11	18.10	4625	3640	20.57	16.19	
	HDQ5212IF	HUCQ5.25/11-SDS	14	5-1/4	11	3	1-1/2	--	14	WS3	6	WS3	8135	5220	36.19	23.22	6545	4965	29.11	22.09	
	THD612	--	12	5-1/2	11	3	2	--	48	16d	20	10d	11705	7715	52.07	34.32	11245	7145	50.02	31.78	
	THDH612	HGUS5.25/12, HGUS5.50/12	12	5-1/2	11	4	2-1/2	--	56	16d	20	16d	13975	10030	62.16	44.62	11750	8775	52.27	39.03	
5-1/4 x 14 - 20	HD5214	--	14	5-3/8	11-7/8	2-1/2	1-1/8	Min	18	16d	8	16d	5030	3745	22.37	16.66	4180	3480	18.59	15.48	
								Max	26	16d	12	16d	7670	4070	34.12	18.10	6430	3640	28.60	16.19	
	THD614	--	12	5-1/2	12-7/8	3	2	--	58	16d	20	10d	11705	7715	52.07	34.32	11245	7145	50.02	31.78	
	THDH614	HGUS5.50/14	12	5-1/2	13	4	2-1/2	--	66	16d	22	16d	17720	10185	78.82	45.31	15320	8905	68.15	39.61	
5-1/4 x 16 - 22	HD5216	--	14	5-3/8	13-7/8	2-1/2	1-1/8	Min	22	16d	10	16d	5870	4070	26.11	18.10	4625	3640	20.57	16.19	
								Max	30	16d	14	16d	7715		34.32		6535		29.07		
6-3/4 x 9-1/4 - 14	THDH6710	HGUS210-4, HGUS6.88/10	12	6-7/8	8-13/16	4	2-1/2	--	46	16d	12	16d	12430	7575	55.29	33.70	9725	7345	43.26	32.67	
6-3/4 x 11-1/4 - 18	THDH6712	HGUS212-4, HGUS6.88/12	12	6-7/8	10-13/16	4	2-1/2	--	56	16d	14	16d	12430	10030	55.29	44.62	9725	8775	43.26	39.03	
6-3/4 x 14 - 20	THDH6714	HGUS214-4, HGUS6.88/14	12	6-7/8	12-13/16	4	2-1/2	--	66	16d	16	16d	17720	10185	78.82	45.31	15320	8905	68.15	39.61	
7 x 7-1/4	HD71725	--	14	7-1/4	6-13/16	2-1/2	1-1/2	Min	10	16d	4	16d	3010	1730	13.39	7.70	2290	1545	10.19	6.87	
								Max	14		6		5030	2460	22.37	10.94	4180	2200	18.59	9.79	
	HD71725IF	--	14	7-1/4	6-13/16	2-1/2	--	Min	10	16d	4	16d	3010	1730	13.39	7.70	2290	1545	10.19	6.87	
								Max	14		6		5030	2460	22.37	10.94	4180	2200	18.59	9.79	
7 x 9-1/4 - 14	HD7100	HU410-2	14	7-1/8	9	2-1/2	1-1/16	Min	14	16d	6	16d	5030	2460	22.37	10.94	4180	2200	18.59	9.79	
								Max	18	16d	8	16d		3745		16.66		3480		15.48	
	THD7210	HHUS7.25/10	12	7-1/4	9	3	3	--	38	16d	20	10d	11705	7715	52.07	34.32	11245	7145	50.02	31.78	
	THDH7210	HGUS7.25/10	12	7-1/4	9	4	2-1/2	--	46	16d	12	16d	12430	7575	55.29	33.70	9725	7345	43.26	32.67	
7 x 11-1/4 - 16	HD7120	HU412-2	14	7-1/8	10-11/16	2-1/2	1-1/16	Min	16	16d	6	16d	5030	2460	22.37	10.94	4180	2200	18.59	9.79	
								Max	22	16d	8	16d	5585	3930	24.84	17.48	4710	3515	20.95	15.64	
	THDH7212	HGUS7.25/12	12	7-1/4	10-1/2	4	2-1/2	--	56	16d	14	16d	12430	10030	55.29	44.62	9725	8775	43.26	39.03	
7 x 14 - 20	HD7140	HU414-2	14	7-1/8	13	2-1/2	1-1/16	Min	20	16d	8	16d	5030	3745	22.37	16.66	4180	3480	18.59	15.48	
								Max	26	16d	12	16d	7670	4070	34.12	18.10	6430	3640	28.60	16.19	
	THDH7214	HGUS7.25/14	12	7-1/4	12-1/4	4	2-1/2	--	66	16d	16	16d	17720	10185	78.82	45.31	15320	8905	68.15	39.61	
7 x 16 - 22	HD7160	--	14	7-1/8	15-5/8	2-1/2	1-1/16	--	24	16d	8	10d	5585	3930	24.84	17.48	4710	3515	20.95	15.64	
7 x 18 - 26	HD7180	--	14	7-1/8	17-3/4	2-1/2	1-1/16	--	28	16d	8	10d	7670	3930	34.12	17.48	6430	3515	28.60	15.64	

1) Factored uplift resistance has been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) MiTek's WS3 (1/4" dia. x 3" long) structural wood screws are included with HDQ hangers.
3) **NAILS:** 10d nails are 0.148" dia. x 3" long, 16d nails are 0.162" dia. x 3-1/2" long.
Vertical downward loads address hanger/header/fastener limitations only. Refer to the EWP manufacturer for joist limitations.

Corrosion Finish Key Stainless Steel HDG Triple Zinc



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TFI / TFL / THO Top Mount Hangers

TFI / THO – Engineered for I-Joist to header applications. Offers full lateral support of the I-Joist top chord, eliminating the need for web stiffeners in most applications. Raised dimple nailing guides help assure correct 45° nailing into the I-Joist bottom flange. The THO's feature the Seat Cleat® that allows for quick, positive seating. The Seat Cleat® will hold the I-Joist in place, eliminating spring back during nailing in the bottom flange.

TFL – Features 1-1/2" top flange depth that accommodates all header types as well as back-to-back installations. Also features MiTek's Seat Cleat® for quick, positive seating.

Materials: See EWP Top Mount Hangers charts, pages 194-203

Finish: G90 galvanizing

Options: See Nailer Options chart

Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:

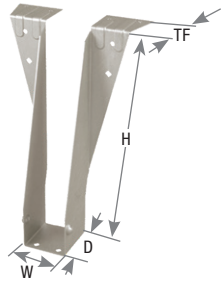
- Use all specified fasteners. See Product Notes, page 16.
- Refer to the top mount chart for applications requiring web stiffeners.
- Requirements for web stiffener from the I-Joist manufacturer should be followed, even if web stiffeners are not required in MiTek literature.
- Uplift capacity for THO and TFL single-ply hangers installed without joist nails = 90 lbs.



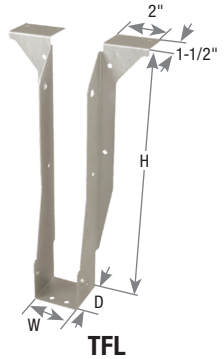
Typical THO installation



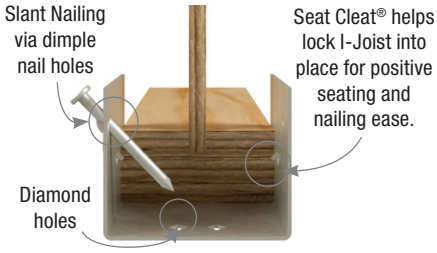
Typical TFL installation

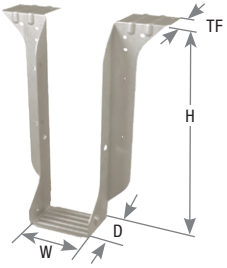


THO



TFL





TFI

Nailer Options

– chart represents maximum factored resistance for hangers used on wood nailers. Reference page 177.

MiTek Series	Nailer Size[3]	Fastener Schedule[6] Header Top Qty	Header Face Qty	Header Type	Joist Qty	Joist Type	D Fir-L Factored Resistance[2,4] Lbs Vertical 100%	Lbs Uplift[1] 115%	kN Vertical 100%	kN Uplift[1] 115%	S-P-F Factored Resistance[2,4] Lbs Vertical 100%	Lbs Uplift[1] 115%	kN Vertical 100%	kN Uplift[1] 115%
TFL[5]	2X	4	2	10d x 1-1/2	2	10d x 1-1/2	1830	265	8.14	1.18	1485	230	6.61	1.02
	3X	4	2	16d x 2-1/2	2	10d x 1-1/2	2305	265	10.25	1.18	1960	230	8.72	1.02
	(2) 2X	4	2	10d	2	10d x 1-1/2	1845	265	8.21	1.18	1485	230	6.61	1.02
	4X	4	2	16d	2	10d x 1-1/2	2495	265	11.10	1.18	1960	230	8.72	1.02
THO (single joist)	2X	4	2	10d x 1-1/2	2	10d x 1-1/2	1595	375	7.09	1.67	1250	325	5.56	1.45
	3X	4	2	16d x 2-1/2	2	10d x 1-1/2	1595	375	7.09	1.67	1250	325	5.56	1.45
	(2) 2X	4	2	16d x 2-1/2	2	10d x 1-1/2	1595	375	7.09	1.67	1250	325	5.56	1.45
	4X	4	2	16d	2	10d x 1-1/2	1595	375	7.09	1.67	1250	325	5.56	1.45
THO (double joist)	2X	4	2	10d x 1-1/2	2	10d x 1-1/2	2095	375	9.32	1.67	1800	325	8.01	1.45
	3X	4	2	16d x 2-1/2	2	10d x 1-1/2	3360	520	14.95	2.31	2890	445	12.86	1.98
	(2) 2X	4	2	10d	2	10d x 1-1/2	3415	520	15.19	2.31	2935	445	13.06	1.98
	4X	4	2	16d	2	10d x 1-1/2	3840	520	17.08	2.31	3155	445	14.03	1.98
TFI	2X	4	2	10d x 1-1/2	2	10d x 1-1/2	2930	--	13.03	--	2355	--	10.48	--
	3X	4	6	16d x 2-1/2	2	10d x 1-1/2	4190	--	18.64	--	3290	--	14.63	--
	(2) 2X	4	6	10d	2	10d x 1-1/2	4190	--	18.64	--	3290	--	14.63	--
	4X	4	2	16d	2	10d x 1-1/2	3685	375	16.39	1.67	3170	325	14.10	1.45
	4X	4	6	16d	2	10d x 1-1/2	4190	375	18.64	1.67	3290	325	14.63	1.45

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) Listed loads shall not be increased.
3) The nailer must be sized to fit the supported width and be of sufficient thickness to satisfy specified top flange nailing requirements. A design professional must specify nailer attachment to steel beams.
4) Values in the table apply to standard top mount hangers without slope, skew or any other specialty options.
5) For TFL (W = 3-9/16") supported by 3x or 4x nailer: stiffeners are required on the supported I-joist to achieve the listed factored resistance. Where web stiffeners are not installed, use the (2) 2x nailer value.
6) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long, 10d nails are 0.148" dia. x 3" long, 16d nails are 0.162" dia. x 3-1/2" long, 16d x 2-1/2 nails are 0.162" dia. x 2-1/2" long.

New products or updated product information are designated in blue font.

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BPH / HBPH Top Mount Hangers

These hangers are used to support LVL, LSL, and PSL beams and headers in medium-to-heavy load conditions.

Materials: BPH – 12 gauge; HBPH – 10 gauge
Finish: G90 galvanizing
Options: See Nailer Options and Specialty Options chart
Codes: Load values are derived from data submitted to various North American building code evaluators

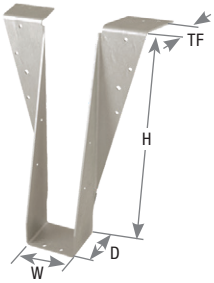
Installation:
- Use all specified fasteners. See Product Notes, page 16.
- Refer to the top mount chart for applications requiring web stiffeners.
- Requirements for web stiffener from the I-Joist manufacturer should be followed, even if web stiffeners are not required in MiTek literature.
- For welded installations, see page 299.



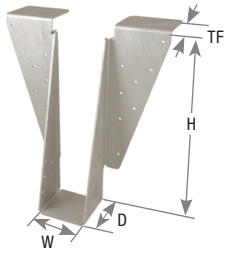
Typical BPH installation



Typical HBPH installation



BPH



HBPH

Nailer Options

– chart represents maximum factored resistance for hangers used on wood nailers. Reference page 177.

MiTek Series	Nailer Size[3]	Fastener Schedule[5]					D Fir-L Factored Resistance[2,4]				S-P-F Factored Resistance[2,4]			
		Header			Joist		Lbs		kN		Lbs		kN	
		Top Qty	Face Qty	Type	Qty	Type	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%
BPH	2X	4	2	10d x 1-1/2	4	10d x 1-1/2	2995	240	13.32	1.07	2575	205	11.45	0.91
	3X	4	4	16d x 2-1/2	4	10d x 1-1/2	3235	555	14.39	2.47	2780	475	12.37	2.11
	(2) 2X	4	4	10d	4	10d x 1-1/2	3235	555	14.39	2.47	2780	475	12.37	2.11
	4X	4	4	16d	4	10d x 1-1/2	3235	555	14.39	2.47	2780	475	12.37	2.11
HBPH	2X	6	2	10d x 1-1/2	10	16d	4165	--	18.53	--	3490	--	15.52	--
	3X	6	6	16d x 2-1/2	10	10d	7370	--	32.78	--	5785	--	25.73	--
	(2) 2X	6	8	10d	10	16d	6785	3035	30.18	13.50	5785	2460	25.73	10.94
	4X	6	10	16d	10	16d	9410	3035	41.86	13.50	7630	2460	33.94	10.94

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) Listed loads shall not be increased.
3) The nailer must be sized to fit the supported width and be of sufficient thickness to satisfy specified top flange nailing requirements. A design professional must specify nailer attachment to steel beams.
4) Values in the table apply to standard top mount hangers without slope, skew or any other specialty options.
5) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long, 10d nails are 0.148" dia. x 3" long, 16d nails are 0.162" dia. x 3-1/2" long, 16d x 2-1/2 nails are 0.162" dia. x 2-1/2" long.
New products or updated product information are designated in blue font.

Specialty Options Chart – refer to Specialty Options pages 294 and 296 for additional details

Option	Skewed[1,3]	Sloped Seat[2]	Sloped / Skewed[1,2,3]	Sloped Top Flange[4]
Range	1° to 50°	1° to 45°	See Sloped Seat and Skewed	0° to 45°
Factored Resistance	100% of table load	100% of table load	100% of table load	100% of table load
Ordering	Add *SK*, angle required, right *(R)* or left *(L)*, and square cut *(SQ)* or bevel cut *(BV)* to product number. Example: BPH3595_SK45R_SQ	Add *SL*, slope required, and up *(U)* or down *(D)*, to product number. Example: BPH3595_SL30D	See Sloped Seat and Skewed. Example: BPH3595_SK45R_SQ_SL30D	Add *SLTF*, angle required and right *(R)* or left *(L)*, to product number. Example: BPH3595_SLTF30L

1) Skewed hangers with skews greater than 15° may have all joist nailing on outside flange.
2) Sloped or sloped / skewed hangers with slopes greater than 15° may have additional joist nails.
3) For skewed hangers, the required cut type (square or bevel) of joist member may vary based on skew angle and width of hanger. Some square cut hangers will require custom pricing due to welded back plate.
4) Sloped top flanges with slopes greater than 15° may have additional header nails.
New products or updated product information are designated in blue font.

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HLBH Beam Hangers

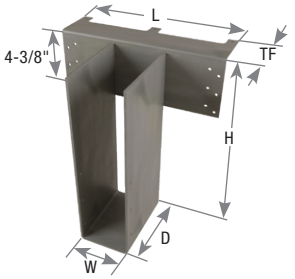
Heavy-duty hanger for LVL, LSL, and PSL beams.

Materials: 7 gauge
Finish: Primer
Options: See Nailer Options and Specialty Options chart
Codes: Load values are derived from data submitted to various North American building code evaluators



Typical HLBH installation

Installation:
- Use all specified fasteners. See Product Notes, page 16.
- For welded installations, see page 299.
- NA16D-RS ring shank nails are supplied with HLBH hangers.



HLBH

Nailer Options

– chart represents maximum factored resistance for hangers used on wood nailers. Reference page 177.

MiTek Series	Nailer Size[3]	Fastener Schedule[5] Header Top Qty	Header Face Qty	Header Type	Joist Qty	Joist Type	D Fir-L Factored Resistance[2,4] Lbs Vertical 100%	Lbs Uplift[1] 115%	kN Vertical 100%	kN Uplift[1] 115%	S-P-F Factored Resistance[2,4] Lbs Vertical 100%	Lbs Uplift[1] 115%	kN Vertical 100%	kN Uplift[1] 115%
HLBH	2x	3	4	10d x 1-1/2	6	10d x 1-1/2	6365	--	28.31	--	5275	--	23.46	--
	3x	3	6	16d x 2-1/2	6	10d	11175	--	49.71	--	10120	--	45.02	--
	(2) 2x	3	8	10d	6	10d x 1-1/2	6365	--	28.31	--	5275	--	23.46	--
	4X	3	8	NA16D-RS	6	10d x 1-1/2	13825	1430	61.50	6.36	11615	1235	51.67	5.49
	4X	3	8	NA16D-RS	6	16d	13825	1770	61.50	7.87	11615	1430	51.67	6.36

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) Listed loads shall not be increased.
3) The nailer must be sized to fit the supported width and be of sufficient thickness to satisfy specified top flange nailing requirements. A design professional must specify nailer attachment to steel beams.
4) Values in the table apply to standard top mount hangers without slope, skew or any other specialty options.
5) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long, 10d nails are 0.148" dia. x 3" long, NA16D-RS nails are 0.148" dia. x 3-1/2" long, 16d nails are 0.162" dia. x 3-1/2" long, 16d x 2-1/2 nails are 0.162" dia. x 2-1/2" long

New products or updated product information are designated in blue font.

Specialty Options Chart

– refer to Specialty Options pages 294, 296-297 for additional details

Option	Skewed[1,3]	Sloped Seat[2]	Sloped / Skewed[1,2,3]	Sloped Top Flange[4]	Top Flange Offset	Saddle[5]	Ridge
Range	1˚ to 50˚	1˚ to 45˚	See Sloped Seat and Skewed	0˚ to 45˚	--	--	0˚ to 45˚
Factored Resistance	11,620 lbs. Max. 50% of uplift load on skew greater than 15˚.	10,080 lbs. Max.	9,575 lbs. Max. 50% of uplift load on skew greater than 15˚.	100% of table load	45% of table load	100% of table load per side. **See footnote 5.**	100% of table load
Ordering	Add *SK*, angle required, right *(R)* or left *(L)*, and square cut *(SQ)* or bevel cut *(BV)* to product number. Ex. HLBH3595_SK45R_BV	Add *SL*, slope required, and up *(U)* or down *(D)*, to product number. Ex. HLBH3595_SL30D	See Sloped Seat and Skewed. Ex. HLBH3595_SK45R_BV_SL30D	Add *SLTF*, angle required, and right *(R)* or left *(L)*, to product number. Ex. HLBH3595_SLTF30L	Add *OS*, and right *(R)* or left *(L)*, to product number. Ex. HLBH3595_OSL	Add *SA*, and saddle width required to product number. Ex. HLBH3595_SA=5-1/2"	Add *DA*, and angle required to product number. Ex. HLBH3595_DA30

1) Skewed hangers with skews greater than 15° may have all joist nailing on outside flange.
2) Sloped or sloped / skewed hangers with slopes greater than 15° may have additional joist nails.
3) Skewed hangers typically require a bevel cut however, a square cut option may be available as a custom when requested.
4) Sloped top flanges with slopes greater than 15° may have additional header nails.
5) Minimum header thickness shall be double the top flange (TF) dimension for 100% table load.

New products or updated product information are designated in blue font.

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PHM / PHXU Top Flange Hangers

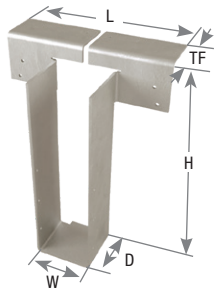
Used to connect LVL, LSL, and PSL beams to headers in medium load conditions using standard nails.

Materials: See EWP Top Mount Hangers charts, pages 194-207
Finish: Primer; PHXU – G90 galvanizing
Options: See Nailer Options and Specialty Options chart
Codes: Load values are derived from data submitted to various North American building code evaluators

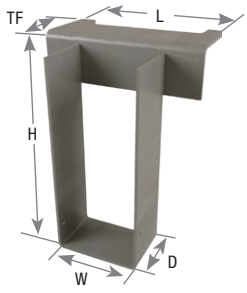
Installation:
- Use all specified fasteners. See Product Notes, page 16.
- For welded installations, see page 299.



Typical PHXU installation



PHXU



PHM

Nailer Options

– chart represents maximum factored resistance for hangers used on wood nailers. Reference page 177.

MiTek Series	Nailer Size[3]	Fastener Schedule[5] Header Top Qty	Header Face Qty	Header Type	Joist Qty	Joist Type	D Fir-L Factored Resistance[2,4] Vertical 100% Lbs	Vertical 100% kN	Uplift 115%[1] Lbs	Uplift 115%[1] kN	S-P-F Factored Resistance[2,4] Vertical 100% Lbs	Vertical 100% kN	Uplift 115%[1] Lbs	Uplift 115%[1] kN
PHM	2X	2	--	10d x 1-1/2	2	10d x 1-1/2	4335	19.28	--	--	3730	16.59	--	--
	3X	2	--	16d x 2-1/2	2	10d x 1-1/2	4685	20.84			4030	17.93		
	(2) 2X	2	--	10d	2	10d x 1-1/2	4685	20.84			4030	17.93		
	4X	2	--	16d	2	10d x 1-1/2	4685	20.84			4030	17.93		
PHXU widths < 3-1/2"	2X	4	--	10d x 1-1/2	6	10d x 1-1/2	4240	18.86	--	--	3550	15.79	--	--
	3X	4	2	16d x 2-1/2	6	10d x 1-1/2	6315	28.09			6005	26.71		
	(2) 2X	4	2	10d	6	10d x 1-1/2	5880	26.16			4930	21.93		
	4X	4	4	16d	6	10d x 1-1/2	6370	28.34	1210	5.38	4420	19.66	920	4.09
PHXU width ≥ 3-1/2"	2X	4	--	10d x 1-1/2	6	10d	4525	20.13	--	--	3590	15.97	--	--
	3X	4	2	16d x 2-1/2	6	10d	6380	28.38			5170	23.00		
	(2) 2X	4	2	10d	6	10d	6200	27.58			5110	22.73		
	4X	4	4	16d	6	10d x 1-1/2	7610	33.85	1005	4.47	5170	23.00	865	3.85
	4X	4	4	16d	6	10d	7610	33.85	1290	5.74	5170	23.00	1150	5.12

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) Listed loads shall not be increased.
3) The nailer must be sized to fit the supported width and be of sufficient thickness to satisfy specified top flange nailing requirements. A design professional must specify nailer attachment to steel beams.
4) Values in the table apply to standard top mount hangers without slope, skew or any other specialty options.
5) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long, 10d nails are 0.148" dia. x 3" long, 16d nails are 0.162" dia. x 3-1/2" long, 16d x 2-1/2 nails are 0.162" dia. x 2-1/2" long.
New products or updated product information are designated in blue font.

Specialty Options Chart – refer to Specialty Options pages 294, 296-297 for additional details

Option	MiTek Series	Skewed[1,3,5]	Sloped Seat[2]	Sloped / Skewed[1,2,3]	Sloped Top Flange[4]	Top Flange Offset[5,7]	Saddle[5,6]	Ridge
Range	PHM	1° to 84°	1° to 45°	See Sloped Seat and Skewed	0° to 35°	--	--	0° to 45°
	PHXU	1° to 60°						N/A
Factored Resistance	PHM	100% of table load	100% of table load	100% of table load up to Max. load of 3600 lbs.	100% of table load	Hanger Width / % of table load: 3-1/2" or less 60%; 3-9/16" to 5-1/2" 75%; 5-9/16" to 7-1/2" 85%	100% of table load. **See footnote 6.**	100% of table load
	PHXU			100% of table load up to Max. load of 5615 lbs.				
Ordering	PHM	Add *SK*, angle required, right *(R)* or left *(L)*, and square cut *(SQ)* or bevel cut *(BV)* to product number. Ex: PHXU1795_SK45R_SQ	Add *SL*, slope required, and up *(U)* or down *(D)*, to product number. Ex: PHXU1795_SL30D	See Sloped Seat and Skewed. Ex: PHXU1795_SK45R_SQ_SL30D	Add *SLTF*, angle required, and right *(R)* or left *(L)*, to product number. Ex: PHXU1795_SLTF30L	Add *OS*, and right *(R)* or left *(L)*, to product number. Ex: PHXU1795_OSL	Add *SA*, and saddle width required to product number. Ex: PHXU1795_SA=5-1/2"	Add *DA*, and angle required to product number. Ex. PHXU1795_DA30
	PHXU							N/A

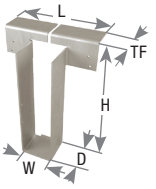
1) Skewed hangers with skews greater than 15° may have all joist nailing on outside flange.
2) Sloped or sloped/skewed hangers with slopes greater than 15° may have additional joist nails.
3) For skewed hangers, the required cut type (square or bevel) of joist member may vary based on skew angle and width of hanger. Some square cut hangers will require custom pricing due to welded back plate.
4) Sloped top flanges with slopes greater than 15° may have additional header nails.
5) Skewed, top flange offset, or saddle options will have a solid, welded top flange.
6) Minimum header thickness shall be double the top flange (TF) dimension for 100% table load.
7) PHXU offset option - hanger will be welded with a closed top angle, not formed.
New products or updated product information are designated in blue font.

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Top Mount Hanger Charts

Joist Size	MiTek Stock No.	Ref. No.	Web Stiff Reqd	Ga.	Dimensions (in)					Fastener Schedule[4]					Unit	Factored Resistance						
										Header			Joist			Header Material (100%)						Uplift[1]
					W	H	D	L	TF	Top Qty	Face Qty	Type[2]	Qty	Type		LVL	PSL	LSL	SPF	D Fir-L I-Joist[2,3]	D Fir-L	D Fir-L 115%
1-1/2 x 9-1/4	TH015925	LT15925	--	18	1-9/16	9-1/4	2	--	1-1/2	4	2	10d	2	10d x 1-1/2	Lbs	1935	1860	1920	1250	1445	1595	420
															kN	8.61	8.27	8.54	5.56	6.43	7.09	1.87
	BPH15925	LBV1.56/9.25	x	12	1-9/16	9-1/4	2-3/8	--	1-1/2	4	6	16d	4	10d x 1-1/2	Lbs	4415	4415	4415	3965	--	5050	1140
															kN	19.64	19.64	19.64	17.64	--	22.46	5.07
1-1/2 x 9-1/2	TH015950	LT159	--	18	1-1/2	9-1/2	2	--	1-1/2	4	2	10d	2	10d x 1-1/2	Lbs	1935	1860	1920	1360	1815	1730	490
															kN	8.61	8.27	8.54	6.05	8.07	7.70	2.18
	BPH1595	LBV1.56/9.5, MIT29.5	x	12	1-9/16	9-1/2	2-3/8	--	1-1/2	4	6	16d	4	10d x 1-1/2	Lbs	4415	4415	4415	3965	--	5050	1140
															kN	19.64	19.64	19.64	17.64	--	22.46	5.07
1-1/2 x 11-1/4	BPH15112	LBV1.56/11.25	x	12	1-9/16	11-1/4	2-3/8	--	1-1/2	4	6	16d	4	10d x 1-1/2	Lbs	4415	4415	4415	3965	--	5050	1140
															kN	19.64	19.64	19.64	17.64	--	22.46	5.07
1-1/2 x 11-7/8	TH015118	LT151188, MIT211.88	--	18	1-1/2	11-7/8	2	--	1-9/16	4	2	10d	2	10d x 1-1/2	Lbs	1935	1860	1920	1505	1880	1915	490
															kN	8.61	8.27	8.54	6.69	8.36	8.52	2.18
	BPH15118	LBV1.56/11.88	x	12	1-9/16	11-7/8	2-3/8	--	1-1/2	4	6	16d	4	10d x 1-1/2	Lbs	4415	4415	4415	3965	--	5050	1140
															kN	19.64	19.64	19.64	17.64	--	22.46	5.07
1-1/2 x 14	TH015140	--	--	16	1-9/16	14	2-3/8	--	1-1/2	4	6	10d	2	10d x 1-1/2	Lbs	1485	1485	1485	1285	1485	1635	420
															kN	6.61	6.61	6.61	5.72	6.61	7.27	1.87
	BPH1514	LBV1.56/14	x	12	1-9/16	14	2-3/8	--	1-1/2	4	6	16d	4	10d x 1-1/2	Lbs	4415	4415	4415	3965	--	5050	1140
															kN	19.64	19.64	19.64	17.64	--	22.46	5.07
1-5/8 x 9-1/2	TH016950	--	--	18	1-11/16	9-1/2	2	--	1-1/2	4	2	10d	2	10d x 1-1/2	Lbs	1935	1860	1920	1250	1445	1595	420
															kN	8.61	8.27	8.54	5.56	6.43	7.09	1.87
1-5/8 x 11-1/4	TH016112	--	--	16	1-11/16	11-1/4	2	--	1-1/2	4	2	10d	2	10d x 1-1/2	Lbs	2370	2305	2450	1285	1795	1635	420
															kN	10.54	10.25	10.90	5.72	7.98	7.27	1.87
1-5/8 x 11-7/8	TH016118	--	--	16	1-11/16	11-7/8	2	--	1-1/2	4	2	10d	2	10d x 1-1/2	Lbs	2370	2305	2450	1285	1795	1635	420
															kN	10.54	10.25	10.90	5.72	7.98	7.27	1.87
1-5/8 x 14	TH016140	--	--	16	1-11/16	14	3	--	1-3/4	4	6	10d	2	10d x 1-1/2	Lbs	1485	1485	1485	1285	1795	1635	420
															kN	6.61	6.61	6.61	5.72	7.98	7.27	1.87
1-3/4 x 7-1/4	PHXU17725	LBV1.81/7.25, WP1.81/7.25	x	7	1-13/16	7-1/4	3-1/4	10	2-1/2	4	4	16d	6	10d x 1-1/2	Lbs	6370	6370	6370	6075	--	7740	1890
															kN	28.34	28.34	28.34	27.02	--	34.43	8.41
1-3/4 x 9-1/4	BPH17925	LBV1.81/9.25	x	12	1-13/16	9-1/4	2-3/8	--	1-11/16	4	6	16d	4	10d x 1-1/2	Lbs	4890	4890	4890	4160	--	5300	1140
															kN	21.75	21.75	21.75	18.50	--	23.58	5.07
	PHM17925	WP9.25	x	7/10	1-13/16	9-1/4	2-1/2	7	3	2	--	16d	2	10d x 1-1/2	Lbs	5090	4795	4435	4450	--	5670	--
															kN	22.64	21.33	19.73	19.79	--	25.22	--
	PHXU17925	WPU1.81/9.25	x	7	1-13/16	9-1/4	3-1/4	10	2-1/2	4	4	16d	6	10d x 1-1/2	Lbs	6370	6370	6370	6075	--	7740	1890
															kN	28.34	28.34	28.34	27.02	--	34.43	8.41
1-3/4 x 9-1/2	TH017950	LT179, ITS1.81/9.5	--	18	1-3/4	9-1/2	2	--	1-1/2	4	2	10d	2	10d x 1-1/2	Lbs	1935	1860	1920	1585	1570	2020	490
															kN	8.61	8.27	8.54	7.05	6.98	8.99	2.18
	BPH1795	BA1.81/9.5, LBV1.81/9.5, MIT9.5	x	12	1-13/16	9-1/2	2-3/8	--	1-11/16	4	6	16d	4	10d x 1-1/2	Lbs	4890	4890	4890	4160	--	5300	1140
															kN	21.75	21.75	21.75	18.50	--	23.58	5.07
	PHM1795	WP9	x	7/10	1-13/16	9-1/2	2-1/2	7	3	2	--	16d	2	10d x 1-1/2	Lbs	5090	4795	4435	4450	--	5670	--
															kN	22.64	21.33	19.73	19.79	--	25.22	--
	PHXU1795	--	x	7	1-13/16	9-1/2	3-1/4	10	2-1/2	4	4	16d	6	10d x 1-1/2	Lbs	6370	6370	6370	6075	--	7740	1890
															kN	28.34	28.34	28.34	27.02	--	34.43	8.41
1-3/4 x 11-1/4	BPH17112	LBV1.81/11.25	x	12	1-13/16	11-1/4	2-3/8	--	1-11/16	4	6	16d	4	10d x 1-1/2	Lbs	4890	4890	4890	4160	--	5300	1140
															kN	21.75	21.75	21.75	18.50	--	23.58	5.07
	PHM17112	--	x	7/10	1-13/16	11-1/4	2-1/2	7	3	2	--	16d	2	10d x 1-1/2	Lbs	5090	4795	4435	4450	--	5670	--
															kN	22.64	21.33	19.73	19.79	--	25.22	--
	PHXU17112	WPU1.81/11.25	x	7	1-13/16	11-1/4	3-1/4	10	2-1/2	4	4	16d	6	10d x 1-1/2	Lbs	6370	6370	6370	6075	--	7740	1890
															kN	28.34	28.34	28.34	27.02	--	34.43	8.41

1) Factored uplift resistance has been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) When I-joist is used as a header, all header nails must be 10d (0.148") x 1-1/2.
3) When I-Joists with flanges less than 1-1/2" thick are used as headers, the reduction factor for 1-1/4" flange is 0.69 and 0.84 for 1-3/8" flange.
4) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long, 10d nails are 0.148" dia. x 3" long, 16d nails are 0.162" dia. x 3-1/2" long.
Vertical downward loads address hanger/header/fastener limitations only. Refer to the EWP manufacturer for joist limitations.



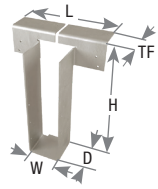
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Top Mount Hanger Charts

Joist Size	MiTek Stock No.	Ref. No.	Web Stiff Reqd	Ga.	Dimensions (in)					Fastener Schedule[4]					Unit	Factored Resistance						
										Header			Joist			Header Material (100%)						Uplift[1]
					W	H	D	L	TF	Top Qty	Face Qty	Type[2]	Qty	Type		LVL	PSL	LSL	SPF	D Fir-L I-Joist[2,3]	D Fir-L	D Fir-L 115%
1-3/4 x 11-7/8	TH017118	LT171188, ITS1.81/11.88, MIT11.88	--	18	1-3/4	11-7/8	2	--	1-9/16	4	2	10d	2	10d x 1-1/2	Lbs	1935	1860	1920	1665	1735	2125	490
															kN	8.61	8.27	8.54	7.41	7.72	9.45	2.18
	BPH17118	BA1.81/11.88, LBV1.81/11.88	x	12	1-13/16	11-7/8	2-3/8	--	1-11/16	4	6	16d	4	10d x 1-1/2	Lbs	4890	4890	4890	4160	--	5300	1140
															kN	21.75	21.75	21.75	18.50	--	23.58	5.07
	PHM17118	WP11	x	7/10	1-13/16	11-7/8	2-1/2	7	3	2	--	16d	2	10d x 1-1/2	Lbs	5090	4795	4435	4450	--	5670	--
															kN	22.64	21.33	19.73	19.79	--	25.22	--
	PHXU17118	WPU1.81/11.88	x	7	1-13/16	11-7/8	3-1/4	10	2-1/2	4	4	16d	6	10d x 1-1/2	Lbs	6370	6370	6370	6075	--	7740	1890
															kN	28.34	28.34	28.34	27.02	--	34.43	8.41
1-3/4 x 14	TFL1714	LT1714, ITS1.81/14	--	18	1-3/4	14	2	--	1-1/2	4	2	10d	2	10d x 1-1/2	Lbs	2370	2305	2450	1960	1795	2495	265
															kN	10.54	10.25	10.90	8.72	7.98	11.10	1.18
	BPH1714	BA1.81/14, LBV1.81/14, MIT1.81/14	x	12	1-13/16	14	2-3/8	--	1-11/16	4	6	16d	4	10d x 1-1/2	Lbs	4890	4890	4890	4160	--	5300	1140
															kN	21.75	21.75	21.75	18.50	--	23.58	5.07
	PHM1714	WP14	x	7/10	1-13/16	14	2-1/2	7	3	2	--	16d	2	10d x 1-1/2	Lbs	5090	4795	4435	4450	--	5670	--
															kN	22.64	21.33	19.73	19.79	--	25.22	--
	PHXU1714	WPU1.81/14	x	7	1-13/16	14	3-1/4	10	2-1/2	4	4	16d	6	10d x 1-1/2	Lbs	6370	6370	6370	6075	--	7740	1890
															kN	28.34	28.34	28.34	27.02	--	34.43	8.41
1-3/4 x 16	TFL1716	LT1716, ITS1.81/16	--	18	1-3/4	16	2	--	1-1/2	4	2	10d	2	10d x 1-1/2	Lbs	2370	2305	2450	1960	1795	2495	265
															kN	10.54	10.25	10.90	8.72	7.98	11.10	1.18
	BPH1716	B1.81/16, LBV1.81/16, MIT1.81/16	x	12	1-13/16	16	2-3/8	--	1-11/16	4	6	16d	4	10d x 1-1/2	Lbs	4890	4890	4890	4160	--	5300	1140
															kN	21.75	21.75	21.75	18.50	--	23.58	5.07
	PHM1716	WP16	x	7/10	1-13/16	16	2-1/2	7	3	2	--	16d	2	10d x 1-1/2	Lbs	5090	4795	4435	4450	--	5670	--
															kN	22.64	21.33	19.73	19.79	--	25.22	--
2 - 2-1/8 x 9-1/2	TFL2095	LT209, ITS2.06/9.5	--	18	2-1/8	9-1/2	2	--	1-1/2	4	2	10d	2	10d x 1-1/2	Lbs	2370	2305	2450	1960	1795	2495	265
															kN	10.54	10.25	10.90	8.72	7.98	11.10	1.18
2 - 2-1/8 x 11-7/8	TFL20118	LT2011.88, ITS2.06/11.88	--	18	2-1/8	11-7/8	2	--	1-1/2	4	2	10d	2	10d x 1-1/2	Lbs	2370	2305	2450	1960	1795	2495	265
															kN	10.54	10.25	10.90	8.72	7.98	11.10	1.18
2 - 2-1/8 x 14	TFL2014	LT214, ITS2.06/14	--	18	2-1/8	14	2	--	1-1/2	4	2	10d	2	10d x 1-1/2	Lbs	2370	2305	2450	1960	1795	2495	265
															kN	10.54	10.25	10.90	8.72	7.98	11.10	1.18
2 - 2-1/8 x 16	TFL2016	LT2016	--	18	2-1/8	16	2	--	1-1/2	4	2	10d	2	10d x 1-1/2	Lbs	2370	2305	2450	1960	1795	2495	265
															kN	10.54	10.25	10.90	8.72	7.98	11.10	1.18
2-1/4 - 2-5/16 x 9-1/2	TFL2395	LT239, ITS2.37/9.5	--	18	2-5/16	9-1/2	2	--	1-1/2	4	2	10d	2	10d x 1-1/2	Lbs	2370	2305	2450	1960	1795	2495	265
															kN	10.54	10.25	10.90	8.72	7.98	11.10	1.18
2-1/4 - 2-5/16 x 11-7/8	TFL23118	LT231188, ITS2.37/11.88	--	18	2-5/16	11-7/8	2	--	1-1/2	4	2	10d	2	10d x 1-1/2	Lbs	2370	2305	2450	1960	1795	2495	265
															kN	10.54	10.25	10.90	8.72	7.98	11.10	1.18
2-1/4 - 2-5/16 x 14	TFL2314	LT2314, ITS2.37/14	--	18	2-5/16	14	2	--	1-1/2	4	2	10d	2	10d x 1-1/2	Lbs	2370	2305	2450	1960	1795	2495	265
															kN	10.54	10.25	10.90	8.72	7.98	11.10	1.18
	TH023140	LBV2.37/14	--	18	2-3/8	14	2-3/8	--	2	4	8	10d	2	10d x 1-1/2	Lbs	3910	3910	3910	3385	2950	4310	485
															kN	17.39	17.39	17.39	15.06	13.12	19.17	2.16
	TFI3514	MIT3514	--	16	2-3/8	14	2-1/2	--	2-1/16	4	2	16d	2	10d x 1-1/2	Lbs	3685	3220	3260	3290	--	4190	505
															kN	16.39	14.32	14.50	14.63	--	18.64	2.25
	PHM2314	WP3514	x	7/10	2-3/8	14	2-1/2	7	3	2	--	16d	2	10d x 1-1/2	Lbs	5140	5140	4435	4450	--	5670	--
															kN	22.86	22.86	19.73	19.79	--	25.22	--
2-1/4 - 2-5/16 x 16	TFL2316	ITS2.37/16	--	18	2-5/16	16	2	--	1-1/2	4	2	10d	2	10d x 1-1/2	Lbs	2370	2305	2450	1960	1795	2495	265
															kN	10.54	10.25	10.90	8.72	7.98	11.10	1.18
	TFI3516	MIT3516	--	16	2-3/8	16	2-1/2	--	2-1/16	4	2	16d	2	10d x 1-1/2	Lbs	3685	3220	3260	3290	--	4190	505
															kN	16.39	14.32	14.50	14.63	--	18.64	2.25
	PHM2316	WP3516	x	7/10	2-3/8	16	2-1/2	7	3	2	--	16d	2	10d x 1-1/2	Lbs	5140	5140	4435	4450	--	5670	--
															kN	22.86	22.86	19.73	19.79	--	25.22	--

1) Factored uplift resistance has been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) When I-joist is used as a header, all header nails must be 10d (0.148") x 1-1/2.
3) When I-Joists with flanges less than 1-1/2" thick are used as headers, the reduction factor for 1-1/4" flange is 0.69 and 0.84 for 1-3/8" flange.
4) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long, 10d nails are 0.148" dia. x 3" long, 16d nails are 0.162" dia. x 3-1/2" long.
Vertical downward loads address hanger/header/fastener limitations only. Refer to the EWP manufacturer for joist limitations.



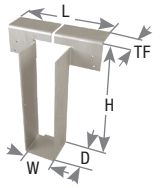
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Top Mount Hanger Charts

Joist Size	MiTek Stock No.	Ref. No.	Web Stiff Reqd	Ga.	Dimensions (in)					Fastener Schedule[4]					Unit	Factored Resistance						
										Header			Joist			Header Material (100%)						Uplift[1]
					W	H	D	L	TF	Top Qty	Face Qty	Type[2]	Qty	Type		LVL	PSL	LSL	SPF	D Fir-L I-Joist[2,3]	D Fir-L	D Fir-L 115%
2-1/4 - 2-5/16 x 18	TFI3518	HIT3518, LBV2.37/18, MIT3518	--	16	2-3/8	18	2-1/2	--	2-1/16	4	2	16d	2	10d x 1-1/2	Lbs	3685	3220	3260	3290	--	4190	505
															kN	16.39	14.32	14.50	14.63	--	18.64	2.25
	PHM2318	WP3518	x	7/10	2-3/8	18	2-1/2	7	3	2	--	16d	2	10d x 1-1/2	Lbs	5140	5140	4435	4450	--	5670	--
															kN	22.86	22.86	19.73	19.79	--	25.22	--
2-1/4 - 2-5/16 x 20	TFI3520	HIT3520, LBV2.37/20, MIT3520	--	16	2-3/8	20	2-1/2	--	2-1/16	4	2	16d	2	10d x 1-1/2	Lbs	3685	3220	3260	3290	--	4190	505
															kN	16.39	14.32	14.50	14.63	--	18.64	2.25
	PHM2320	WP3520	x	7/10	2-3/8	20	2-1/2	7	3	2	--	16d	2	10d x 1-1/2	Lbs	5140	5140	4435	4450	--	5670	--
															kN	22.86	22.86	19.73	19.79	--	25.22	--
2-1/2 x 9-1/4	TFL25925	LT25925, ITS2.56/9.25	--	18	2-1/2	9-1/4	2	--	1-1/2	4	2	10d	2	10d x 1-1/2	Lbs	2370	2305	2450	1960	1795	2495	265
															kN	10.54	10.25	10.90	8.72	7.98	11.10	1.18
2-1/2 x 9-3/8	TFL25938	LT259375	--	18	2-1/2	9-3/8	2	--	1-1/2	4	2	10d	2	10d x 1-1/2	Lbs	2370	2305	2450	1960	1795	2495	265
															kN	10.54	10.25	10.90	8.72	7.98	11.10	1.18
2-1/2 x 9-1/2	TFL2595	LT259, ITS2.56/9.5	--	18	2-9/16	9-7/16	2	--	1-1/2	4	2	10d	2	10d x 1-1/2	Lbs	2370	2305	2450	1960	1795	2495	265
															kN	10.54	10.25	10.90	8.72	7.98	11.10	1.18
2-1/2 x 11-1/4	TFL25112	LT251125, ITS2.56/11.25	--	18	2-1/2	11-1/4	2	--	1-1/2	4	2	10d	2	10d x 1-1/2	Lbs	2370	2305	2450	1960	1795	2495	265
															kN	10.54	10.25	10.90	8.72	7.98	11.10	1.18
2-1/2 x 11-7/8	TFL25118	LT251188, ITS2.56/11.88	--	18	2-9/16	11-13/16	2	--	1-1/2	4	2	10d	2	10d x 1-1/2	Lbs	2370	2305	2450	1960	1795	2495	265
															kN	10.54	10.25	10.90	8.72	7.98	11.10	1.18
	THO25118	MIT311.88	--	16	2-9/16	11-7/8	2-3/8	--	1-15/16	4	6	10d	2	10d x 1-1/2	Lbs	2640	2640	2640	2285	2640	2910	485
															kN	11.74	11.74	11.74	10.16	11.74	12.94	2.16
2-1/2 x 13	TFL2513	LT2513	--	18	2-1/2	13	2	--	1-1/2	4	2	10d	2	10d x 1-1/2	Lbs	2370	2305	2450	1960	1795	2495	265
															kN	10.54	10.25	10.90	8.72	7.98	11.10	1.18
2-1/2 x 14	TFL2514	LT2514, ITS2.56/14	--	18	2-9/16	13-15/16	2	--	1-1/2	4	2	10d	2	10d x 1-1/2	Lbs	2370	2305	2450	1960	1795	2495	265
															kN	10.54	10.25	10.90	8.72	7.98	11.10	1.18
	THO25140	--	--	18	2-9/16	14	2-3/8	--	2	4	8	10d	2	10d x 1-1/2	Lbs	3910	3910	3910	3385	2950	4310	485
															kN	17.39	17.39	17.39	15.06	13.12	19.17	2.16
	TFI314	MIT314	--	16	2-9/16	14	2-1/2	--	2	4	2	16d	2	10d x 1-1/2	Lbs	3685	3220	3260	3290	--	4190	505
															kN	16.39	14.32	14.50	14.63	--	18.64	2.25
	PHM2514	WPI314	--	7/10	2-9/16	14	2-1/2	7	3	2	--	16d	2	10d x 1-1/2	Lbs	5140	5140	4435	4450	--	5670	--
															kN	22.86	22.86	19.73	19.79	--	25.22	--
2-1/2 x 16	TFL2516	LT2516, ITS2.56/16	--	18	2-9/16	15-15/16	2	--	1-1/2	4	2	10d	2	10d x 1-1/2	Lbs	2370	2305	2450	1960	1795	2495	265
															kN	10.54	10.25	10.90	8.72	7.98	11.10	1.18
	TFI316	LBV2.56/16, MIT316	--	16	2-9/16	16	2-1/2	--	2	4	2	16d	2	10d x 1-1/2	Lbs	3685	3220	3260	3290	--	4190	505
															kN	16.39	14.32	14.50	14.63	--	18.64	2.25
	PHM2516	WPI316	--	7/10	2-9/16	16	2-1/2	7	3	2	--	16d	2	10d x 1-1/2	Lbs	5140	5140	4435	4450	--	5670	--
															kN	22.86	22.86	19.73	19.79	--	25.22	--
2-1/2 x 18	TFI318	HIT318, LBV2.56/18, MIT318	--	16	2-9/16	18	2-1/2	--	2	4	2	16d	2	10d x 1-1/2	Lbs	3685	3220	3260	3290	--	4190	505
															kN	16.39	14.32	14.50	14.63	--	18.64	2.25
2-1/2 x 20	TFI320	HIT320, LBV2.56/20, MIT320	--	16	2-9/16	20	2-1/2	--	2	4	2	16d	2	10d x 1-1/2	Lbs	3685	3220	3260	3290	--	4190	505
															kN	16.39	14.32	14.50	14.63	--	18.64	2.25
2-1/2 x 22	TFI322	HIT322, LBV2.56/22, WPI322	--	16	2-9/16	22	2-1/2	--	2	4	6	16d	2	10d x 1-1/2	Lbs	4675	4205	4250	4175	--	5315	505
															kN	20.80	18.70	18.90	18.57	--	23.64	2.25
2-1/2 x 24	TFI324	HIT324, LBV2.56/24, WPI324	--	16	2-9/16	24	2-1/2	--	2	4	6	16d	2	10d x 1-1/2	Lbs	4675	4205	4250	4175	--	5315	505
															kN	20.80	18.70	18.90	18.57	--	23.64	2.25
2-1/2 x 26	TFI326	HIT326, LBV2.56/26, WPI326	--	16	2-9/16	26	2-1/2	--	2	4	6	16d	2	10d x 1-1/2	Lbs	4675	4205	4250	4175	--	5315	505
															kN	20.80	18.70	18.90	18.57	--	23.64	2.25
2-9/16 x 9-1/2	TFL2595	LT259, ITS2.56/9.5	--	18	2-9/16	9-7/16	2	--	1-1/2	4	2	10d	2	10d x 1-1/2	Lbs	2370	2305	2450	1960	1795	2495	265
															kN	10.54	10.25	10.90	8.72	7.98	11.10	1.18
2-9/16 x 11-7/8	TFL25118	LT251188, ITS2.56/11.88	--	18	2-9/16	11-13/16	2	--	1-1/2	4	2	10d	2	10d x 1-1/2	Lbs	2370	2305	2450	1960	1795	2495	265
															kN	10.54	10.25	10.90	8.72	7.98	11.10	1.18

1) Factored uplift resistance has been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) When I-joist is used as a header, all header nails must be 10d (0.148") x 1-1/2.
3) When I-Joists with flanges less than 1-1/2" thick are used as headers, the reduction factor for 1-1/4" flange is 0.69 and 0.84 for 1-3/8" flange.
4) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long, 10d nails are 0.148" dia. x 3" long, 16d nails are 0.162" dia. x 3-1/2" long.
Vertical downward loads address hanger/header/fastener limitations only. Refer to the EWP manufacturer for joist limitations.



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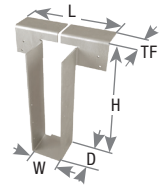
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Top Mount Hanger Charts

Joist Size	MiTek Stock No.	Ref. No.	Web Stiff Reqd	Ga.	Dimensions (in)					Fastener Schedule[4]					Unit	Factored Resistance						
										Header			Joist			Header Material (100%)						Uplift[1]
					W	H	D	L	TF	Top Qty	Face Qty	Type[2]	Qty	Type		LVL	PSL	LSL	SPF	D Fir-L I-Joist[2,3]	D Fir-L	D Fir-L 115%
2-9/16 x 14	TFL2514	LT2514, ITS2.56/14	--	18	2-9/16	13-15/16	2	--	1-1/2	4	2	10d	2	10d x 1-1/2	Lbs	2370	2305	2450	1960	1795	2495	265
															kN	10.54	10.25	10.90	8.72	7.98	11.10	1.18
2-9/16 x 16	TFL2516	LT2516, ITS2.56/16	--	18	2-9/16	15-15/16	2	--	1-1/2	4	2	10d	2	10d x 1-1/2	Lbs	2370	2305	2450	1960	1795	2495	265
															kN	10.54	10.25	10.90	8.72	7.98	11.10	1.18
2-5/8 x 9-1/2	THO26950	--	--	18	2-11/16	9-1/2	2-3/8	--	2	4	6	10d	2	10d x 1-1/2	Lbs	2340	2340	2340	2025	2950	2580	485
															kN	10.41	10.41	10.41	9.01	13.12	11.48	2.16
2-5/8 x 11-7/8	THO26118	--	--	16	2-11/16	11-7/8	2-3/8	--	2	4	6	10d	2	10d x 1-1/2	Lbs	2535	2535	2535	2285	2640	2910	485
															kN	11.28	11.28	11.28	10.16	11.74	12.94	2.16
2-5/8 x 14	THO26140	--	--	18	2-11/16	14	2-3/8	--	2	4	8	10d	2	10d x 1-1/2	Lbs	3910	3910	3910	3385	2950	4310	485
															kN	17.39	17.39	17.39	15.06	13.12	19.17	2.16
2-5/8 x 16	THO26160	--	--	18	2-11/16	16	2-3/8	--	2	4	8	10d	2	10d x 1-1/2	Lbs	3910	3910	3910	3385	2950	4310	485
															kN	17.39	17.39	17.39	15.06	13.12	19.17	2.16
2-11/16 x 9-1/4	PHXU27925	HWU2.75/9.25	--	7	2-3/4	9-1/4	3-1/4	10	2-1/2	4	4	16d	6	10d x 1-1/2	Lbs	8670	8330	8670	7090	--	9030	1770
															kN	38.57	37.05	38.57	31.54	--	40.17	7.87
	HLBH27925	GLTV2.75/9.25	x	7	2-3/4	9-1/4	6	12	2-3/4	3	12	NA16D-RS	6	10d x 1-1/2	Lbs	14725	15180	13825	9310	--	12435	2145
															kN	65.50	67.52	61.50	41.41	--	55.31	9.54
2-11/16 x 9-1/2	PHXU2795	--	--	7	2-3/4	9-1/2	3-1/4	10	2-1/2	4	4	16d	6	10d x 1-1/2	Lbs	8670	8330	8670	7090	--	9030	1770
															kN	38.57	37.05	38.57	31.54	--	40.17	7.87
	HLBH2795	GLTV2.75/9.5	x	7	2-3/4	9-1/2	6	12	2-3/4	3	12	NA16D-RS	6	10d x 1-1/2	Lbs	14725	15180	13825	9310	--	12435	2145
															kN	65.50	67.52	61.50	41.41	--	55.31	9.54
2-11/16 x 11-1/4	PHXU27112	--	--	7	2-3/4	11-1/4	3-1/4	10	2-1/2	4	4	16d	6	10d x 1-1/2	Lbs	8670	8330	8670	7090	--	9030	1770
															kN	38.57	37.05	38.57	31.54	--	40.17	7.87
	HLBH27112	GLTV2.75/11.25	x	7	2-3/4	11-1/4	6	12	2-3/4	3	12	NA16D-RS	6	10d x 1-1/2	Lbs	14725	15180	13825	9310	--	12435	2145
															kN	65.50	67.52	61.50	41.41	--	55.31	9.54
2-11/16 x 11-7/8	PHXU27118	--	--	7	2-3/4	11-7/8	3-1/4	10	2-1/2	4	4	16d	6	10d x 1-1/2	Lbs	8670	8330	8670	7090	--	9030	1770
															kN	38.57	37.05	38.57	31.54	--	40.17	7.87
	HLBH27118	GLTV2.75/11.88	x	7	2-3/4	11-7/8	6	12	2-3/4	3	12	NA16D-RS	6	10d x 1-1/2	Lbs	14725	15180	13825	9310	--	12435	2145
															kN	65.50	67.52	61.50	41.41	--	55.31	9.54
2-11/16 x 14	PHXU2714	--	--	7	2-3/4	14	3-1/4	10	2-1/2	4	4	16d	6	10d x 1-1/2	Lbs	8670	8330	8670	7090	--	9030	1770
															kN	38.57	37.05	38.57	31.54	--	40.17	7.87
	HLBH2714	GLTV2.75/14	x	7	2-3/4	14	6	12	2-3/4	3	12	NA16D-RS	6	10d x 1-1/2	Lbs	14725	15180	13825	9310	--	12435	2145
															kN	65.50	67.52	61.50	41.41	--	55.31	9.54
2-11/16 x 16	PHXU2716	--	--	7	2-3/4	16	3-1/4	10	2-1/2	4	4	16d	6	10d x 1-1/2	Lbs	8670	8330	8670	7090	--	9030	1770
															kN	38.57	37.05	38.57	31.54	--	40.17	7.87
	HLBH2716	GLTV2.75/16	x	7	2-3/4	16	6	12	2-3/4	3	12	NA16D-RS	6	10d x 1-1/2	Lbs	14725	15180	13825	9310	--	12435	2145
															kN	65.50	67.52	61.50	41.41	--	55.31	9.54
3 x 9-1/4	BPH31925	LBV3.12/9.25	x	12	3-1/8	9-1/4	3	--	2-1/8	4	6	16d	4	10d	Lbs	5265	5055	5435	4285	--	5455	1140
															kN	23.42	22.49	24.18	19.06	--	24.27	5.07
	PHXU31925	WP29.25-2	x	7	3-1/8	9-1/4	3-1/4	10	2-1/2	4	4	16d	6	10d x 1-1/2	Lbs	8670	8330	8670	7090	--	9030	1770
															kN	38.57	37.05	38.57	31.54	--	40.17	7.87
3 x 9-1/2	THO15950-2	LT2-159, MIT29.5-2	x	16	3-1/16	9-1/2	2-3/8	--		4	6	16d	6	10d	Lbs	3355	3585	3585	3180	3790	4050	2140
															kN	14.92	15.95	15.95	14.15	16.86	18.02	9.52
	BPH3195	LBV3.12/9.5	x	12	3-1/8	9-1/2	3	--	2-7/16	4	6	16d	4	10d	Lbs	5265	5055	5435	4285	--	5455	1140
															kN	23.42	22.49	24.18	19.06	--	24.27	5.07
	PHXU3195	WP29.5-2	x	7	3-1/8	9-1/2	3-1/4	10	2-1/2	4	4	16d	6	10d x 1-1/2	Lbs	8670	8330	8670	7090	--	9030	1770
															kN	38.57	37.05	38.57	31.54	--	40.17	7.87

1) Factored uplift resistance has been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) When I-joist is used as a header, all header nails must be 10d (0.148") x 1-1/2.
3) When I-Joists with flanges less than 1-1/2" thick are used as headers, the reduction factor for 1-1/4" flange is 0.69 and 0.84 for 1-3/8" flange.
4) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long, 10d nails are 0.148" dia. x 3" long, NA16D-RS nails are 0.148" dia. x 3-1/2" long, 16d nails are 0.162" dia. x 3-1/2" long.

Vertical downward loads address hanger/header/fastener limitations only. Refer to the EWP manufacturer for joist limitations.



Continued on next page

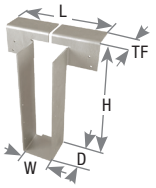
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Top Mount Hanger Charts

Joist Size	MiTek Stock No.	Ref. No.	Web Stiff Reqd	Ga.	Dimensions (in)					Fastener Schedule[5]						Unit	Factored Resistance						
											Header			Joist			Header Material (100%)						Uplift[1]
					W	H	D	L	TF	Min/ Max	Top Qty	Face Qty	Type[2]	Qty	Type		LVL	PSL	LSL	SPF	D Fir-L I-Joist[2,3]	D Fir-L	D Fir-L 115%
3 x 11-1/4	BPH31112	LBV3.12/11.25	x	12	3-1/8	11-1/4	3	--	2-1/8	--	4	6	16d	4	10d	Lbs	5265	5055	5435	4285	--	5455	1140
																kN	23.42	22.49	24.18	19.06	--	24.27	5.07
	PHXU31112	WP211.25-2	x	7	3-1/8	11-1/4	3-1/4	10	2-1/2	--	4	4	16d	6	10d x 1-1/2	Lbs	8670	8330	8670	7090	--	9030	1770
																kN	38.57	37.05	38.57	31.54	--	40.17	7.87
3 x 11-7/8	TH015118-2	LT2-151188, MIT211.88-2	x	16	3-1/16	11-7/8	2-3/8	--	1-1/2	--	4	6	16d	6	10d	Lbs	3355	3550	3550	3155	3790	4020	2140
																kN	14.92	15.79	15.79	14.03	16.86	17.88	9.52
	BPH31118	LBV3.12/11.88	x	12	3-1/8	11-7/8	3	--	2-1/8	--	4	6	16d	4	10d	Lbs	5265	5055	5435	4285	--	5455	1140
																kN	23.42	22.49	24.18	19.06	--	24.27	5.07
	PHXU31118	WP211.88-2	x	7	3-1/8	11-7/8	3-1/4	10	2-1/2	--	4	4	16d	6	10d x 1-1/2	Lbs	8670	8330	8670	7090	--	9030	1770
																kN	38.57	37.05	38.57	31.54	--	40.17	7.87
3 x 14	BPH3114	LBV3.12/14	x	12	3-1/8	14	3	--	2-3/32	--	4	6	16d	4	10d	Lbs	5265	5055	5435	4285	--	5455	1140
																kN	23.42	22.49	24.18	19.06	--	24.27	5.07
	PHXU3114	--	x	7	3-1/8	14	3-1/4	10	2-1/2	--	4	4	16d	6	10d x 1-1/2	Lbs	8670	8330	8670	7090	--	9030	1770
																kN	38.57	37.05	38.57	31.54	--	40.17	7.87
3-1/2 x 7-1/4	PHXU35725	WPU3.56/7.25	x	7	3-9/16	7-1/4	3-1/4	10	2-1/2	--	4	4	16d	6	10d	Lbs	9575	8330	9245	8280	--	10550	2355
																kN	42.59	37.05	41.12	36.83	--	46.93	10.48
3-1/2 x 9-1/4	TH035925	LT35925	--	16	3-9/16	9-1/4	2-3/8	--	2-1/2	--	4	6	10d	2	10d x 1-1/2	Lbs	2950	2950	2950	2620	2950	3335	485
																kN	13.12	13.12	13.12	11.65	13.12	14.83	2.16
	BPH35925	BA410, LBV3.56/9.25	x	12	3-9/16	9-1/4	2-3/8	--	2-3/8	--	4	6	16d	4	10d	Lbs	5300	5055	5435	4340	--	5530	2080
																kN	23.58	22.49	24.18	19.31	--	24.60	9.25
	HBPH35925	HB3.56/9.25	x	10	3-4/7	9-1/4	3.5	--	3	--	6	16	16d	10	16d	Lbs	11005	11005	11005	8640	--	11005	5530
																kN	48.95	48.95	48.95	38.43	--	48.95	24.60
	PHM35925	WPI49.25	x	7/10	3-5/8	9-1/4	2-1/2	7	3	--	2	--	16d	2	10d	Lbs	5395	5140	4435	4665	--	5940	--
																kN	24.00	22.86	19.73	20.75	--	26.42	--
	PHXU35925	HWI49.25, HWU3.56/9.25	x	7	3-9/16	9-1/4	3-1/4	10	2-1/2	--	4	4	16d	6	10d	Lbs	9575	8330	9245	8280	--	10550	2355
																kN	42.59	37.05	41.12	36.83	--	46.93	10.48
	HLBH35925	--	x	7	3-5/8	9-1/4	6	12	3-1/8	--	3	12	NA16D-RS	6	16d	Lbs	15295	15215	13825	9310	--	12435	2145
																kN	68.04	67.68	61.50	41.41	--	55.31	9.54
3-1/2 x 9-3/8	TH035938	LT359375	--	16	3-9/16	9-3/8	2-3/8	--	2-9/16	--	4	6	10d	2	10d x 1-1/2	Lbs	2950	2950	2950	2620	2950	3335	485
																kN	13.12	13.12	13.12	11.65	13.12	14.83	2.16
3-1/2 x 9-1/2	TFL3595[4]	LT359, ITS3.56/9.5	--	18	3-9/16	9-1/2	2	--	1-1/2	Min	4	2	10d	2	10d x 1-1/2	Lbs	1870	1820	1935	1485	--	1970	265
																kN	8.32	8.10	8.61	6.61	--	8.76	1.18
			x							Max	4	6	10d	2	10d x 1-1/2	Lbs	2725	2650	2820	2150	--	2870	265
																kN	12.12	11.79	12.54	9.56	--	12.77	1.18
	TH035950	--	--	16	3-9/16	9-1/2	2-3/8	--	2-7/16	--	4	6	10d	2	10d x 1-1/2	Lbs	2950	2950	2950	2620	2950	3335	485
																kN	13.12	13.12	13.12	11.65	13.12	14.83	2.16
	TH017950-2	MIT49.5	x	16	3-9/16	9-1/2	2-3/8	--	1-9/16	--	4	6	16d	6	10d	Lbs	3355	3585	3585	3320	3790	4230	2140
																kN	14.92	15.95	15.95	14.77	16.86	18.82	9.52
	BPH3595	LBV3.56/9.5	x	12	3-9/16	9-1/2	2-3/8	--	2-3/8	--	4	6	16d	4	10d	Lbs	5300	5055	5435	4340	--	5530	2080
																kN	23.58	22.49	24.18	19.31	--	24.60	9.25
	HBPH3595	HB3.56/9.5	x	10	3-9/16	9-1/2	3-1/2	--	3	--	6	16	16d	10	16d	Lbs	11005	11005	11005	8640	--	11005	5530
																kN	48.95	48.95	48.95	38.43	--	48.95	24.60
	PHM3595	WPI49.5	x	7/10	3-5/8	9-1/2	2-1/2	7		--	2	--	16d	2	10d	Lbs	5395	5140	4435	4665	--	5940	--
																kN	24.00	22.86	19.73	20.75	--	26.42	--
	PHXU3595	GLTV3.59, HWI49.5, HWU3.56/9.5	x	7	3-9/16	9-1/2	3-1/4	10	2-1/2	--	4	4	16d	6	10d	Lbs	9575	8330	9245	8280	--	10550	2355
																kN	42.59	37.05	41.12	36.83	--	46.93	10.48
	HLBH3595	HGLTV3.59	x	7	3-5/8	9-1/2	6	12	3-1/8	--	3	12	NA16D-RS	6	16d	Lbs	15295	15215	13825	9310	--	12435	2145
																kN	68.04	67.68	61.50	41.41	--	55.31	9.54

1) Factored uplift resistance has been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) When I-joist is used as a header, all header nails must be 10d (0.148") x 1-1/2.
3) When I-Joists with flanges less than 1-1/2" thick are used as headers, the reduction factor for 1-1/4" flange is 0.69 and 0.84 for 1-3/8" flange.
4) TFL3595: 10d x 1-1/2 nails may be substituted for 10d common nails installed into the face of the supporting member, with no reduction in factored resistances.
5) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long, 10d nails are 0.148" dia. x 3" long, NA16D-RS nails are 0.148" dia. x 3-1/2" long, 16d nails are 0.162" dia. x 3-1/2" long.

Vertical downward loads address hanger/header/fastener limitations only. Refer to the EWP manufacturer for joist limitations.
New products or updated product information are designated in blue font.



Continued on next page

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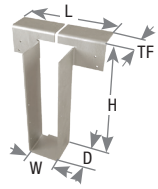
Top Mount Hanger Charts

Joist Size	MiTek Stock No.	Ref. No.	Web Stiff Reqd	Ga.	Dimensions (in)					Fastener Schedule[5]						Unit	Factored Resistance						
											Header			Joist			Header Material (100%)						Uplift[1]
					W	H	D	L	TF	Min/ Max	Top Qty	Face Qty	Type[2]	Qty	Type		LVL	PSL	LSL	SPF	D Fir-L I-Joist[2,3]	D Fir-L	D Fir-L 115%
3-1/2 x 11-1/4	TH035112	LT351125	--	16	3-9/16	11-1/4	2-3/8	--	2-1/2	--	4	6	10d	2	10d x 1-1/2	Lbs	2950	2950	2950	2620	2950	3335	485
																kN	13.12	13.12	13.12	11.65	13.12	14.83	2.16
	BPH35112	BA412, LBV3.56/11.25	x	12	3-9/16	11-1/4	2-3/8	--	2-3/8	--	4	6	16d	4	10d	Lbs	5300	5055	5435	4340	--	5530	2080
																kN	23.58	22.49	24.18	19.31	--	24.60	9.25
	HBPH35112	HB3.56/11.25	x	10	3-9/16	11-1/4	3-1/2	--	3	--	6	16	16d	10	16d	Lbs	11005	11005	11005	8640	--	11005	5530
																kN	48.95	48.95	48.95	38.43	--	48.95	24.60
	PHXU35112	GLTV3.56/11.25, HWI411.25, HWU3.56/11.25, WPI411.25	x	7	3-9/16	11-1/4	3-1/4	10	2-1/2	--	4	4	16d	6	10d	Lbs	9575	8330	9245	8280	--	10550	2355
																kN	42.59	37.05	41.12	36.83	--	46.93	10.48
	HLBH35112	HGLTV3.56/11.25	x	7	3-5/8	11-1/4	6	12	3-1/8	--	3	12	NA16D-RS	6	16d	Lbs	15295	15215	13825	9310	--	12435	2145
																kN	68.04	67.68	61.50	41.41	--	55.31	9.54
3-1/2 x 11-7/8	TFL35118[4]	LT351188, ITS3.56/11.88	--	18	3-9/16	11-7/8	2	--	1-1/2	Min	4	2	10d	2	10d x 1-1/2	Lbs	1870	1820	1935	1485	--	1970	265
																kN	8.32	8.10	8.61	6.61	--	8.76	1.18
			x							Max	4	6	10d	2	10d x 1-1/2	Lbs	2725	2650	2820	2150	--	2870	265
																kN	12.12	11.79	12.54	9.56	--	12.77	1.18
	TH035118	--	--	18	3-9/16	11-7/8	2-3/8	--	2-1/2	--	4	6	10d	2	10d x 1-1/2	Lbs	2950	2950	2950	2620	2950	3335	485
																kN	13.12	13.12	13.12	11.65	13.12	14.83	2.16
	TH017118-2	MIT411.88	x	16	3-9/16	11-7/8	2-3/8	--	1-9/16	--	4	6	16d	6	10d	Lbs	3355	3550	3550	3665	3790	4670	2140
																kN	14.92	15.79	15.79	16.30	16.86	20.77	9.52
	BPH35118	B3.56/11.88, BA3.56/11.88, LBV3.56/11.88	x	12	3-9/16	11-7/8	2-3/8	--	2-3/8	--	4	6	16d	4	10d	Lbs	5300	5055	5435	4340	--	5530	2080
																kN	23.58	22.49	24.18	19.31	--	24.60	9.25
	HBPH35118	HB3.56/11.88	x	10	3-9/16	11-7/8	3-1/2	--	3	--	6	16	16d	10	16d	Lbs	11005	11005	11005	8640	--	11005	5530
																kN	48.95	48.95	48.95	38.43	--	48.95	24.60
	PHM35118	WPI411.88	x	7/10	3-5/8	11-7/8	2-1/2	7	3	--	2	--	16d	2	10d	Lbs	5395	5140	4435	4665	--	5940	--
																kN	24.00	22.86	19.73	20.75	--	26.42	--
	PHXU35118	GLTV3.511, HWI411.88, HWU3.56/11.88, WPU3.56/11.88	x	7	3-9/16	11-7/8	3-1/4	10	2-1/2	--	4	4	16d	6	10d	Lbs	9575	8330	9245	8280	--	10550	2355
																kN	42.59	37.05	41.12	36.83	--	46.93	10.48
	HLBH35118	HGLTV3.511	x	7	3-5/8	11-7/8	6	12	3-1/8	--	3	12	NA16D-RS	6	16d	Lbs	15295	15215	13825	9310	--	12435	2145
																kN	68.04	67.68	61.50	41.41	--	55.31	9.54
3-1/2 x 12	TH035120	--	--	18	3-9/16	12	2-3/8	--	2-1/2	--	4	6	10d	2	10d x 1-1/2	Lbs	2950	2950	2950	2620	2950	3335	485
																kN	13.12	13.12	13.12	11.65	13.12	14.83	2.16
	BPH3512	HWI412, LBV3.56/12	x	12	3-9/16	12	2-3/4	--	2-1/32	--	4	6	16d	6	10d	Lbs	5300	5055	5435	4245	--	5405	2080
																kN	23.58	22.49	24.18	18.88	--	24.04	9.25
	HBPH3512	HB3.56/12	x	10	3-9/16	12	3-1/2	--	3	--	6	16	16d	10	16d	Lbs	11005	11005	11005	8640	--	11005	5530
																kN	48.95	48.95	48.95	38.43	--	48.95	24.60
	PHXU3512	WPI412	x	7	3-9/16	12	3-1/4	10	2-1/2	--	4	4	16d	6	10d	Lbs	9575	8330	9245	8280	--	10550	2355
																kN	42.59	37.05	41.12	36.83	--	46.93	10.48
	HLBH3512	GLTV3.512, HGLTV3.512	x	7	3-5/8	12	6	12	3-1/8	--	3	12	NA16D-RS	6	16d	Lbs	15295	15215	13825	9310	--	12435	2145
																kN	68.04	67.68	61.50	41.41	--	55.31	9.54
3-1/2 x 13	TH035130	LT3513	--	18	3-9/16	13	2-3/8	--	2-1/2	--	4	6	10d	2	10d x 1-1/2	Lbs	2950	2950	2950	2620	2950	3335	485
																kN	13.12	13.12	13.12	11.65	13.12	14.83	2.16
3-1/2 x 14	TFL3514[4]	LT3514, ITS3.56/14	--	18	3-9/16	14	2	--	1-1/2	Min	4	2	10d	2	10d x 1-1/2	Lbs	1870	1820	1935	1485	--	1970	265
																kN	8.32	8.10	8.61	6.61	--	8.76	1.18
			x							Max	4	6	10d	2	10d x 1-1/2	Lbs	2725	2650	2820	2150	--	2870	265
																kN	12.12	11.79	12.54	9.56	--	12.77	1.18
	TH035140	--	--	18	3-9/16	14	2-3/8	--	2-1/2	--	4	8	10d	2	10d x 1-1/2	Lbs	3910	3910	3910	3385	2950	4310	485
																kN	17.39	17.39	17.39	15.06	13.12	19.17	2.16
	TFI414	MIT414	--	16	3-9/16	14	2-1/2	--	2-1/8	--	4	2	16d	2	10d x 1-1/2	Lbs	3685	3220	3260	3290	--	4190	505
																kN	16.39	14.32	14.50	14.63	--	18.64	2.25
	BPH3514	B3.56/14, BA3.56/14, LBV3.56/14	x	12	3-9/16	14	2-3/4	--	2-1/32	--	4	6	16d	6	10d	Lbs	5300	5055	5435	4245	--	5405	2080
																kN	23.58	22.49	24.18	18.88	--	24.04	9.25
	HBPH3514	HB3.56/14	x	10	3-9/16	14	3-1/2	--	3	--	6	16	16d	10	16d	Lbs	11005	11005	11005	8640	--	11005	5530
																kN	48.95	48.95	48.95	38.43	--	48.95	24.60
	PHM3514	WPI414	x	7/10	3-5/8	14	2-1/2	7	3	--	2	--	16d	2	10d	Lbs	5395	5140	4435	4665	--	5940	--
																kN	24.00	22.86	19.73	20.75	--	26.42	--
	PHXU3514	GLTV3.514, HWI414, HWU3.56/14, WPU3.56/14	x	7	3-9/16	14	3-1/4	10	2-1/2	--	4	4	16d	6	10d	Lbs	9575	8330	9245	8280	--	10550	2355
																kN	42.59	37.05	41.12	36.83	--	46.93	10.48
	HLBH3514	HGLTV3.514	x	7	3-5/8	14	6	12	3-1/8	--	3	12	NA16D-RS	6	16d	Lbs	15295	15215	13825	9310	--	12435	2145
																kN	68.04	67.68	61.50	41.41	--	55.31	9.54

1) Factored uplift resistance has been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) When I-joist is used as a header, all header nails must be 10d (0.148") x 1-1/2.
3) When I-Joists with flanges less than 1-1/2" thick are used as headers, the reduction factor for 1-1/4" flange is 0.69 and 0.84 for 1-3/8" flange.
4) TFL35118, TFL3514: 10d x 1-1/2 nails may be substituted for 10d common nails installed into the face of the supporting member, with no reduction in factored resistances.
5) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long, 10d nails are 0.148" dia. x 3" long, NA16D-RS nails are 0.148" dia. x 3-1/2" long, 16d nails are 0.162" dia. x 3-1/2" long.

Vertical downward loads address hanger/header/fastener limitations only. Refer to the EWP manufacturer for joist limitations.

New products or updated product information are designated in blue font.



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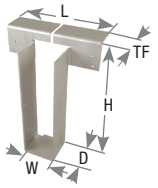
Top Mount Hanger Charts

Joist Size	MiTek Stock No.	Ref. No.	Web Stiff Reqd	Ga.	Dimensions (in)					Fastener Schedule[5]						Unit	Factored Resistance						
											Header			Joist			Header Material (100%)						Uplift[1]
					W	H	D	L	TF	Min/ Max	Top Qty	Face Qty	Type[2]	Qty	Type		LVL	PSL	LSL	SPF	D Fir-L I-Joist[2,3]	D Fir-L	D Fir-L 115%
3-1/2 x 16	TFL3516[4]	LT3516, ITS3.56/16	--	18	3-9/16	16	2	--	1-1/2	Min	4	2	10d	2	10d x 1-1/2	Lbs	1870	1820	1935	1485	--	1970	265
																kN	8.32	8.10	8.61	6.61	--	8.76	1.18
			x							Max	4	6	10d	2	10d x 1-1/2	Lbs	2725	2650	2820	2150	--	2870	265
																kN	12.12	11.79	12.54	9.56	--	12.77	1.18
	TH035160	--	--	18	3-9/16	16	2-3/8	--	2-1/2	--	4	8	10d	2	10d x 1-1/2	Lbs	3910	3910	3910	3385	2950	4310	485
																kN	17.39	17.39	17.39	15.06	13.12	19.17	2.16
	TFI416	MIT416	--	16	3-9/16	16	2-1/2	--	2-1/8	--	4	2	16d	2	10d x 1-1/2	Lbs	3685	3220	3260	3290	--	4190	505
																kN	16.39	14.32	14.50	14.63	--	18.64	2.25
	BPH3516	B3.56/16, BA3.56/16, LBV3.56/16	x	12	3-9/16	16	2-3/4	--	2-1/32	--	4	6	16d	6	10d	Lbs	5300	5055	5435	4245	--	5405	2080
																kN	23.58	22.49	24.18	18.88	--	24.04	9.25
	HBPH3516	HB3.56/16	x	10	3-9/16	16	3-1/2	--	3	--	6	16	16d	10	16d	Lbs	11005	11005	11005	8640	--	11005	5530
																kN	48.95	48.95	48.95	38.43	--	48.95	24.60
	PHM3516	WPI416	x	7/10	3-5/8	16	2-1/2	7	3	--	2	--	16d	2	10d	Lbs	5395	5140	4435	4665	--	5940	--
																kN	24.00	22.86	19.73	20.75	--	26.42	--
	PHXU3516	GLTV3.516, HWI416, HWU3.56/16, WPU3.56/16	x	7	3-9/16	16	3-1/4	10	2-1/2	--	4	4	16d	6	10d	Lbs	9575	8330	9245	8280	--	10550	2355
																kN	42.59	37.05	41.12	36.83	--	46.93	10.48
	HLBH3516	HGLTV3.516	x	7	3-5/8	16	6	12	3-1/8	--	3	12	NA16D-RS	6	16d	Lbs	15295	15215	13825	9310	--	12435	2145
																kN	68.04	67.68	61.50	41.41	--	55.31	9.54
3-1/2 x 18	TFI418	HIT418, MIT418	--	16	3-9/16	18	2-1/2	--	2-1/8	--	4	2	16d	2	10d x 1-1/2	Lbs	3685	3220	3260	3290	--	4190	505
																kN	16.39	14.32	14.50	14.63	--	18.64	2.25
	BPH3518	LBV3.56/18	x	12	3-9/16	18	2-3/4	--	2-1/32	--	4	6	16d	6	10d	Lbs	5300	5055	5435	4245	--	5405	2080
																kN	23.58	22.49	24.18	18.88	--	24.04	9.25
	HBPH3518	HB3.56/18	x	10	3-9/16	18	3-1/2	--	3	--	6	16	16d	10	16d	Lbs	11005	11005	11005	8640	--	11005	5530
																kN	48.95	48.95	48.95	38.43	--	48.95	24.60
	PHM3518	WPI418	x	7/10	3-5/8	18	2-1/2	7	3	--	2	--	16d	2	10d	Lbs	5395	5140	4435	4665	--	5940	--
																kN	24.00	22.86	19.73	20.75	--	26.42	--
	PHXU3518	GLTV3.518, HWI418, HWU3.56/18, WPU3.56/18	x	7	3-9/16	18	3-1/4	10	2-1/2	--	4	4	16d	6	10d	Lbs	9575	8330	9245	8280	--	10550	2355
																kN	42.59	37.05	41.12	36.83	--	46.93	10.48
	HLBH3518	HGLTV3.518	x	7	3-5/8	18	6	12	3-1/8	--	3	12	NA16D-RS	6	16d	Lbs	15295	15215	13825	9310	--	12435	2145
																kN	68.04	67.68	61.50	41.41	--	55.31	9.54
3-1/2 x 20	TFI420	HIT420, MIT420	--	16	3-9/16	20	2-1/2	--	2-1/8	--	4	2	16d	2	10d x 1-1/2	Lbs	3685	3220	3260	3290	--	4190	505
																kN	16.39	14.32	14.50	14.63	--	18.64	2.25
	BPH3520	HIT420, LBV3.56/20	x	12	3-9/16	20	2-3/4	--	2-1/32	--	4	6	16d	6	10d	Lbs	5300	5055	5435	4245	--	5405	2080
																kN	23.58	22.49	24.18	18.88	--	24.04	9.25
	HBPH3520	HB3.56/20	x	10	3-9/16	20	3-1/2	--	3	--	6	16	16d	10	16d	Lbs	11005	11005	11005	8640	--	11005	5530
																kN	48.95	48.95	48.95	38.43	--	48.95	24.60
	PHM3520	WPI420	x	7/10	3-5/8	20	2-1/2	7	3	--	2	--	16d	2	10d	Lbs	5395	5140	4435	4665	--	5940	--
																kN	24.00	22.86	19.73	20.75	--	26.42	--
	PHXU3520	HWI420, HWU3.56/20, WPU3.56/20	x	7	3-9/16	20	3-1/4	10	2-1/2	--	4	4	16d	6	10d	Lbs	9575	8330	9245	8280	--	10550	2355
																kN	42.59	37.05	41.12	36.83	--	46.93	10.48
	HLBH3520	GLTV3.520, HGLTV3.520	x	7	3-5/8	20	6	12	3-1/8	--	3	12	NA16D-RS	6	16d	Lbs	15295	15215	13825	9310	--	12435	2145
																kN	68.04	67.68	61.50	41.41	--	55.31	9.54
3-1/2 x 22	TFI422	HIT422	--	16	3-9/16	22	2-1/2	--	2-1/8	--	4	6	16d	2	10d x 1-1/2	Lbs	4675	4205	4250	4175	--	5315	505
																kN	20.80	18.70	18.90	18.57	--	23.64	2.25
	BPH3522	HIT3522, LBV3.56/22	x	12	3-9/16	22	2-3/4	--	2-1/32	--	4	6	16d	6	10d	Lbs	5300	5055	5435	4245	--	5405	2080
																kN	23.58	22.49	24.18	18.88	--	24.04	9.25
	HBPH3522	HB3.56/22	x	10	3-9/16	22	3-1/2	--	3	--	6	16	16d	10	16d	Lbs	11005	11005	11005	8640	--	11005	5530
																kN	48.95	48.95	48.95	38.43	--	48.95	24.60
	PHM3522	HWI422, WPI422	x	7/10	3-5/8	22	2-1/2	7	3	--	2	--	16d	2	10d	Lbs	5395	5140	4435	4665	--	5940	--
																kN	24.00	22.86	19.73	20.75	--	26.42	--
	PHXU3522	WPU3.56/22	x	7	3-9/16	22	3-1/4	10	2-1/2	--	4	4	16d	6	10d	Lbs	9575	8330	9245	8280	--	10550	2355
																kN	42.59	37.05	41.12	36.83	--	46.93	10.48

1) Factored uplift resistance has been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) When I-joist is used as a header, all header nails must be 10d (0.148") x 1-1/2.
3) When I-Joists with flanges less than 1-1/2" thick are used as headers, the reduction factor for 1-1/4" flange is 0.69 and 0.84 for 1-3/8" flange.
4) TFL3516: 10d x 1-1/2 nails may be substituted for 10d common nails installed into the face of the supporting member, with no reduction in factored resistances.
5) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long, 10d nails are 0.148" dia. x 3" long, NA16D-RS nails are 0.148" dia. x 3-1/2" long, 16d nails are 0.162" dia. x 3-1/2" long.

Vertical downward loads address hanger/header/fastener limitations only. Refer to the EWP manufacturer for joist limitations.

New products or updated product information are designated in blue font.



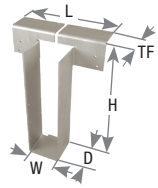
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Top Mount Hanger Charts

Joist Size	MiTek Stock No.	Ref. No.	Web Stiff Reqd	Ga.	Dimensions (in)					Fastener Schedule[4]					Unit	Factored Resistance						
										Header			Joist			Header Material (100%)						Uplift[1]
					W	H	D	L	TF	Top Qty	Face Qty	Type[2]	Qty	Type		LVL	PSL	LSL	SPF	D Fir-L I-Joist[2,3]	D Fir-L	D Fir-L 115%
3-1/2 x 24	TFI424	HIT424, LBV3.56/24	--	16	3-9/16	24	2-1/2	--	2-1/8	4	6	16d	2	10d x 1-1/2	Lbs	4675	4205	4250	4175	--	5315	505
															kN	20.80	18.70	18.90	18.57	--	23.64	2.25
	BPH3524	--	x	12	3-9/16	24	2-3/4	--	2-1/32	4	6	16d	6	10d	Lbs	5300	5055	5435	4245	--	5405	2080
															kN	23.58	22.49	24.18	18.88	--	24.04	9.25
	HBPH3524	HB3.56/24	x	10	3-9/16	24	3-1/2	--	3	6	16	16d	10	16d	Lbs	11005	11005	11005	8640	--	11005	5530
															kN	48.95	48.95	48.95	38.43	--	48.95	24.60
	PHM3524	HWI424, WPI424	x	7/10	3-5/8	24	2-1/2	7	3	2	--	16d	2	10d	Lbs	5395	5140	4435	4665	--	5940	--
															kN	24.00	22.86	19.73	20.75	--	26.42	--
	PHXU3524	WPU3.56/24	x	7	3-9/16	24	3-1/4	10	2-1/2	4	4	16d	6	10d	Lbs	9575	8330	9245	8280	--	10550	2355
															kN	42.59	37.05	41.12	36.83	--	46.93	10.48
3-1/2 x 26	TFI426	HIT426	--	16	3-9/16	26	2-1/2	--	2-1/8	4	6	16d	2	10d x 1-1/2	Lbs	4675	4205	4250	4175	--	5315	505
															kN	20.80	18.70	18.90	18.57	--	23.64	2.25
	BPH3526	LBV3.56/26	x	12	3-9/16	26	2-3/4	--	2-1/32	4	6	16d	6	10d	Lbs	5300	5055	5435	4245	--	5405	2080
															kN	23.58	22.49	24.18	18.88	--	24.04	9.25
	HBPH3526	HB3.56/26	x	10	3-9/16	26	3-1/2	--	3	6	16	16d	10	16d	Lbs	11005	11005	11005	8640	--	11005	5530
															kN	48.95	48.95	48.95	38.43	--	48.95	24.60
	PHM3526	HWI426, WPI426	x	7/10	3-5/8	26	2-1/2	7	3	2	--	16d	2	10d	Lbs	5395	5140	4435	4665	--	5940	--
															kN	24.00	22.86	19.73	20.75	--	26.42	--
	PHXU3526	WPU3.56/26	x	7	3-9/16	26	3-1/4	10	2-1/2	4	4	16d	6	10d	Lbs	9575	8330	9245	8280	--	10550	2355
															kN	42.59	37.05	41.12	36.83	--	46.93	10.48
3-1/2 x 28	BPH3528	LBV3.56/28	x	12	3-9/16	28	2-3/4	--	2-1/32	4	6	16d	6	10d	Lbs	5300	5055	5435	4245	--	5405	2080
															kN	23.58	22.49	24.18	18.88	--	24.04	9.25
	HBPH3528	HB3.56/28	x	10	3-9/16	28	3-1/2	--	3	6	16	16d	10	16d	Lbs	11005	11005	11005	8640	--	11005	5530
															kN	48.95	48.95	48.95	38.43	--	48.95	24.60
	PHM3528	HWI428, WPI428	x	7/10	3-5/8	28	2-1/2	7	3	2	--	16d	2	10d	Lbs	5395	5140	4435	4665	--	5940	--
															kN	24.00	22.86	19.73	20.75	--	26.42	--
	PHXU3528	WPU3.56/28	x	7	3-9/16	28	3-1/4	10	2-1/2	4	4	16d	6	10d	Lbs	9575	8330	9245	8280	--	10550	2355
															kN	42.59	37.05	41.12	36.83	--	46.93	10.48
3-1/2 x 30	BPH3530	LBV3.56/30	x	12	3-9/16	30	2-3/4	--	2-1/32	4	6	16d	6	10d	Lbs	5300	5055	5435	4245	--	5405	2080
															kN	23.58	22.49	24.18	18.88	--	24.04	9.25
	HBPH3530	HB3.56/30	x	10	3-9/16	30	3-1/2	--	3	6	16	16d	10	16d	Lbs	11005	11005	11005	8640	--	11005	5530
															kN	48.95	48.95	48.95	38.43	--	48.95	24.60
	PHM3530	HWI430, WPI430	x	7/10	3-5/8	30	2-1/2	7	3	2	--	16d	2	10d	Lbs	5395	5140	4435	4665	--	5940	--
															kN	24.00	22.86	19.73	20.75	--	26.42	--
	PHXU3530	--	x	7	3-9/16	30	3-1/4	10	2-1/2	4	4	16d	6	10d	Lbs	9575	8330	9245	8280	--	10550	2355
															kN	42.59	37.05	41.12	36.83	--	46.93	10.48
3-1/2 x 32	BPH3532	--	x	12	3-9/16	32	2-3/4	--	2-1/32	4	6	16d	6	10d	Lbs	5300	5055	5435	4245	--	5405	2080
															kN	23.58	22.49	24.18	18.88	--	24.04	9.25
	PHM3532	HWI432, WPI432	x	7/10	3-5/8	32	2-1/2	7	3	2	--	16d	2	10d	Lbs	5395	5140	4435	4665	--	5940	--
															kN	24.00	22.86	19.73	20.75	--	26.42	--
	PHXU3532	--	x	7	3-9/16	32	3-1/4	10	2-1/2	4	4	16d	6	10d	Lbs	9575	8330	9245	8280	--	10550	2355
															kN	42.59	37.05	41.12	36.83	--	46.93	10.48
4 - 4-3/16 x 9-1/2	TH020950-2	LBV4.12/9.5, LBV4.28/9.5, MIT4.28/9.5	x	16	4-3/16	9-1/2	3	--	2	4	6	16d	6	10d	Lbs	3355	3840	3840	3320	3790	4230	2140
															kN	14.92	17.08	17.08	14.77	16.86	18.82	9.52
	PHM4295	--	x	7/10	4-3/16	9-1/2	2-1/2	7	3	2	--	16d	2	10d	Lbs	5395	5140	4435	4665	--	5940	--
															kN	24.00	22.86	19.73	20.75	--	26.42	--

1) Factored uplift resistance has been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) When I-joist is used as a header, all header nails must be 10d (0.148") x 1-1/2.
3) When I-Joists with flanges less than 1-1/2" thick are used as headers, the reduction factor for 1-1/4" flange is 0.69 and 0.84 for 1-3/8" flange.
4) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long, 10d nails are 0.148" dia. x 3" long, 16d nails are 0.162" dia. x 3-1/2" long.
Vertical downward loads address hanger/header/fastener limitations only. Refer to the EWP manufacturer for joist limitations.



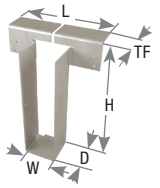
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Top Mount Hanger Charts

Joist Size	MiTek Stock No.	Ref. No.	Web Stiff Reqd	Ga.	Dimensions (in)					Fastener Schedule[4]					Unit	Factored Resistance						
										Header			Joist			Header Material (100%)						Uplift[1]
					W	H	D	L	TF	Top Qty	Face Qty	Type[2]	Qty	Type		LVL	PSL	LSL	SPF	D Fir-L I-Joist[2,3]	D Fir-L	D Fir-L 115%
4 - 4-3/16 x 11-7/8	TH020118-2	LBV4.12/11.88, LBV4.28/11.88, MIT4.28/11.88	x	16	4-3/16	11-7/8	3	--	2	4	6	16d	6	10d	Lbs	3355	3890	3890	3665	3790	4670	2140
															kN	14.92	17.30	17.30	16.30	16.86	20.77	9.52
	PHM42118	--	x	7/10	4-3/16	11-7/8	2-1/2	7	3	2	--	16d	2	10d	Lbs	5395	5140	4435	4665	--	5940	--
															kN	24.00	22.86	19.73	20.75	--	26.42	--
4 - 4-3/16 x 14	TH020140-2	LBV4.12/14, LBV4.28/14, MIT4.28/14	x	12	4-3/16	14	3	--	1-15/16	4	6	16d	6	10d	Lbs	3355	5330	5330	4610	3785	5870	2140
															kN	14.92	23.71	23.71	20.51	16.84	26.11	9.52
	PHM4214	--	x	7/10	4-3/16	14	2-1/2	7	3	2	--	16d	2	10d	Lbs	5395	5140	4435	4665	--	5940	--
															kN	24.00	22.86	19.73	20.75	--	26.42	--
4 - 4-3/16 x 16	TH020160-2	LBV4.12/16, LBV4.28/16	x	12	4-3/16	16	3	--	1-15/16	4	6	16d	6	10d	Lbs	3355	5330	5330	4610	3785	5870	2140
															kN	14.92	23.71	23.71	20.51	16.84	26.11	9.52
	PHM4216	--	x	7/10	4-3/16	16	2-1/2	7	3	2	--	16d	2	10d	Lbs	5395	5140	4435	4665	--	5940	--
															kN	24.00	22.86	19.73	20.75	--	26.42	--
4-1/2 - 4-5/8 x 9-1/2	TH023950-2	LBV4.75/9.5, MIT359.5-2	x	12	4-3/4	9-1/2	3	--	2	4	6	16d	6	10d	Lbs	5090	5235	5235	4570	3785	5820	2140
															kN	22.64	23.29	23.29	20.33	16.84	25.89	9.52
	PHM2395-2	WP359.5-2	x	7/10	4-3/4	9-1/2	2-1/2	7	3	2	--	16d	2	10d	Lbs	5395	5140	4435	4665	--	5940	--
															kN	24.00	22.86	19.73	20.75	--	26.42	--
4-1/2 - 4-5/8 x 11-7/8	TH023118-2	LBV4.75/11.88, MIT3511.88-2	x	12	4-3/4	11-7/8	3	--	2-1/8	4	6	16d	6	10d	Lbs	5090	5280	5280	4570	3785	5820	2140
															kN	22.64	23.49	23.49	20.33	16.84	25.89	9.52
	PHM23118-2	WP3511.88-2	x	7/10	4-3/4	11-7/8	2-1/2	7	3	2	--	16d	2	10d	Lbs	5395	5140	4435	4665	--	5940	--
															kN	24.00	22.86	19.73	20.75	--	26.42	--
4-1/2 - 4-5/8 x 14	TH023140-2	LBV4.75/14, MIT3514-2	x	12	4-3/4	14	3	--	2-1/8	4	8	16d	6	10d	Lbs	5090	6345	6345	5545	3785	7060	2140
															kN	22.64	28.22	28.22	24.67	16.84	31.40	9.52
4-1/2 - 4-5/8 x 16	TH023160-2	LBV4.75/16, MIT4.75/16	x	12	4-3/4	16	3	--	2-1/8	4	8	16d	6	10d	Lbs	5090	6345	6345	5545	3785	7060	2140
															kN	22.64	28.22	28.22	24.67	16.84	31.40	9.52
	PHM2316-2	WP3516-2	x	7/10	4-3/4	16	2-1/2	7	3	2	--	16d	2	10d	Lbs	5395	5140	4435	4665	--	5940	--
															kN	24.00	22.86	19.73	20.75	--	26.42	--
4-1/2 - 4-5/8 x 18	TH023180-2	LBV4.75/18	x	12	4-3/4	18	3	--	2-1/8	4	10	16d	6	10d	Lbs	5090	6745	6745	7225	3785	9205	2140
															kN	22.64	30.00	30.00	32.14	16.84	40.95	9.52
	PHM2318-2	WP3518-2	x	7/10	4-3/4	18	2-1/2	7	3	2	--	16d	2	10d	Lbs	5395	5140	4435	4665	--	5940	--
															kN	24.00	22.86	19.73	20.75	--	26.42	--
4-1/2 - 4-5/8 x 20	TH023200-2	LBV4.75/20	x	12	4-3/4	20	3	--	2-1/8	4	10	16d	6	10d	Lbs	5090	6745	6745	7225	3785	9205	2140
															kN	22.64	30.00	30.00	32.14	16.84	40.95	9.52
	PHM2320-2	WP3520-2	x	7/10	4-3/4	20	2-1/2	7	3	2	--	16d	2	10d	Lbs	5395	5140	4435	4665	--	5940	--
															kN	24.00	22.86	19.73	20.75	--	26.42	--
5 x 9-1/4	TH025925-2	LBV5.12/9.25	x	12	5-1/8	9-1/4	3	--	2-11/16	4	6	16d	6	10d	Lbs	5090	5280	5280	4570	3785	5820	2140
															kN	22.64	23.49	23.49	20.33	16.84	25.89	9.52
5 x 9-1/2	TH025950-2	MIT39.5-2, LBV5.12/9.5	x	12	5-1/8	9-1/2	3	--	2-1/8	4	6	16d	6	10d	Lbs	5090	5280	5280	4570	3785	5820	2140
															kN	22.64	23.49	23.49	20.33	16.84	25.89	9.52
	PHM2595-2	WPI39.5-2	x	7/10	5-1/8	9-1/2	2-1/2	7	3	2	--	16d	2	10d	Lbs	5395	5140	4435	4665	--	5940	--
															kN	24.00	22.86	19.73	20.75	--	26.42	--
5 x 11-1/4	TH025112-2	LBV5.12/11.25	x	12	5-1/8	11-1/4	3	--	2-1/8	4	6	16d	6	10d	Lbs	5090	5280	5280	4570	3785	5820	2140
															kN	22.64	23.49	23.49	20.33	16.84	25.89	9.52
5 x 11-7/8	TH025118-2	LBV5.12/11.88, MIT311.88-2	x	12	5-1/8	11-7/8	3	--	2-1/8	4	6	16d	6	10d	Lbs	5090	5280	5280	4570	3785	5820	2140
															kN	22.64	23.49	23.49	20.33	16.84	25.89	9.52

1) Factored uplift resistance has been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) When I-joist is used as a header, all header nails must be 10d (0.148") x 1-1/2.
3) When I-Joists with flanges less than 1-1/2" thick are used as headers, the reduction factor for 1-1/4" flange is 0.69 and 0.84 for 1-3/8" flange.
4) **NAILS:** 10d nails are 0.148" dia. x 3" long, 16d nails are 0.162" dia. x 3-1/2" long.
Vertical downward loads address hanger/header/fastener limitations only. Refer to the EWP manufacturer for joist limitations.



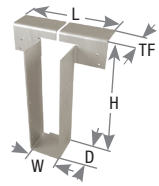
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Top Mount Hanger Charts

Joist Size	MiTek Stock No.	Ref. No.	Web Stiff Reqd	Ga.	Dimensions (in)					Fastener Schedule[4]					Unit	Factored Resistance						
										Header			Joist			Header Material (100%)						Uplift[1]
					W	H	D	L	TF	Top Qty	Face Qty	Type[2]	Qty	Type		LVL	PSL	LSL	SPF	D Fir-L I-Joist[2,3]	D Fir-L	D Fir-L 115%
5 x 14	THO25140-2	MIT314-2, LBV5.12/14	x	12	5-1/8	14	3	--	2-1/8	4	8	16d	6	10d	Lbs	5090	6345	6345	5545	3785	7060	2140
															kN	22.64	28.22	28.22	24.67	16.84	31.40	9.52
	PHM2514-2	WPI314-2	x	7/10	5-1/8	14	2-1/2	7	3	2	--	16d	2	10d	Lbs	5395	5140	4435	4665	--	5940	--
															kN	24.00	22.86	19.73	20.75	--	26.42	--
5 x 16	THO25160-2	MIT5.12/16, LBV5.12/16	x	12	5-1/8	16	3	--	2-1/8	4	8	16d	6	10d	Lbs	5090	6345	6345	5545	3785	7060	2140
															kN	22.64	28.22	28.22	24.67	16.84	31.40	9.52
	HBPH5116	HB5.12/16	x	10	5-1/8	16	3-1/2	--	3	6	16	16d	10	16d	Lbs	10405	10405	10405	8635	--	10405	5620
															kN	46.28	46.28	46.28	38.41	--	46.28	25.00
	PHM2516-2	WPI316-2	x	7/10	5-1/8	16	2-1/2	7	3	2	--	16d	2	10d	Lbs	5395	5140	4435	4665	--	5940	--
															kN	24.00	22.86	19.73	20.75	--	26.42	--
5 x 18	THO25180-2	B5.12/18	x	12	5-1/8	18	3	--	2-1/8	4	10	16d	6	10d	Lbs	5090	6745	6745	7225	3785	9205	2140
															kN	22.64	30.00	30.00	32.14	16.84	40.95	9.52
	HBPH5118	HB5.12/18	x	10	5-1/8	18	3-1/2	--	3	6	16	16d	10	16d	Lbs	10405	10405	10405	8635	--	10405	5620
															kN	46.28	46.28	46.28	38.41	--	46.28	25.00
	PHM2518-2	WPI318-2	x	7/10	5-1/8	18	2-1/2	7	3	2	--	16d	2	10d	Lbs	5395	5140	4435	4665	--	5940	--
															kN	24.00	22.86	19.73	20.75	--	26.42	--
5 x 20	THO25200-2	B5.12/20	x	12	5-1/8	20	3	--	2-1/8	4	10	16d	6	10d	Lbs	5090	6745	6745	7225	3785	9205	2140
															kN	22.64	30.00	30.00	32.14	16.84	40.95	9.52
	HBPH5120	HB5.12/20	x	10	5-1/8	20	3-1/2	--	3	6	16	16d	10	16d	Lbs	10405	10405	10405	8635	--	10405	5620
															kN	46.28	46.28	46.28	38.41	--	46.28	25.00
	PHM2520-2	WPI320-2	x	7/10	5-1/8	20	2-1/2	7	3	2	--	16d	2	10d	Lbs	5395	5140	4435	4665	--	5940	--
															kN	24.00	22.86	19.73	20.75	--	26.42	--
5 x 22	HBPH5122	HB5.12/22	x	10	5-1/8	22	3-1/2	--	3	6	16	16d	10	16d	Lbs	10405	10405	10405	8635	--	10405	5620
															kN	46.28	46.28	46.28	38.41	--	46.28	25.00
	PHM2522-2	WPI322-2	x	7/10	5-1/8	22	2-1/2	7	3	2	--	16d	2	10d	Lbs	5395	5140	4435	4665	--	5940	--
															kN	24.00	22.86	19.73	20.75	--	26.42	--
5 x 24	HBPH5124	HB5.12/24	x	10	5-1/8	24	3-1/2	--	3	6	16	16d	10	16d	Lbs	10405	10405	10405	8635	--	10405	5620
															kN	46.28	46.28	46.28	38.41	--	46.28	25.00
	PHM2524-2	WPI324-2	x	7/10	5-1/8	24	2-1/2	7	3	2	--	16d	2	10d	Lbs	5395	5140	4435	4665	--	5940	--
															kN	24.00	22.86	19.73	20.75	--	26.42	--
5 x 26	HBPH5126	HB5.12/26	x	10	5-1/8	26	3-1/2	--	3	6	16	16d	10	16d	Lbs	10405	10405	10405	8635	--	10405	5620
															kN	46.28	46.28	46.28	38.41	--	46.28	25.00
	PHM2526-2	WPI326-2	x	7/10	5-1/8	26	2-1/2	7	3	2	--	16d	2	10d	Lbs	5395	5140	4435	4665	--	5940	--
															kN	24.00	22.86	19.73	20.75	--	26.42	--
5 x 28	HBPH5128	HB5.12/28	x	10	5-1/8	28	3-1/2	--	3	6	16	16d	10	16d	Lbs	10405	10405	10405	8635	--	10405	5620
															kN	46.28	46.28	46.28	38.41	--	46.28	25.00
5 x 30	HBPH5130	HB5.12/30	x	10	5-1/8	30	3-1/2	--	3	6	16	16d	10	16d	Lbs	10405	10405	10405	8635	--	10405	5620
															kN	46.28	46.28	46.28	38.41	--	46.28	25.00
5-1/4 x 7-1/4	BPH55725	--	x	10	5-9/16	7-1/4	2-1/4	--	2-1/2	4	6	16d	6	10d	Lbs	5300	5055	5435	4295	--	5470	2935
															kN	23.58	22.49	24.18	19.11	--	24.33	13.06
	HBPH55725	--	x	10	5-1/2	7-1/4	3-1/2	--	3	6	16	16d	10	16d	Lbs	10405	10405	10405	8635	--	10405	5620
															kN	46.28	46.28	46.28	38.41	--	46.28	25.00
5-1/4 x 9-1/4	HBPH55925	HB5.50/9.25	x	10	5-1/2	9-1/4	3-1/2	--	3	6	16	16d	10	16d	Lbs	10405	10405	10405	8635	--	10405	5620
															kN	46.28	46.28	46.28	38.41	--	46.28	25.00
	PHXU55925	GLTV5.50/9.25, HWU5.50/9.25	x	7	5-1/2	9-1/4	3-1/4	11-1/2	2-1/2	4	4	16d	6	10d	Lbs	9575	8330	9575	8280	--	10550	2355
															kN	42.59	37.05	42.59	36.83	--	46.93	10.48
	HLBH55925	--	x	7	5-9/16	9-1/4	6	12	3-1/8	3	12	NA16D-RS	6	16d	Lbs	15295	15215	13825	9310	--	12435	2745
															kN	68.04	67.68	61.50	41.41	--	55.31	12.21

1) Factored uplift resistance has been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) When I-joist is used as a header, all header nails must be 10d (0.148") x 1-1/2.
3) When I-Joists with flanges less than 1-1/2" thick are used as headers, the reduction factor for 1-1/4" flange is 0.69 and 0.84 for 1-3/8" flange.
4) **NAILS:** 10d nails are 0.148" dia. x 3" long, NA16D-RS nails are 0.148" dia. x 3-1/2" long, 16d nails are 0.162" dia. x 3-1/2" long.
Vertical downward loads address hanger/header/fastener limitations only. Refer to the EWP manufacturer for joist limitations.



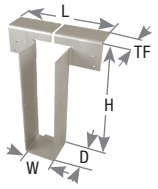
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Top Mount Hanger Charts

Joist Size	MiTek Stock No.	Ref. No.	Web Stiff Reqd	Ga.	Dimensions (in)					Fastener Schedule[4]					Unit	Factored Resistance						
										Header			Joist			Header Material (100%)						Uplift[1]
					W	H	D	L	TF	Top Qty	Face Qty	Type[2]	Qty	Type		LVL	PSL	LSL	SPF	D Fir-L I-Joist[2,3]	D Fir-L	D Fir-L 115%
5-1/4 x 9-1/2	BPH5595	--	x	12	5-9/16	9-1/2	3	--	2-1/6	4	6	16d	4	10d	Lbs	5300	5055	5435	4295	--	5470	2935
															kN	23.58	22.49	24.18	19.11	--	24.33	13.06
	HBPH5595	HB5.50/9.5	x	10	5-1/2	9-1/2	3-1/2	--	3	6	16	16d	10	16d	Lbs	10405	10405	10405	8635	--	10405	5620
															kN	46.28	46.28	46.28	38.41	--	46.28	25.00
	PHM5595	WP5.50/9.5	x	7/10	5-5/8	9-1/2	2-1/2	7	3	2	--	16d	2	10d	Lbs	5395	5140	4435	4665	--	5940	--
															kN	24.00	22.86	19.73	20.75	--	26.42	--
	PHXU5595	GLTV5.59, HWU5.50/9.5	x	7	5-1/2	9-1/2	3-1/4	11.5	2-1/2	4	4	16d	6	10d	Lbs	9575	8330	9575	8280	--	10550	2355
															kN	42.59	37.05	42.59	36.83	--	46.93	10.48
	HLBH5595	HGLTV5.59	x	7	5-9/16	9-1/2	6	12	3-1/8	3	12	NA16D-RS	6	16d	Lbs	15295	15215	13825	9310	--	12435	2745
															kN	68.04	67.68	61.50	41.41	--	55.31	12.21
5-1/4 x 11-1/4	HBPH55112	HB5.50/11.25	x	10	5-1/2	11-1/4	3-1/2	--	3	6	16	16d	10	16d	Lbs	10405	10405	10405	8635	--	10405	5620
															kN	46.28	46.28	46.28	38.41	--	46.28	25.00
	PHXU55112	GLTV5.50/11.25, HWU5.50/11.25	x	7	5-1/2	11-1/4	3-1/4	11-1/2	2-1/2	4	4	16d	6	10d	Lbs	9575	8330	9575	8280	--	10550	2355
															kN	42.59	37.05	42.59	36.83	--	46.93	10.48
	HLBH55112	--	x	7	5-9/16	11-1/4	6	12	3-1/8	3	12	NA16D-RS	6	16d	Lbs	15295	15215	13825	9310	--	12435	2745
															kN	68.04	67.68	61.50	41.41	--	55.31	12.21
5-1/4 x 11-1/2	HLBH55115	--	x	7	5-9/16	11-1/2	6	12	3-1/8	3	12	NA16D-RS	6	16d	Lbs	15295	15215	13825	9310	--	12435	2745
															kN	68.04	67.68	61.50	41.41	--	55.31	12.21
5-1/4 x 11-7/8	BPH55118	--	x	12	5-9/16	11-7/8	2-1/2	--	2-1/32	4	6	16d	6	10d	Lbs	5300	5055	5435	4245	--	5405	2935
															kN	23.58	22.49	24.18	18.88	--	24.04	13.06
	HBPH55118	HB5.50/11.88	x	10	5-1/2	11-7/8	3-1/2	--	3	6	16	16d	10	16d	Lbs	10405	10405	10405	8635	--	10405	5620
															kN	46.28	46.28	46.28	38.41	--	46.28	25.00
	PHM55118	WP5.50/11.88	x	7/10	5-5/8	11-7/8	2-1/2	7	3	2	--	16d	2	10d	Lbs	5395	5140	4435	4665	--	5940	--
															kN	24.00	22.86	19.73	20.75	--	26.42	--
	PHXU55118	HWU5.50/11.88	x	7	5-1/2	11-7/8	3-1/4	11-1/2	2-1/2	4	4	16d	6	10d	Lbs	9575	8330	9575	8280	--	10550	2355
															kN	42.59	37.05	42.59	36.83	--	46.93	10.48
	HLBH55118	GLTV5.511, HGLTV5.511	x	7	5-9/16	11-7/8	6	12	3-1/8	3	12	NA16D-RS	6	16d	Lbs	15295	15215	13825	9310	--	12435	2745
															kN	68.04	67.68	61.50	41.41	--	55.31	12.21
5-1/4 x 12	HBPH5512	HB5.50/12	x	10	5-1/2	12	3-1/2	--	3	6	16	16d	10	16d	Lbs	10405	10405	10405	8635	--	10405	5620
															kN	46.28	46.28	46.28	38.41	--	46.28	25.00
	PHXU5512	HWU5.50/12	x	7	5-1/2	12	3-1/4	11-1/2	2-1/2	4	4	16d	6	10d	Lbs	9575	8330	9575	8280	--	10550	2355
															kN	42.59	37.05	42.59	36.83	--	46.93	10.48
	HLBH5512	GLTV5.512, HGLTV5.512	x	7	5-9/16	12	6	12	3-1/8	3	12	NA16D-RS	6	16d	Lbs	15295	15215	13825	9310	--	12435	2745
															kN	68.04	67.68	61.50	41.41	--	55.31	12.21
5-1/4 x 14	BPH5514	--	x	12	5-9/16	14	2-1/2	--	2-1/32	4	6	16d	6	10d	Lbs	5300	5055	5435	4245	--	5405	2935
															kN	23.58	22.49	24.18	18.88	--	24.04	13.06
	HBPH5514	HB5.50/14	x	10	5-1/2	14	3-1/2	--	3	6	16	16d	10	16d	Lbs	10405	10405	10405	8635	--	10405	5620
															kN	46.28	46.28	46.28	38.41	--	46.28	25.00
	PHM5514	--	x	7/10	5-5/8	14	2-1/2	7	3	2	--	16d	2	10d	Lbs	5395	5140	4435	4665	--	5940	--
															kN	24.00	22.86	19.73	20.75	--	26.42	--
	PHXU5514	HWU5.50/14	x	7	5-1/2	14	3-1/4	11-1/2	2-1/2	4	4	16d	6	10d	Lbs	9575	8330	9575	8280	--	10550	2355
															kN	42.59	37.05	42.59	36.83	--	46.93	10.48
	HLBH5514	GLTV5.514, HGLTV5.514	x	7	5-9/16	14	6	12	3-1/8	3	12	NA16D-RS	6	16d	Lbs	15295	15215	13825	9310	--	12435	2745
															kN	68.04	67.68	61.50	41.41	--	55.31	12.21

1) Factored uplift resistance has been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) When I-joist is used as a header, all header nails must be 10d (0.148") x 1-1/2.
3) When I-Joists with flanges less than 1-1/2" thick are used as headers, the reduction factor for 1-1/4" flange is 0.69 and 0.84 for 1-3/8" flange.
4) **NAILS:** 10d nails are 0.148" dia. x 3" long, NA16D-RS nails are 0.148" dia. x 3-1/2" long, 16d nails are 0.162" dia. x 3-1/2" long.
Vertical downward loads address hanger/header/fastener limitations only. Refer to the EWP manufacturer for joist limitations.



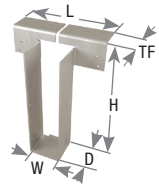
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Top Mount Hanger Charts

Joist Size	MiTek Stock No.	Ref. No.	Web Stiff Reqd	Ga.	Dimensions (in)					Fastener Schedule[4]					Unit	Factored Resistance						
										Header			Joist			Header Material (100%)						Uplift[1]
					W	H	D	L	TF	Top Qty	Face Qty	Type[2]	Qty	Type		LVL	PSL	LSL	SPF	D Fir-L I-Joist[2,3]	D Fir-L	D Fir-L 115%
5-1/4 x 16	BPH5516	--	x	12	5-9/16	16	2-1/2	--	2-1/32	4	6	16d	6	10d	Lbs	5300	5055	5435	4245	--	5405	2935
															kN	23.58	22.49	24.18	18.88	--	24.04	13.06
	HBPH5516	HB5.50/16	x	10	5-1/2	16	3-1/2	--	3	6	16	16d	10	16d	Lbs	10405	10405	10405	8635	--	10405	5620
															kN	46.28	46.28	46.28	38.41	--	46.28	25.00
	PHM5516	--	x	7/10	5-5/8	16	2-1/2	7	3	2	--	16d	2	10d	Lbs	5395	5140	4435	4665	--	5940	--
															kN	24.00	22.86	19.73	20.75	--	26.42	--
	PHXU5516	GLTV5.516, HWU5.50/16	x	7	5-1/2	16	3-1/4	11-1/2	2-1/2	4	4	16d	6	10d	Lbs	9575	8330	9575	8280	--	10550	2355
															kN	42.59	37.06	42.59	36.83	--	46.93	10.48
	HLBH5516	HGLTV5.516	x	7	5-9/16	16	6	12	3-1/8	3	12	NA16D-RS	6	16d	Lbs	15295	15215	13825	9310	--	12435	2745
															kN	68.04	67.68	61.50	41.41	--	55.32	12.21
5-1/4 x 18	BPH5518	--	x	12	5-9/16	18	2-1/2	--	2-1/32	4	6	16d	6	10d	Lbs	5300	5055	5435	4245	--	5405	2935
															kN	23.58	22.49	24.18	18.88	--	24.04	13.06
	HBPH5518	HB5.50/18	x	10	5-1/2	18	3-1/2	--	3	6	16	16d	10	16d	Lbs	10405	10405	10405	8635	--	10405	5620
															kN	46.28	46.28	46.28	38.41	--	46.28	25.00
	PHM5518	--	x	7/10	5-5/8	18	2-1/2	7	3	2	--	16d	2	10d	Lbs	5395	5140	4435	4665	--	5940	--
															kN	24.00	22.86	19.73	20.75	--	26.42	--
	PHXU5518	GLTV5.518	x	7	5-1/2	18	3-1/4	11-1/2	2-1/2	4	4	16d	6	10d	Lbs	9575	8330	9575	8280	--	10550	2355
															kN	42.59	37.06	42.59	36.83	--	46.93	10.48
	HLBH5518	HGLTV5.518	x	7	5-9/16	18	6	12	3-1/8	3	12	NA16D-RS	6	16d	Lbs	15295	15215	13825	9310	--	12435	2745
															kN	68.04	67.68	61.50	41.41	--	55.32	12.21
5-1/4 x 20	HBPH5520	HB5.50/20	x	10	5-1/2	20	3-1/2	--	3	6	16	16d	10	16d	Lbs	10405	10405	10405	8635	--	10405	5620
															kN	46.28	46.28	46.28	38.41	--	46.28	25.00
	PHXU5520	--	x	7	5-1/2	20	3-1/4	11.5	2-1/2	4	4	16d	6	10d	Lbs	9575	8330	9575	8280	--	10550	2355
															kN	42.59	37.06	42.59	36.83	--	46.93	10.48
	HLBH5520	GLTV5.520, HGLTV5.520	x	7	5-9/16	20	6	12	3-1/8	3	12	NA16D-RS	6	16d	Lbs	15295	15215	13825	9310	--	12435	2745
															kN	68.04	67.68	61.50	41.41	--	55.32	12.21
7 x 7-1/4	PHXU71725	--	x	7	7-1/8	7-1/4	3-1/4	13-1/8	2-1/2	4	4	16d	6	10d	Lbs	9575	8330	9575	8280	--	10550	2355
															kN	42.59	37.06	42.59	36.83	--	46.93	10.48
7 x 9-1/4	BPH71925	--	x	12	7-1/8	9-1/4	3	--	2-3/8	4	6	16d	6	10d	Lbs	5300	5055	5435	4340	--	5530	2935
															kN	23.58	22.49	24.18	19.31	--	24.60	13.06
	HBPH71925	HB7.12/9.25	x	10	7-1/8	9-1/4	3-1/2	--	3	6	16	16d	10	16d	Lbs	10405	10405	10405	8635	--	10405	5620
															kN	46.28	46.28	46.28	38.41	--	46.28	25.00
	PHM35925-2	--	x	7/10	7-1/8	9-1/4	2-1/2	10	3	2	--	16d	2	10d	Lbs	5395	5140	4435	4665	--	5940	--
															kN	24.00	22.86	19.73	20.75	--	26.42	--
	PHXU71925	WPI49.25-2	x	7	7-1/8	9-1/4	3-1/4	13-1/8	2-1/2	4	4	16d	6	10d	Lbs	9575	8330	9575	8280	--	10550	2355
															kN	42.59	37.06	42.59	36.83	--	46.93	10.48
	HLBH71925	--	x	7	7-1/8	9-1/4	6	12	3-1/8	3	12	NA16D-RS	6	16d	Lbs	15295	14935	13825	9310	--	12435	2745
															kN	68.04	66.44	61.50	41.41	--	55.32	12.21
7 x 9-1/2	BPH7195	B7.12/9.5	x	12	7-1/8	9-1/2	3	--	2-3/8	4	6	16d	6	10d	Lbs	5300	5060	5435	4340	--	5530	2935
															kN	23.58	22.51	24.18	19.31	--	24.60	13.06
	HBPH7195	HB7.12/9.5	x	10	7-1/8	9-1/2	3-1/2	--	3	6	16	16d	10	16d	Lbs	10405	10405	10405	8635	--	10405	5620
															kN	46.28	46.28	46.28	38.41	--	46.28	25.00
	PHM3595-2	--	x	7/10	7-1/8	9-1/2	2-1/2	10	3	2	--	16d	2	10d	Lbs	5395	5140	4435	4665	--	5940	--
															kN	24.00	22.86	19.73	20.75	--	26.42	--
	PHXU7195	GLTV49.5-2, WPI49.5-2	x	7	7-1/8	9-1/2	3-1/4	13-1/8	2-1/2	4	4	16d	6	10d	Lbs	9575	8330	9575	8280	--	10550	2355
															kN	42.59	37.06	42.59	36.83	--	46.93	10.48
	HLBH7195	--	x	7	7-1/8	9-1/2	6	12	3-1/8	3	12	NA16D-RS	6	16d	Lbs	15295	14935	13825	9310	--	12435	2745
															kN	68.04	66.44	61.50	41.41	--	55.32	12.21

1) Factored uplift resistance has been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) When I-joist is used as a header, all header nails must be 10d (0.148") x 1-1/2.
3) When I-Joists with flanges less than 1-1/2" thick are used as headers, the reduction factor for 1-1/4" flange is 0.69 and 0.84 for 1-3/8" flange.
4) **NAILS:** 10d nails are 0.148" dia. x 3" long, NA16D-RS nails are 0.148" dia. x 3-1/2" long, 16d nails are 0.162" dia. x 3-1/2" long.
Vertical downward loads address hanger/header/fastener limitations only. Refer to the EWP manufacturer for joist limitations.



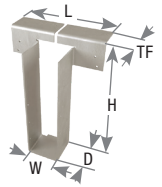
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Top Mount Hanger Charts

Joist Size	MiTek Stock No.	Ref. No.	Web Stiff Reqd	Ga.	Dimensions (in)					Fastener Schedule[4]					Unit	Factored Resistance						
										Header			Joist			Header Material (100%)						Uplift[1]
					W	H	D	L	TF	Top Qty	Face Qty	Type[2]	Qty	Type		LVL	PSL	LSL	SPF	D Fir-L I-Joist[2,3]	D Fir-L	D Fir-L 115%
7 x 11-1/4	BPH71112	--	x	12	7-1/8	11-1/4	3	--	2-3/16	4	6	16d	6	10d	Lbs	5300	5060	5435	4305	--	5485	2935
															kN	23.58	22.51	24.18	19.15	--	24.40	13.06
	HBPH71112	HB7.12/11.25	x	10	7-1/8	11-1/4	3-1/2	--	3	6	16	16d	10	16d	Lbs	10405	10405	10405	8635	--	10405	5620
															kN	46.28	46.28	46.28	38.41	--	46.28	25.00
	PHXU71112	GLTV411.25-2, WPI411.25-2	x	7	7-1/8	11-1/4	3-1/4	13-1/8	2-1/2	4	4	16d	6	10d	Lbs	9575	8330	9575	8280	--	10550	2355
															kN	42.59	37.05	42.59	36.83	--	46.93	10.48
	HLBH71112	HGLTV411.25-2	x	7	7-1/8	11-1/4	6	12	3-1/8	3	12	NA16D-RS	6	16d	Lbs	15295	14935	13825	9310	--	12435	2745
															kN	68.04	66.43	61.50	41.41	--	55.31	12.21
7 x 11-7/8	BPH71118	B7.12/11.88	x	12	7-1/8	11-7/8	3	--	2-3/16	4	6	16d	6	10d	Lbs	5300	5060	5435	4305	--	5485	2935
															kN	23.58	22.51	24.18	19.15	--	24.40	13.06
	HBPH71118	HB7.12/11.88	x	10	7-1/8	11-7/8	3-1/2	--	3	6	16	16d	10	16d	Lbs	10405	10405	10405	8635	--	10405	5620
															kN	46.28	46.28	46.28	38.41	--	46.28	25.00
	PHM35118-2	--	x	7/10	7-1/8	11-7/8	2-1/2	10	3	2	--	16d	2	10d	Lbs	5395	5140	4435	4665	--	5940	--
															kN	24.00	22.86	19.73	20.75	--	26.42	--
	PHXU71118	GLTV411.88-2, HWU7.12/11.88, WPI411.88-2	x	7	7-1/8	11-7/8	3-1/4	13-1/8	2-1/2	4	4	16d	6	10d	Lbs	9575	8330	9575	8280	--	10550	2355
															kN	42.59	37.05	42.59	36.83	--	46.93	10.48
	HLBH71118	HGLTV411.88-2	x	7	7-1/8	11-7/8	6	12	3-1/8	3	12	NA16D-RS	6	16d	Lbs	15295	14935	13825	9310	--	12435	2745
															kN	68.04	66.43	61.50	41.41	--	55.31	12.21
7 x 14	BPH7114	B7.12/14	x	12	7-1/8	14	3	--	2-3/16	4	6	16d	6	10d	Lbs	5300	5060	5435	4305	--	5485	2935
															kN	23.58	22.51	24.18	19.15	--	24.40	13.06
	HBPH7114	HB7.12/14	x	10	7-1/8	14	3.5	--	3	6	16	16d	10	16d	Lbs	10405	10405	10405	8635	--	10405	5620
															kN	46.28	46.28	46.28	38.41	--	46.28	25.00
	PHM3514-2	--	x	7/10	7-1/8	14	2-1/2	10	3	2	--	16d	2	10d	Lbs	5395	5140	4435	4665	--	5940	--
															kN	24.00	22.86	19.73	20.75	--	26.42	--
	PHXU7114	GLTV414-2, WPI414-2	x	7	7-1/8	14	3-1/4	13-1/8	2-1/2	4	4	16d	6	10d	Lbs	9575	8330	9575	8280	--	10550	2355
															kN	42.59	37.05	42.59	36.83	--	46.93	10.48
	HLBH7114	HGLTV414-2	x	7	7-1/8	14	6	12	3-1/8	3	12	NA16D-RS	6	16d	Lbs	15295	14935	13825	9310	--	12435	2745
															kN	68.04	66.43	61.50	41.41	--	55.31	12.21
7 x 16	BPH7116	B7.12/16	x	12	7-1/8	16	3	--	2-3/16	4	6	16d	6	10d	Lbs	5300	5060	5435	4305	--	5485	2935
															kN	23.58	22.51	24.18	19.15	--	24.40	13.06
	HBPH7116	HB7.12/16	x	10	7-1/8	16	3-1/2	--	3	6	16	16d	10	16d	Lbs	10405	10405	10405	8635	--	10405	5620
															kN	46.28	46.28	46.28	38.41	--	46.28	25.00
	PHM3516-2	--	x	7/10	7-1/8	16	2-1/2	10	3	2	--	16d	2	10d	Lbs	5395	5140	4435	4665	--	5940	--
															kN	24.00	22.86	19.73	20.75	--	26.42	--
	PHXU7116	GLTV416-2, WPI416-2	x	7	7-1/8	16	3-1/4	13-1/8	2-1/2	4	4	16d	6	10d	Lbs	9575	8330	9575	8280	--	10550	2355
															kN	42.59	37.05	42.59	36.83	--	46.93	10.48
	HLBH7116	HGLTV416-2	x	7	7-1/8	16	6	12	3-1/8	3	12	NA16D-RS	6	16d	Lbs	15295	14935	13825	9310	--	12435	2745
															kN	68.04	66.43	61.50	41.41	--	55.31	12.21
7 x 18	BPH7118	B7.12/18	x	12	7-1/8	18	3	--	2-3/16	4	6	16d	6	10d	Lbs	5300	5060	5435	4305	--	5485	2935
															kN	23.58	22.51	24.18	19.15	--	24.40	13.06
	HBPH7118	HB7.12/18	x	10	7-1/8	18	3-1/2	--	3	6	16	16d	10	16d	Lbs	10405	10405	10405	8635	--	10405	5620
															kN	46.28	46.28	46.28	38.41	--	46.28	25.00
	PHM3518-2	--	x	7/10	7-1/8	18	2-1/2	10	3	2	--	16d	2	10d	Lbs	5395	5140	4435	4665	--	5940	--
															kN	24.00	22.86	19.73	20.75	--	26.42	--
	PHXU7118	GLTV418-2, HWI418-2	x	7	7-1/8	18	3-1/4	13-1/8	2-1/2	4	4	16d	6	10d	Lbs	9575	8330	9575	8280	--	10550	2355
															kN	42.59	37.05	42.59	36.83	--	46.93	10.48
	HLBH7118	HGLTV418-2	x	7	7-1/8	18	6	12	3-1/8	3	12	NA16D-RS	6	16d	Lbs	15295	14935	13825	9310	--	12435	2745
															kN	68.04	66.43	61.50	41.41	--	55.31	12.21

1) Factored uplift resistance has been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) When I-joist is used as a header, all header nails must be 10d (0.148") x 1-1/2.
3) When I-Joists with flanges less than 1-1/2" thick are used as headers, the reduction factor for 1-1/4" flange is 0.69 and 0.84 for 1-3/8" flange.
4) **NAILS:** 10d nails are 0.148" dia. x 3" long, NA16D-RS nails are 0.148" dia. x 3-1/2" long, 16d nails are 0.162" dia. x 3-1/2" long.
Vertical downward loads address hanger/header/fastener limitations only. Refer to the EWP manufacturer for joist limitations.



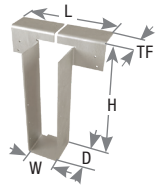
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Top Mount Hanger Charts

Joist Size	MiTek Stock No.	Ref. No.	Web Stiff Reqd	Ga.	Dimensions (in)					Fastener Schedule[4]					Unit	Factored Resistance						
										Header			Joist			Header Material (100%)						Uplift[1]
					W	H	D	L	TF	Top Qty	Face Qty	Type[2]	Qty	Type		LVL	PSL	LSL	SPF	D Fir-L I-Joist[2,3]	D Fir-L	D Fir-L 115%
7 x 20	BPH7120	B7.12/20	x	12	7-1/8	20	3	--	2-3/16	4	6	16d	6	10d	Lbs	5300	5055	5435	4305	--	5485	2935
															kN	23.58	22.49	24.18	19.15	--	24.40	13.06
	HBPH7120	HB7.12/20	x	10	7-1/8	20	3-1/2	--	3	6	16	16d	10	16d	Lbs	10405	10405	10405	8635	--	10405	5620
															kN	46.28	46.28	46.28	38.41	--	46.28	25.00
	PHM3520-2	--	x	7/10	7-1/8	20	2-1/2	10	3	2	--	16d	2	10d	Lbs	5395	5140	4435	4665	--	5940	--
															kN	24.00	22.86	19.73	20.75	--	26.42	--
	PHXU7120	GLTV420-2	x	7	7-1/8	20	3-1/4	13-1/8	2-1/2	4	4	16d	6	10d	Lbs	9575	8330	9575	8280	--	10550	2355
															kN	42.59	37.05	42.59	36.83	--	46.93	10.48
	HLBH7120	--	x	7	7-1/8	20	6	12	3-1/8	3	12	NA16D-RS	6	16d	Lbs	15295	14935	13825	9310	--	12435	2745
															kN	68.04	66.43	61.50	41.41	--	55.31	12.21
7 x 22	BPH7122	B7.12/22	x	12	7-1/8	22	3	--	2-3/16	4	6	16d	6	10d	Lbs	5300	5055	5435	4305	--	5485	2935
															kN	23.58	22.49	24.18	19.15	--	24.40	13.06
	HBPH7122	HB7.12/22	x	10	7-1/8	22	3-1/2	--	3	6	16	16d	10	16d	Lbs	10405	10405	10405	8635	--	10405	5620
															kN	46.28	46.28	46.28	38.41	--	46.28	25.00
	PHXU7122	HWI422-2	x	7	7-1/8	22	3-1/4	13-1/8	2-1/2	4	4	16d	6	10d	Lbs	9575	8330	9575	8280	--	10550	2355
															kN	42.59	37.05	42.59	36.83	--	46.93	10.48
	HLBH7122	GLTV422-2, HGLTV7.12/22	x	7	7-1/8	22	6	12	3-1/8	3	12	NA16D-RS	6	16d	Lbs	15295	14935	13825	9310	--	12435	2745
															kN	68.04	66.43	61.50	41.41	--	55.31	12.21
7 x 24	BPH7124	B7.12/24	x	12	7-1/8	24	3	--	2-3/16	4	6	16d	6	10d	Lbs	5300	5055	5435	4305	--	5485	2935
															kN	23.58	22.49	24.18	19.15	--	24.40	13.06
	HBPH7124	HB7.12/24	x	10	7-1/8	24	3-1/2	--	3	6	16	16d	10	16d	Lbs	10405	10405	10405	8635	--	10405	5620
															kN	46.28	46.28	46.28	38.41	--	46.28	25.00
	PHXU7124	HWI424-2	x	7	7-1/8	24	3-1/4	13-1/8	2-1/2	4	4	16d	6	10d	Lbs	9575	8330	9575	8280	--	10550	2355
															kN	42.59	37.05	42.59	36.83	--	46.93	10.48
	HLBH7124	GLTV424-2, HGLTV7.12/24	x	7	7-1/8	24	6	12	3-1/8	3	12	NA16D-RS	6	16d	Lbs	15295	14935	13825	9310	--	12435	2745
															kN	68.04	66.43	61.50	41.41	--	55.31	12.21
7 x 26	HBPH7126	HB7.12/26	x	10	7-1/8	26	3-1/2	--	3	6	16	16d	10	16d	Lbs	10405	10405	10405	8635	--	10405	5620
															kN	46.28	46.28	46.28	38.41	--	46.28	25.00
	PHXU7126	B7.12/26, HWI426-2	x	7	7-1/8	26	3-1/4	13-1/8	2-1/2	4	4	16d	6	10d	Lbs	9575	8330	9575	8280	--	10550	2355
															kN	42.59	37.05	42.59	36.83	--	46.93	10.48
	HLBH7126	GLTV426-2, HGLTV426-2	x	7	7-1/8	26	6	12	3-1/8	3	12	NA16D-RS	6	16d	Lbs	15295	14935	13825	9310	--	12435	2745
															kN	68.04	66.43	61.50	41.41	--	55.31	12.21
7 x 28	HBPH7128	HB7.12/28	x	10	7-1/8	28	3-1/2	--	3	6	16	16d	10	16d	Lbs	10405	10405	10405	8635	--	10405	5620
															kN	46.28	46.28	46.28	38.41	--	46.28	25.00
	PHXU7128	B7.12/28, HWI428-2	x	7	7-1/8	28	3-1/4	13-1/8	2-1/2	4	4	16d	6	10d	Lbs	9575	8330	9575	8280	--	10550	2355
															kN	42.59	37.05	42.59	36.83	--	46.93	10.48
	HLBH7128	GLTV428-2, HGLTV428-2	x	7	7-1/8	28	6	12	3-1/8	3	12	NA16D-RS	6	16d	Lbs	15295	14935	13825	9310	--	12435	2745
															kN	68.04	66.43	61.50	41.41	--	55.31	12.21
7 x 30	PHXU7130	HWI430-2	x	7	7-1/8	30	3-1/4	13-1/8	2-1/2	4	4	16d	6	10d	Lbs	9575	8330	9575	8280	--	10550	2355
															kN	42.59	37.05	42.59	36.83	--	46.93	10.48
	HLBH7130	GLTV430-2, HGLTV430-2	x	7	7-1/8	30	6	12	3-1/8	3	12	NA16D-RS	6	16d	Lbs	15295	14935	13825	9310	--	12435	2745
															kN	68.04	66.43	61.50	41.41	--	55.31	12.21
7 x 32	PHXU7132	HWI432-2	x	7	7-1/8	32	3-1/4	13-1/8	2-1/2	4	4	16d	6	10d	Lbs	9575	8330	9575	8280	--	10550	2355
															kN	42.59	37.05	42.59	36.83	--	46.93	10.48
	HLBH7132	GLTV432-2, HGLTV432-2	x	7	7-1/8	32	6	12	3-1/8	3	12	NA16D-RS	6	16d	Lbs	15295	14935	13825	9310	--	12435	2745
															kN	68.04	66.43	61.50	41.41	--	55.31	12.21

1) Factored uplift resistance has been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) When I-joist is used as a header, all header nails must be 10d (0.148") x 1-1/2.
3) When I-Joists with flanges less than 1-1/2" thick are used as headers, the reduction factor for 1-1/4" flange is 0.69 and 0.84 for 1-3/8" flange.
4) **NAILS:** 10d nails are 0.148" dia. x 3" long, NA16D-RS nails are 0.148" dia. x 3-1/2" long, 16d nails are 0.162" dia. x 3-1/2" long.
Vertical downward loads address hanger/header/fastener limitations only. Refer to the EWP manufacturer for joist limitations.



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LGU / MGU / HGU Face Mount Heavy Duty SCL Hangers

LGU, **MGU**, and **HGU**'s are high capacity girder to girder face mount connectors. Fastens with MiTek's WS structural wood screws for ease of installation. Fasteners are placed high on connector to permit the connection of a deep carried member to a shallower carrying member. Very useful where tops of beams must be flush.

Materials: LGU / MGU – 10 gauge; HGU – 7 gauge

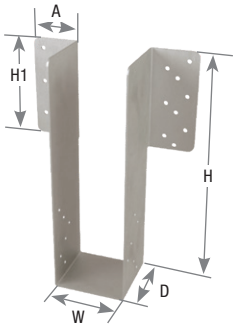
Finish: G90 galvanizing

Options: See Specialty Options Chart below

Codes: Load values are derived from data submitted to various North American building code evaluators



Typical LGU, MGU, HGU installation



LGU, MGU, HGU

Installation:

- Use all specified fasteners. See Product Notes, page 16.
- Install with MiTek's WS structural wood screws supplied with connector.
- Beams comprised of multiple plies must be laminated to act as a single member.
- Multi-ply carrying beams may require additional connection of laminations at connector.
- Beam height dimension (H) must be specified when ordering.

Beam Width (in)	MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in)					Fastener Schedule[3]			D Fir-L Factored Resistance				S-P-F Factored Resistance			
												Lbs		kN		Lbs		kN	
				W	H[2] (min)	H1	D	A	Header Qty	Truss Qty	Type	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%
3-1/2	LGU363	LGU3.63-SDS	10	3-5/8	8	7-3/8	4-1/2	3-1/4	18	12	WS3	10760	6980	47.86	31.05	8655	6305	38.50	28.05
	MGU363	MGU3.63-SDS	10	3-5/8	9-1/4	8-5/8	4-1/2	4	24	16	WS3	17465	8555	77.69	38.05	14055	7730	62.52	34.38
	HGU363	HGU3.63-SDS	7	3-5/8	11	10-3/8	5-1/4	4-3/4	38	24	WS3	20240	11355	90.03	50.51	20240	11355	90.03	50.51
5-1/4	MGU550	MGU5.50-SDS	10	5-1/2	9-1/4	8-5/8	4-1/2	4	24	16	WS3	17465	8555	77.69	38.05	14055	7730	62.52	34.38
	HGU550	HGU5.50-SDS	7	5-1/2	11	10-3/8	5-1/4	4-3/4	38	24	WS3	20240	11355	90.03	50.51	20240	11355	90.03	50.51
7	HGU725	HGU7.25-SDS	7	7-1/4	11	10-3/8	5-1/4	4-3/4	38	24	WS3	20240	11355	90.03	50.51	20240	11355	90.03	50.51
8-3/4	HGU900	HGU9.00-SDS	7	9	11	10-3/8	5-1/4	4-3/4	38	24	WS3	20240	11355	90.03	50.51	20240	11355	90.03	50.51

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) H denotes minimum hanger height. Specify height when ordering.
3) MiTek's WS3 structural wood screws are 1/4" dia. x 3" long and are included in hangers.

Specialty Options Chart

– refer to Specialty Options pages 294-295 for additional details

Option	MiTek Series	Skewed[1,4,5]	Inverted Flange[2,3]
Range	LGU, MGU, HGU	1˚ to 45˚	One Inverted-Flange option available on some sizes. See footnotes 2 and 3.
Factored Resistance	LGU	55% of table value. 30% of uplift.	100% of table value
	MGU	65% of table value. 30% of uplift.	
	HGU	70% of table value. 30% of uplift.	
Ordering	LGU, MGU, HGU	Add *SK*, angle required, right *(R)* or left *(L)*, and bevel cut *(BV)* to product number. Ex. LGU525_H=18_SK45R_BV	Add *IF* and right *(R)* or left *(L)* to product number. Ex. LGU525_H=18_IFR

1) Skewed hangers with skews greater than 15° may have all joist fasteners on outside flange.
2) One inverted-flange (IF) is available on the following sizes: LGU363, MGU550, HGU550, HGU725, HGU900.
3) The inverted flange option is not available on skewed LGU, MGU or HGU hangers.
4) Bevel cut rquired on skewed parts to meet table loads.
5) Square cut option may be available as a Custom, contact MiTek.

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KEGQ Heavy Duty SCL Hangers

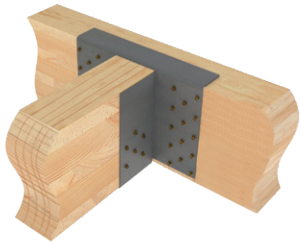
MiTek's WS structural wood screw fastening, heavy steel construction, and a continuous top flange allow the KEGQ products to have high load capacities.

Materials: See chart

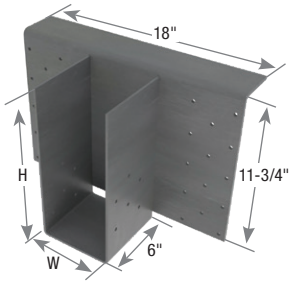
Finish: Primer

Installation:

- Install with MiTek WS structural wood screws.
- MiTek's WS3 structural wood screws, ¼" dia. x 3" long, are supplied with KEGQ hangers.
- **Minimum header height (H) is 11-7/8".**
- Beam height dimension (H) must be specified when ordering.



Typical KEGQ550 installation



KEGQ550

Joist or Purlin Size	MiTek Stock No.	Ref. No	Steel Ga.		Dimensions (in)		Fastener Schedule[3]				Unit	D Fir-L Factored Resistance		S-P-F Factored Resistance	
							Header		Joist						
			Top Flange	U-Strap	W	H[2]	Qty	Type	Qty	Type		Vertical 100%	Uplift 115%[1]	Vertical 100%	Uplift 115%[1]
3-1/2	KEGQ362	EGQ3.62-SDS3	3	7	3-5/8	specify	28	WS3	12	WS3	Lbs	30875	9730	24235	7640
											kN	137.34	43.28	107.80	33.98
5-1/4	KEGQ550	EGQ5.50-SDS3	3	7	5-1/2	specify	28	WS3	12	WS3	Lbs	30875	17270	24235	13555
											kN	137.34	76.82	107.80	60.30
7	KEGQ725	EGQ7.25-SDS3	3	7	7-1/4	specify	28	WS3	12	WS3	Lbs	30875	17270	24235	13555
											kN	137.34	76.82	107.80	60.30

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accorandance with the code.
2) "Specify" denotes the required supported beam height that must be specified at the time of ordering, with 11" being the minimum.
3) WS3 Wood Screws are 1/4" dia. x 3" long and are included with KEGQ hangers.

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TMP / TMPH Adjustable Rafter-To-Plate Connectors

The TMP and TMPH are designed to make rafter-to-plate connections and eliminate time-consuming bird's-mouth notching or bevel plate installation. Both series are available in I-Joists sizes, as well as standard 2x sizes.

TMP – Adjusts to pitches from 1/12 to 6/12

TMPH – Adjusts to pitches from 6/12 to 14/12

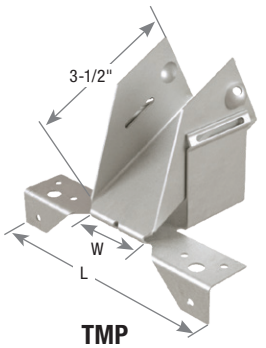
Materials: TMP – 18 gauge;
TMPH – 16 gauge, Fulcrum – 12 gauge

Finish: G90 galvanizing

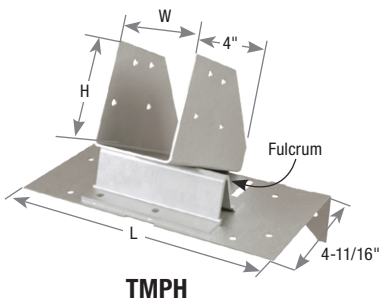
Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:

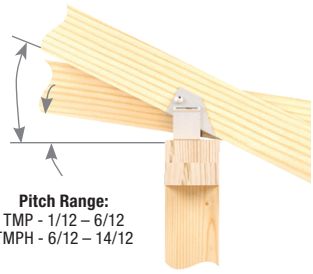
- Use all specified fasteners. See Product Notes, page 16.
- Position connector on top plate. Fasten connector to outside of top plate with specified nails. Insert rafter into rafter pocket. Adjust rafter and pocket to correct pitch. Fasten rafter to connector with specified nails. Installing the TMP requires driving specified nails through the opposing slots in the pocket. TMPH installation involves sliding the fulcrum until it supports the pocket at the desired pitch and nailing down through the fulcrum base into the top plate to lock the fulcrum into position.



TMP



TMPH




Typical TMP installation


Typical TMPH installation

Rafter Width (in)	MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in)		Fastener Schedule[2]				Unit	D Fir-L Factored Resistance		S-P-F Factored Resistance	
						Plate		Rafter						
				W	L	Qty	Type	Qty	Type		Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%
1-1/2	TMP2	VPA2	18	1-9/16	5-9/16	6	10d	4	10d x 1-1/2	Lbs	1390	400	1090	315
										kN	6.18	1.78	4.85	1.40
1-3/4	TMP175	VPA25	18	1-13/16	5-9/16	6	10d	4	10d x 1-1/2	Lbs	1620	400	1270	315
										kN	7.20	1.78	5.65	1.40
2 or 2-1/8	TMP21	VPA2.06, VPA2.1	18	2-1/8	6-3/8	6	10d	4	10d x 1-1/2	Lbs	1815	400	1425	315
										kN	8.07	1.78	6.34	1.40
2-5/16	TMP23	VPA35	18	2-3/8	6-3/8	6	10d	4	10d x 1-1/2	Lbs	2770	400	2175	315
										kN	12.32	1.78	9.67	1.40
2-1/2 or 2-5/8	TMP25	VPA3	18	2-11/16	6-3/8	6	10d	4	10d x 1-1/2	Lbs	2770	400	2175	315
										kN	12.32	1.78	9.67	1.40
3	TMP31	--	18	3-1/8	7-5/16	6	10d	4	10d x 1-1/2	Lbs	2770	400	2175	315
										kN	12.32	1.78	9.67	1.40
3-1/2	TMP4	VPA4	18	3-9/16	7-5/16	6	10d	4	10d x 1-1/2	Lbs	2770	400	2175	315
										kN	12.32	1.78	9.67	1.40

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; no further increase is allowed.
2) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long, 10d nails are 0.148" dia. x 3" long.

Rafter Width (in)	MiTek Stock No.	Ref. No.	Dimensions (in)			Fastener Schedule[3]				Unit	D Fir-L Factored Resistance						S-P-F Factored Resistance					
						Plate		Rafter[2]			According to Pitch					Uplift[1] 115%	According to Pitch					Uplift[1] 115%
			W	H	L	Qty	Type	Qty	Type		6/12	7/12	8/12	10/12	12/12		6/12	7/12	8/12	10/12	12/12	
1-1/2	TMPH2	VPA2	1-9/16	2-1/2	6-9/16	10	10d	8	10d x 1-1/2	Lbs	5220	5385	5540	4470	4120	375	4100	4225	4350	3510	3235	295
										kN	23.22	23.95	24.64	19.88	18.33	1.67	18.24	18.79	19.35	15.61	14.39	1.31
1-3/4	TMPH175	VPA25	1-13/16	2-3/8	6-9/16	10	10d	8	10d x 1-1/2	Lbs	5220	5385	5540	4470	4120	375	4100	4225	4350	3510	3235	295
										kN	23.22	23.95	24.64	19.88	18.33	1.67	18.24	18.79	19.35	15.61	14.39	1.31
2 or 2-1/8	TMPH21	VPA2.06, VPA2.1	2-1/8	2-5/8	7-3/8	10	10d	8	10d x 1-1/2	Lbs	5220	5385	5540	4470	4120	375	4100	4225	4350	3510	3235	295
										kN	23.22	23.95	24.64	19.88	18.33	1.67	18.24	18.79	19.35	15.61	14.39	1.31
2-5/16	TMPH23	VPA35	2-3/8	2-1/2	7-3/8	10	10d	8	10d x 1-1/2	Lbs	5220	5385	5540	4470	4120	375	4100	4225	4350	3510	3235	295
										kN	23.22	23.95	24.64	19.88	18.33	1.67	18.24	18.79	19.35	15.61	14.39	1.31
2-1/2 or 2-5/8	TMPH25	VPA3	2-11/16	2-5/16	7-3/8	10	10d	8	10d x 1-1/2	Lbs	5220	5385	5540	4470	4120	375	4100	4225	4350	3510	3235	295
										kN	23.22	23.95	24.64	19.88	18.33	1.67	18.24	18.79	19.35	15.61	14.39	1.31
3	TMPH31	--	3-1/8	2-11/16	8-9/16	10	10d	8	10d x 1-1/2	Lbs	5220	5385	5540	4470	4120	375	4100	4225	4350	3510	3235	295
										kN	23.22	23.95	24.64	19.88	18.33	1.67	18.24	18.79	19.35	15.61	14.39	1.31
3-1/2	TMPH4	VPA4	3-9/16	2-1/2	8-9/16	10	10d	8	10d x 1-1/2	Lbs	5220	5385	5540	4470	4120	375	4100	4225	4350	3510	3235	295
										kN	23.22	23.95	24.64	19.88	18.33	1.67	18.24	18.79	19.35	15.61	14.39	1.31

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; no further increase is allowed.
2) Web stiffeners are required for all Wood I-Joist installations.
3) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long, 10d nails are 0.148" dia. x 3" long.

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LSSH Slope/Skew Hangers

The LSSH series connects rafters to ridge beams in vaulted roof structures. This series is field adjustable to meet a variety of skew and/or slope applications. Slopes and skews 0° to 45°.

Materials: See chart

Finish: G-185 Galvanizing

Options: See chart for Corrosion Finish Options

Codes: Factored resistances are derived from data submitted to various North American building code evaluators

Installation:

- Use all specified fasteners. See Product Notes, page 16.

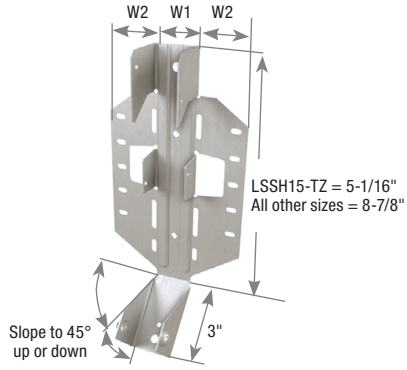
Steps:

1. Position LSSH connector against plumb-cut end of joist. Fasten joist side flanges on both sides with 10d (0.148") x 1-1/2" HDG nails. Bend seat up to fit against joist bottom and drive (1) 10d (0.148") x 1-1/2" HDG nail through bottom seat into rafter bottom. Drive (2) 10d (0.148") x 1-1/2" HDG nails at downward angle through dimpled nailing guides.
2. Lean connector and rafter end against ridge beam at desired position. Install specified 10d (0.148" x 3") or 16d (0.162" x 3-1/2") HDG nails through nail holes into ridge beam at right 90° angle. If skewing the rafter, only drive nails into ridge beam on inside flange.
3. Bend flange to desired angle.
4. Hammer outside flange until edge touches header. Fasten outside flange to ridge by driving specified 10d (0.148" x 3") or 16d (0.162" x 3-1/2") HDG nails through nail holes.

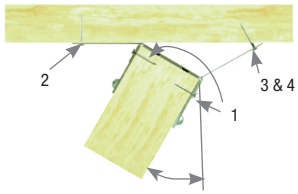
- Web stiffeners are required for all wood I-Joist installations.
- Designer may consider adding a tension restraint for the supported member for roof slopes exceeding 6/12. Refer to pages 120-121.



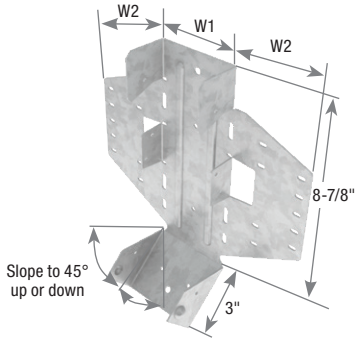
Typical LSSH179-TZ installation



LSSH210-TZ



Skew to 45° maximum



LSSH35-TZ

Rafter Width (in)	MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in) W1	W2	H	Fastener Schedule[2,3] Header Qty	Header Type	Rafter Qty	Rafter Type	D Fir-L Factored Resistance Lbs Vertical 100%	Lbs Uplift[1] 115%	kN Vertical 100%	kN Uplift[1] 115%	S-P-F Factored Resistance Lbs Vertical 100%	Lbs Uplift[1] 115%	kN Vertical 100%	kN Uplift[1] 115%	Corrosion Finish
SLOPED ONLY HANGERS																			
1-1/2	LSSH15-TZ	LSSJ26LZ, LSSJ26RZ, LSSJ28LZ, LSSJ28RZ	18	1-9/16	1-3/4	5-1/16	6	10d HDG	7	10d x 1-1/2 HDG	1520	870	6.76	3.87	1300	835	5.78	3.71	
1-1/2	LSSH210-TZ	LSSJ210LZ, LSSJ210RZ	18	1-9/16	1-3/4	8-13/16	10	10d HDG	7	10d x 1-1/2 HDG	2460	1565	10.94	6.96	2020	1430	8.99	6.36	
1-3/4	LSSH179-TZ	LSSR1.81Z	18	1-13/16	1-5/8	8-13/16	10	10d HDG	7	10d x 1-1/2 HDG	2460	1565	10.94	6.96	2020	1430	8.99	6.36	
2 - 2-1/8	LSSH20-TZ	LSSR2.1Z	18	2-1/8	2-1/2	8-13/16	10	10d HDG	7	10d x 1-1/2 HDG	2065	1415	9.19	6.29	1685	1300	7.50	5.78	
2-1/4 - 2-5/16	LSSH23-TZ	LSSR2.37Z	18	2-5/16	2-3/8	8-13/16	10	10d HDG	7	10d x 1-1/2 HDG	2065	1415	9.19	6.29	1685	1300	7.50	5.78	
2-1/2	LSSH25-TZ	LSSR2.56Z	16	2-9/16	2-3/4	8-13/16	18	16d HDG	12	10d x 1-1/2 HDG	3735	1705	16.61	7.58	2980	1575	13.26	7.01	
2-5/8	LSSH26-TZ	--	16	2-11/16	2-5/8	8-13/16	18	16d HDG	12	10d x 1-1/2 HDG	3735	1705	16.61	7.58	2980	1575	13.26	7.01	
3	LSSH31-TZ	LSSR210-2Z	16	3-1/8	3-3/4	8-13/16	18	16d HDG	12	10d x 1-1/2 HDG	4505	2315	20.04	10.30	3860	2145	17.17	9.54	
3-1/2	LSSH35-TZ	LSSR410Z	16	3-9/16	3-1/2	8-13/16	18	16d HDG	12	10d x 1-1/2 HDG	4505	2315	20.04	10.30	3860	2145	17.17	9.54	
SKEWED HANGERS or SLOPED & SKEWED HANGERS																			
1-1/2	LSSH15-TZ	LSSJ26LZ, LSSJ26RZ, LSSJ28LZ, LSSJ28RZ	18	1-9/16	1-3/4	5-1/16	6	10d HDG	7	10d x 1-1/2 HDG	930	785	4.14	3.49	820	755	3.65	3.36	
1-1/2	LSSH210-TZ	LSSJ210LZ, LSSJ210RZ	18	1-9/16	1-3/4	8-13/16	10	10d HDG	7	10d x 1-1/2 HDG	2460	1565	10.94	6.96	2020	1430	8.99	6.36	
1-3/4	LSSH179-TZ	LSSR1.81Z	18	1-13/16	1-5/8	8-13/16	10	10d HDG	7	10d x 1-1/2 HDG	2460	1565	10.94	6.96	2020	1430	8.99	6.36	
2 - 2-1/8	LSSH20-TZ	LSSR2.1Z	18	2-1/8	2-1/2	8-13/16	10	10d HDG	7	10d x 1-1/2 HDG	2065	1415	9.19	6.29	1685	1300	7.50	5.78	
2-1/4 - 2-5/16	LSSH23-TZ	LSSR2.37Z	18	2-5/16	2-3/8	8-13/16	10	10d HDG	7	10d x 1-1/2 HDG	2065	1415	9.19	6.29	1685	1300	7.50	5.78	
2-1/2	LSSH25-TZ	LSSR2.56Z	16	2-9/16	2-3/4	8-13/16	14	16d HDG	12	10d x 1-1/2 HDG	2245	1705	9.99	7.58	1830	1575	8.14	7.01	
2-5/8	LSSH26-TZ	--	16	2-11/16	2-5/8	8-13/16	14	16d HDG	12	10d x 1-1/2 HDG	2245	1705	9.99	7.58	1830	1575	8.14	7.01	
3	LSSH31-TZ	LSSR210-2Z	16	3-1/8	3-3/4	8-13/16	14	16d HDG	12	10d x 1-1/2 HDG	2670	2315	11.88	10.30	2195	2145	9.76	9.54	
3-1/2	LSSH35-TZ	LSSR410Z	16	3-9/16	3-1/2	8-13/16	14	16d HDG	12	10d x 1-1/2 HDG	2670	2315	11.88	10.30	2195	2145	9.76	9.54	

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; no further increase allowed.
2) For interior dry applications with use of untreated wood, standard bright nails are acceptable.
3) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long, 10d nails are 0.148" dia. x 3" long, 16d nails are 0.162" dia. x 3-1/2" long.
New products or updated product information are designated in blue font.

Corrosion Finish Key
Stainless Steel
HDG Triple Zinc

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HD / HDQ / THDH Glulam Face Mount Hangers

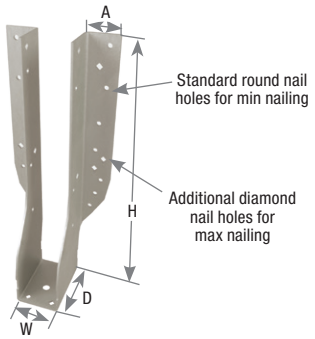
Materials: HD/HDQ — 14 gauge; THDH — 12 gauge;
Finish: G90 galvanizing
Options: See HD/THDH Specialty Options Chart on page 213
Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:

- Use all specified fasteners. See Product Notes, page 16.
- **HD Min Nailing** – Fill all round nail holes.
- **HD Max Nailing** – Fill all round and diamond nail holes.
- MiTek WS3 (1/4" dia. x 3" long) structural wood screws are supplied with HDQIF hangers.
- THDH – Drive joist nails into header at 30° to 45° to achieve listed loads.



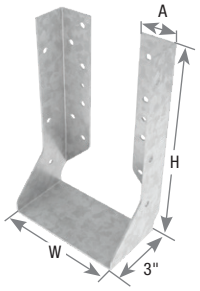
Typical HD installation



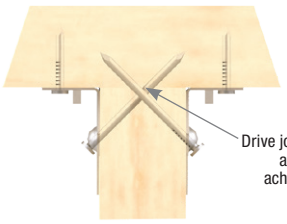
HD



Typical HDQIF inverted flange installation



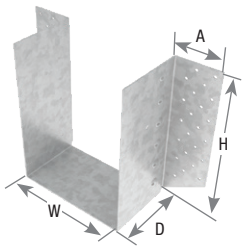
HDQIF



Typical THDH double shear installation



Typical THDH installation



THDH6710

Continued on next page

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Glulam Size	MiTek Stock No.	Ref. No.	GA	Dimensions (in)				Fastener Schedule[2,3]					D Fir-L Factored Resistance				S-P-F Factored Resistance			
									Header		Joist		Lbs		kN		Lbs		kN	
				W	H	D	A	Min/ Max	Qty	Type	Qty	Type	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%
3-1/8	HD32105	HU3.25/10.5	14	3-1/4	9-15/16	2-1/2	1-1/8	Min	16	16d	6	10d	5030	2460	22.37	10.94	4180	2200	18.59	9.79
								Max	22		10		5870	4070	26.11	18.10	4625	3640	20.57	16.19
	HD3212	HU3.25/12	14	3-1/4	11-7/8	2-1/2	1-1/8	Min	18	16d	8	10d	5030	2775	22.37	12.34	4180	2600	18.59	11.57
								Max	26		12		7670	4070	34.12	18.10	6430	3640	28.60	16.19
	HDQ210-2IF	HUCQ210-2-SDS	14	3-1/4	9	3	1-1/2	--	12	WS3	6	WS3	8460	4970	37.63	22.11	7385	4335	32.85	19.28
	THDH3210	HGUS3.25/10	12	3-1/4	9-3/8	4	2-1/2	--	46	16d	12	16d	12430	7575	55.29	33.70	9725	7345	43.26	32.67
	THDH3212	HGUS3.25/12	12	3-1/4	10-5/8	4	2-1/2	--	56	16d	14	16d	14330	10030	63.74	44.62	12265	8775	54.56	39.03
5-1/8	HD5112	HU5.125/12	14	5-1/4	9-15/16	2-1/2	1-1/8	Min	16	16d	8	16d	5030	2460	22.37	10.94	4180	2200	18.59	9.79
								Max	24		12		5870	4070	26.11	18.10	4625	3640	20.57	16.19
	HD51135	HU5.125/13.5	14	5-1/4	12-15/16	2-1/2	1-1/8	Min	20	16d	10	16d	5870	4070	26.11	18.10	4625	3640	20.57	16.19
								Max	28		14		7690		34.21		6510		28.96	
	HDQ5210IF	HUCQ5.25/9-SDS	14	5-1/4	9	3	1-1/2	--	12	WS3	6	WS3	8460	4970	37.63	22.11	7385	4335	32.85	19.28
	HDQ5212IF	HUCQ5.25/11-SDS	14	5-1/4	11	3	1-1/2	--	14	WS3	6	WS3	8135	5220	36.19	23.22	6545	4965	29.11	22.09
6-3/4	THDH6710	HGUS6.88/10	12	6-7/8	8-13/16	4	2-1/2	--	46	16d	12	16d	12470	7575	55.47	33.70	9730	7215	43.28	32.09
	THDH6712	HGUS6.88/12	12	6-7/8	10-13/16	4	2-1/2	--	56	16d	14	16d	12470	9820	55.47	43.68	9730	8590	43.28	38.21
	THDH6714	HGUS6.88/14	12	6-7/8	12-13/16	4	2-1/2	--	66	16d	16	16d	17720	10790	78.82	48.00	15330	9440	68.19	41.99

1) Factored uplift resistance has been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) MiTek's WS3 (1/4" dia. x 3" long) structural wood screws are included with HDQ hangers.
3) **NAILS:** 10d nails are 0.148" dia. x 3" long, 16d nails are 0.162" dia. x 3-1/2" long.
New products or updated product information are designated in blue font.

HD / THDH Specialty Options Chart – Refer to Specialty Options pages 294-295 for additional details

Option	MiTek series	Skewed[1,3,4]	Sloped Seat[2,3]	Sloped / Skewed[1,2,3,4]
Range	HD	1˚ to 50˚	1˚ to 45˚	See Sloped Seat and Skewed
	THDH	1˚ to 45˚		
Factored Resistance	HD	100% of table load. 75% of uplift load on skews greater than 15˚	100% of table load	80% of table load. 75% of uplift load on skews greater than 15˚
	THDH	85% of table load. 50% of table uplift load	85% of table load	52% of table load. 50% of table uplift load
Ordering	HD / THDH	Add *SK,* angle required, right *(R)* or left *(L), and* square cut *(SQ) or* bevel cut *(BV)* to product number. Example: THDH3210_SK45R_SQ	Add *SL,* slope required, and up *(U)* or down *(D),* to product number. Example: HD5112_SL30D	See Sloped Seat and Skewed Example: HD3212_SK45R_SQ_SL30D

1) Skewed hangers with skews greater than 15° may have all joist nailing on outside flange.
2) Sloped or sloped / skewed hangers with slopes greater than 15° may have additional joist nails.
3) For skewed hangers, the required cut type (square or bevel) of joist member may vary based on skew angle and width of hanger. Some square cut hangers will require custom pricing due to welded back plate.
4) HD option hangers may be manufactured as welded products to achieve listed loads. Welded products have a primer finish.

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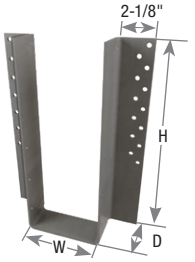
GHF Glulam Face Mount Hangers

Materials: See chart
Finish: Primer
Options: See Specialty Options Chart on page 215

Installation:
- Use all specified fasteners. See Product Notes, page 16.
- MiTek's WS structural wood screws are supplied with GHF hangers.



Typical GHF51135 installation



GHF

Glulam Size (in)	MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in)			Fastener Schedule[1]				D Fir-L Factored Resistance				S-P-F Factored Resistance			
							Header		Joist		Lbs		kN		Lbs		kN	
											Floor	Uplift[2]	Floor	Uplift[2]	Floor	Uplift[2]	Floor	Uplift[2]
				W	H	D	Qty	Type	Qty	Type	100%	115%	100%	115%	100%	115%	100%	115%
3-1/8 x 6	GHF31600	--	12	3-3/16	5-7/8	2-3/8	10	WS25	4	WS25	3980	2340	17.70	10.41	3125	1835	13.90	8.16
3-1/8 x 7-1/2	GHF31750	--	12	3-3/16	7-3/8	2-3/8	12	WS25	4	WS25	4770	2340	21.22	10.41	3745	1835	16.66	8.16
3-1/8 x 9	GHF31900	--	12	3-3/16	8-7/8	2-3/8	16	WS25	5	WS25	6360	2920	28.29	12.99	4995	2295	22.22	10.21
3-1/8 x 10-1/2	GHF31105	--	12	3-3/16	10-3/8	2-3/8	20	WS25	6	WS25	7950	3505	35.36	15.59	6240	2755	27.76	12.25
3-1/8 x 12	GHF31120	--	12	3-3/16	11-7/8	2-3/8	22	WS25	6	WS25	8420	3505	37.45	15.59	6610	2755	29.40	12.25
3-1/8 x 13-1/2	GHF31135	--	12	3-3/16	13-3/8	2-3/4	24	WS25	6	WS25	8420	3505	37.45	15.59	6610	2755	29.40	12.25
3-1/8 x 15	GHF31150	--	12	3-3/16	14-7/8	2-3/4	26	WS25	7	WS25	9770	4100	43.46	18.24	7670	3220	34.12	14.32
3-1/8 x 16-1/2	GHF31165	--	12	3-3/16	16-3/8	2-3/4	28	WS25	9	WS25	10565	5270	47.00	23.44	8295	4135	36.90	18.39
3-1/8 x 18	GHF31178	--	12	3-3/16	17-3/4	2-3/4	30	WS25	11	WS25	11360	6435	50.53	28.62	8920	5055	39.68	22.49
3-1/4 x 9	GHF32900	--	12	3-5/16	8-7/8	2-3/8	16	WS25	5	WS25	6360	2920	28.29	12.99	4995	2295	22.22	10.21
3-1/4 x 12	GHF32120	--	12	3-5/16	11-7/8	2-3/8	22	WS25	6	WS25	8420	3505	37.45	15.59	6610	2755	29.40	12.25
5-1/8 x 6	GHF51600	--	12	5-3/16	5-7/8	2-3/8	10	WS3	4	WS3	3980	2340	17.70	10.41	3125	1835	13.90	8.16
5-1/8 x 7-1/2	GHF51750	--	12	5-3/16	7-3/8	2-3/8	14	WS3	4	WS3	5570	2340	24.78	10.41	4370	1835	19.44	8.16
5-1/8 x 9	GHF51900	--	12	5-3/16	8-7/8	2-3/8	18	WS3	5	WS3	7160	2920	31.85	12.99	5620	2295	25.00	10.21
5-1/8 x 10-1/2	GHF51105	--	12	5-3/16	10-3/8	2-3/8	22	WS3	6	WS3	8750	3505	38.92	15.59	6870	2755	30.56	12.25
5-1/8 x 12	GHF51120	--	12	5-3/16	11-7/8	2-3/8	24	WS3	6	WS3	9540	3505	42.44	15.59	7490	2755	33.32	12.25
5-1/8 x 13-1/2	GHF51135	--	7	5-3/16	13-3/8	2-3/8	26	WS3	6	WS3	11800	4010	52.49	17.84	9260	3145	41.19	13.99
5-1/8 x 15	GHF51150	--	7	5-3/16	14-7/8	2-3/4	28	WS3	7	WS3	12705	4675	56.51	20.80	9975	3670	44.37	16.32
5-1/8 x 16-1/2	GHF51165	--	7	5-3/16	16-3/8	2-3/4	30	WS3	7	WS3	13615	4675	60.56	20.80	10685	3670	47.53	16.32
5-1/8 x 18	GHF51178	--	7	5-3/16	17-3/4	2-3/4	32	WS3	8	WS3	14520	5345	64.59	23.78	11400	4195	50.71	18.66
5-1/8 x 19-1/2	GHF51192	--	7	5-3/16	19-1/8	2-3/4	34	WS3	8	WS3	15095	5345	67.15	23.78	11850	4195	52.71	18.66
5-1/8 x 21	GHF51205	--	7	5-3/16	20-3/8	2-3/4	36	WS3	9	WS3	15545	6010	69.15	26.73	12200	4720	54.27	21.00
5-1/8 x 24	GHF51233	--	7	5-3/16	23-1/4	2-3/4	40	WS3	11	WS3	16450	7345	73.17	32.67	12915	5770	57.45	25.67

1) MiTek's WS25 (1/4" dia. x 2-1/2" long) and WS3 (1/4" dia. x 3" long) structural wood screws are included with GHF hangers.
2) Factored uplift resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.

Continued on next page

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Glulam Size (in)	MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in)			Fastener Schedule[1]				D Fir-L Factored Resistance				S-P-F Factored Resistance			
							Header		Joist		Lbs		kN		Lbs		kN	
				W	H	D	Qty	Type	Qty	Type	Floor 100%	Uplift[2] 115%	Floor 100%	Uplift[2] 115%	Floor 100%	Uplift[2] 115%	Floor 100%	Uplift[2] 115%
5-1/4 x 9	GHF52900	--	12	5-5/16	8-7/8	2-3/8	18	WS3	5	WS3	7160	2920	31.85	12.99	5620	2295	25.00	10.21
5-1/4 x 12	GHF52120	--	12	5-5/16	11-7/8	2-3/8	24	WS3	6	WS3	9540	3505	42.44	15.59	7490	2755	33.32	12.25
6-3/4 x 6	GHF67600	--	12	6-7/8	5-7/8	2-3/8	12	WS3	4	WS3	4770	2340	21.22	10.41	3745	1835	16.66	8.16
6-3/4 x 7-1/2	GHF67750	--	12	6-7/8	7-3/8	2-3/8	16	WS3	5	WS3	6360	2920	28.29	12.99	4995	2295	22.22	10.21
6-3/4 x 9	GHF67900	--	12	6-7/8	8-7/8	2-3/8	20	WS3	6	WS3	7950	3505	35.36	15.59	6240	2755	27.76	12.25
6-3/4 x 10-1/2	GHF67105	--	12	6-7/8	10-3/8	2-3/8	24	WS3	8	WS3	9540	4685	42.44	20.84	7490	3675	33.32	16.35
6-3/4 x 12	GHF67120	--	7	6-7/8	11-7/8	2-3/4	28	WS3	8	WS3	12705	5345	56.51	23.78	9975	4195	44.37	18.66
6-3/4 x 13-1/2	GHF67135	--	7	6-7/8	13-3/8	2-3/4	30	WS3	8	WS3	13615	5345	60.56	23.78	10685	4195	47.53	18.66
6-3/4 x 15	GHF67150	--	7	6-7/8	14-7/8	2-3/4	32	WS3	10	WS3	14520	6680	64.59	29.71	11400	5245	50.71	23.33
6-3/4 x 16-1/2	GHF67165	--	7	6-7/8	16-3/8	2-3/4	34	WS3	10	WS3	15430	6680	68.64	29.71	12110	5245	53.87	23.33
6-3/4 x 18	GHF67180	--	7	6-7/8	17-3/4	2-3/4	36	WS3	12	WS3	16335	8015	72.66	35.65	12825	6290	57.05	27.98
6-3/4 x 19-1/2	GHF67195	--	7	6-7/8	19-1/8	3	40	WS3	14	WS3	18150	9350	80.74	41.59	14250	7340	63.39	32.65
6-3/4 x 21	GHF67210	--	7	6-7/8	20-3/8	3	44	WS3	18	WS3	18875	12025	83.96	53.49	14820	9440	65.92	41.99
6-3/4 x 22-1/2	GHF67225	--	7	6-7/8	21-7/8	3	46	WS3	20	WS3	18875	13360	83.96	59.43	14820	10485	65.92	46.64
6-3/4 x 24	GHF67240	--	7	6-7/8	23-1/4	3	48	WS3	22	WS3	18875	14695	83.96	65.37	14820	11535	65.92	51.31

1) MiTek's WS3 structural wood screws are 1/4" dia. x 3" long and are included with GHF hangers.
2) Factored uplift resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.

Specialty Options Chart

– Refer to Specialty Options pages 294-295 for additional details

Option	Skewed[1,3]	Sloped Seat[2]	Sloped / Skewed[1,2]	Inverted Flange
Range	1˚ to 50˚	1˚ to 45˚	See Sloped Seat and Skewed	Not available in widths less than 4-1/2"
Factored Resistance	100% of table load. 75% of uplift load on skews greater than 15˚.	100% of table load	80% of table load 75% of uplift load on skews greater than 15˚.	100% of table load. 65% of table load when fastening into the support members end grain.
Ordering	Add *SK*, angle required, right *(R)* or left *(L)*, and square cut *(SQ)* or bevel cut *(BV)* to product number. Ex. GHF31900_SK45R_BV	Add *SL*, slope required, and up *(U)* or down *(D)*, to product number. Ex. GHF31900_SL30D	See Sloped Seat and Skewed. Ex. GHF31900_SK45R_BV_SL30D	Add *IF* to product number. Ex. GHF51135_IF

1) Skewed hangers with skews greater than 15° may have all joist nailing on outside flange.
2) Sloped or sloped / skewed hangers with slopes greater than 15° may have additional joist nails.
3) Skewed hangers typically require a bevel cut however, a square cut option may be available as a custom when requested.



Typical GHF51135IF inverted flange installation

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LGU / MGU / HGU Face Mount Heavy Duty SCL Hangers

LGU, **MGU**, and **HGU**'s are high capacity girder to girder face mount connectors. Fastens with MiTek's WS structural wood screws for ease of installation. Fasteners are placed high on connector to permit the connection of a deep carried member to a shallower carrying member. Very useful where tops of beams must be flush.

Materials: LGU / MGU – 10 gauge; HGU – 7 gauge

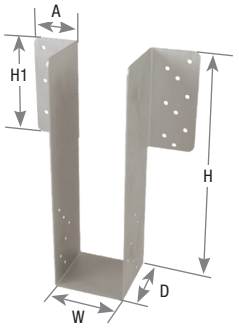
Finish: G90 galvanizing

Options: See Specialty Options Chart

Codes: Load values are derived from data submitted to various North American building code evaluators



Typical LGU, MGU, HGU installation



LGU, MGU, HGU

Installation:

- Use all specified fasteners. See Product Notes, page 16.
- Install with MiTek's WS structural wood screws supplied with connector.
- Beams comprised of multiple plies must be laminated to act as a single member.
- Multi-ply carrying beams may require additional connection of laminations at connector.
- Beam height dimension (H) must be specified when ordering.

Beam Width (in)	MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in)					Fastener Schedule[3]			D Fir-L Factored Resistance				S-P-F Factored Resistance			
												Lbs		kN		Lbs		kN	
				W	H[2] (min)	H1	D	A	Header Qty	Truss Qty	Type	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%
3-1/8	LGU325	LGU3.25-SDS	10	3-1/4	8	7-3/8	4-1/2	3-1/4	18	12	WS3	10760	6980	47.86	31.05	8655	6305	38.50	28.046
3-1/2	LGU363	LGU3.63-SDS	10	3-5/8	8	7-3/8	4-1/2	3-1/4	18	12	WS3	10760	6980	47.86	31.05	8655	6305	38.50	28.046
	MGU363	MGU3.63-SDS	10	3-5/8	9-1/4	8-5/8	4-1/2	4	24	16	WS3	17465	8555	77.69	38.05	14055	7730	62.52	34.385
	HGU363	HGU3.63-SDS	7	3-5/8	11	10-3/8	5-1/4	4-3/4	38	24	WS3	20240	11355	90.03	50.51	20240	11355	90.03	50.51
5-1/8	LGU525	LGU5.25-SDS	10	5-1/4	8	7-3/8	4-1/2	3-1/4	18	12	WS3	10760	6980	47.86	31.05	8655	6305	38.50	28.046
	MGU525	MGU5.25-SDS	10	5-1/4	9-1/4	8-5/8	4-1/2	4	24	16	WS3	17465	8555	77.69	38.05	14055	7730	62.52	34.385
	HGU525	HGU5.25-SDS	7	5-1/4	11	10-3/8	5-1/4	4-3/4	38	24	WS3	20240	11355	90.03	50.51	20240	11355	90.03	50.51
5-1/4	MGU550	MGU5.50-SDS	10	5-1/2	9-1/4	8-5/8	4-1/2	4	24	16	WS3	17465	8555	77.69	38.05	14055	7730	62.52	34.385
	HGU550	HGU5.50-SDS	7	5-1/2	11	10-3/8	5-1/4	4-3/4	38	24	WS3	20240	11355	90.03	50.51	20240	11355	90.03	50.51
5-1/2	MGU562	MGU5.62-SDS	10	5-5/8	9-1/4	8-5/8	4-1/2	4	24	16	WS3	17465	8555	77.69	38.05	14055	7730	62.52	34.385
	HGU562	HGU5.62-SDS	7	5-5/8	11	10-3/8	5-1/4	4-3/4	38	24	WS3	20240	11355	90.03	50.51	20240	11355	90.03	50.51
6-3/4	MGU700	MGU7.00-SDS	10	7	9-1/4	8-5/8	4-1/2	4	24	16	WS3	17465	8555	77.69	38.05	14055	7730	62.52	34.385
	HGU700	HGU7.00-SDS	7	7	11	10-3/8	5-1/4	4-3/4	38	24	WS3	20240	11355	90.03	50.51	20240	11355	90.03	50.51
7	HGU725	HGU7.25-SDS	7	7-1/4	11	10-3/8	5-1/4	4-3/4	38	24	WS3	20240	11355	90.03	50.51	20240	11355	90.03	50.51
8-3/4	HGU900	HGU9.00-SDS	7	9	11	10-3/8	5-1/4	4-3/4	38	24	WS3	20240	11355	90.03	50.51	20240	11355	90.03	50.51

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) H denotes minimum hanger height. Specify height when ordering.
3) MiTek's WS3 structural wood screws are 1/4" dia. x 3" long and are included in hangers.

Specialty Options Chart

– Refer to Specialty Options pages 294-295 for additional details

Option	MiTek Series	Skewed[1,4,5]	Inverted Flange[2,3]
Range	LGU, MGU, HGU	1° to 45°	One Inverted-Flange option available on some sizes. See footnotes 2 and 3.
Factored Resistance	LGU	55% of table value. 30% of uplift.	100% of table value
	MGU	65% of table value. 30% of uplift.	
	HGU	70% of table value. 30% of uplift.	
Ordering	LGU, MGU, HGU	Add *SK*, angle required, right *(R)* or left *(L)*, and bevel cut *(BV)* to product number. Ex. LGU525_H=18_SK45R_BV	Add *IF* and right *(R)* or left *(L)* to product number. Ex. LGU525_H=18_IFR

1) Skewed hangers with skews greater than 15° may have all joist fasteners on outside flange.
2) One inverted-flange (IF) is available on the following sizes: LGU363, LGU525, MGU525, MGU550, MGU563, MGU700, HGU525, HGU550, HGU562, HGU700, HGU725, HGU900.
3) The inverted flange option is not available on skewed LGU, MGU or HGU hangers.
4) Bevel cut rquired on skewed parts to meet table loads.
5) Square cut option may be available as a Custom, contact MiTek.

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KGB / KHGB / KHHB Glulam Top Mount Hangers

These hangers cover medium-to-heavy glulam beam and purlin applications.

KHHB – Medium capacity hanger

KGB – Medium-to-heavy capacity hanger

KHGB – Heavy capacity hanger

Materials: 7 gauge

Finish: Primer

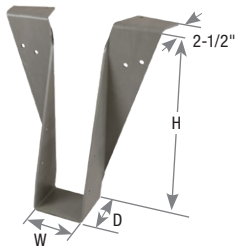
Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:

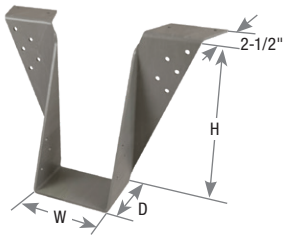
- Use all specified fasteners. See Product Notes, page 16.
- MiTek's WS3 structural wood screws are supplied with hangers.
- Beam height dimension (H) must be specified when ordering.
- **Minimum height (H) is 7-1/2".**
- See Welded Installation chart on page 299.



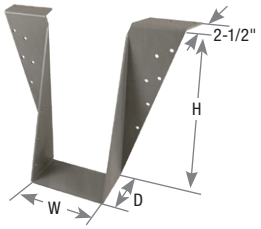
Typical KHHB installation



KHHB



KGB



KHGB

Beam Width (in)	MiTek Stock No.	Ref. No.	GA	Dimensions (in)			Fastener Schedule[4]					Unit	D Fir-L Factored Resistance		S-P-F Factored Resistance	
							Header[3]			Joist						
				W	H[2]	D	Top Qty	Face Qty	Type	Qty	Type		Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%
3-1/8	KHHB3	HHB3	7	3-1/4	specify	3	4	6	WS3	6	WS3	Lbs	9545	3005	7495	2360
												kN	42.46	13.37	33.34	10.50
	KGB3	GB3	7	3-1/4	specify	3-1/2	4	10	WS3	6	WS3	Lbs	10165	3005	7980	2360
												kN	45.22	13.37	35.50	10.50
5-1/8	KHHB5	HHB5	7	5-1/4	specify	3	4	6	WS3	6	WS3	Lbs	9545	3005	7495	2360
												kN	42.46	13.37	33.34	10.50
	KGB5	GB5	7	5-1/4	specify	3-1/2	4	10	WS3	6	WS3	Lbs	10165	3005	7980	2360
												kN	45.22	13.37	35.50	10.50
	KHGB5	HGB5	7	5-1/4	specify	4	4	12	WS3	6	WS3	Lbs	10165	3005	7980	2360
												kN	45.22	13.37	35.50	10.50
6-3/4	KHHB7	HHB7	7	6-7/8	specify	3	4	6	WS3	6	WS3	Lbs	9545	3005	7495	2360
												kN	42.46	13.37	33.34	10.50
	KGB7	GB7	7	6-7/8	specify	3-1/2	4	10	WS3	6	WS3	Lbs	10165	3005	7980	2360
												kN	45.22	13.37	35.50	10.50
	KHGB7	HGB7	7	6-7/8	specify	4	4	12	WS3	6	WS3	Lbs	10165	3005	7980	2360
												kN	45.22	13.37	35.50	10.50

1) Factored uplift resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) "Specify" denotes the required supported beam height must be specified at the time of ordering.
3) Supporting header shall be no less than 3" thick.
4) MiTek's WS3 structural wood screws are 1/4" dia. x 3" long and are included with hangers.

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KGLT / KHGLT Glulam Beam Hangers

These heavy beam hangers are designed for use with glulam and timber beams. The continuous top mount flange offers high load capacity with minimal fastening.

KGLT – Medium capacity hanger

KHGLT – Heavy capacity hanger

Materials: Top Flange – 3 gauge; U-Strap – 7 gauge

Finish: Primer

Options: See Nailer Options chart below and Specialty Options chart on page 219

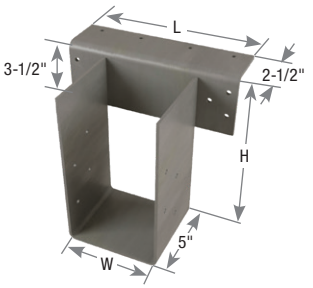
Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:

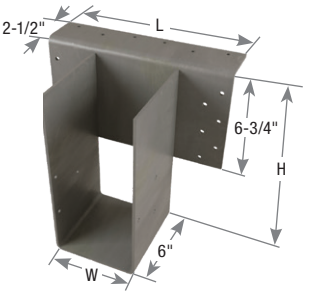
- Use all specified fasteners. See Product Notes, page 16.
- Beam height dimension (H) must be specified when ordering.
- See Welded Installation chart on page 299.



Typical KGLT5 installation



KGLT



KHGLT

Beam Width	MiTek Stock No.	Ref. No.	Top Flange	U-Strap	Dimensions (in) W	Dimensions (in) H[2]	Dimensions (in) L	Fastener Schedule[3] Header Top Qty	Header Face Qty	Header Wood Screw	Joist Qty	Joist Wood Screw	Unit	D Fir-L Factored Resistance Vertical 100%	D Fir-L Factored Resistance Uplift[1] 115%	S-P-F Factored Resistance Vertical 100%	S-P-F Factored Resistance Uplift[1] 115%
3-1/8	KGLT3	--	3	7	3-1/4	specify	10	4	6	WS3	8	WS3	Lbs	15325	4575	12030	3590
													kN	68.17	20.35	53.51	15.97
	KHGLT3	HGLT3	3	7	3-1/4	specify	12	6	12	WS3	6	WS3	Lbs	19455	3875	15275	3040
													kN	86.54	17.24	67.95	13.52
3-1/2	KGLT4	--	3	7	3-5/8	specify	10	4	6	WS3	8	WS3	Lbs	15325	4575	12030	3590
													kN	68.17	20.35	53.51	15.97
	KHGLT4	HGLT4, HGLTV4	3	7	3-5/8	specify	12	6	12	WS3	6	WS3	Lbs	19455	3875	15275	3040
													kN	86.54	17.24	67.95	13.52
5-1/8	KGLT5	--	3	7	5-1/4	specify	10	4	6	WS3	8	WS3	Lbs	15325	4575	12030	3590
													kN	68.17	20.35	53.51	15.97
	KHGLT5	HGLT5, HGLTV5	3	7	5-1/4	specify	12	6	12	WS3	6	WS3	Lbs	19455	3875	15275	3040
													kN	86.54	17.24	67.95	13.52
5-5/16	KHGLT537	HGLTV5.37	3	7	5-3/8	specify	12	6	12	WS3	6	WS3	Lbs	19455	3875	15275	3040
													kN	86.54	17.24	67.95	13.52
5-1/2	KGLT6	--	3	7	5-5/8	specify	12	4	6	WS3	8	WS3	Lbs	15325	4575	12030	3590
													kN	68.17	20.35	53.51	15.97
	KHGLT6	HGLT6, HGLTV6	3	7	5-5/8	specify	12	6	12	WS3	6	WS3	Lbs	19455	3875	15275	3040
													kN	86.54	17.24	67.95	13.52
6-3/4	KGLT7	--	3	7	6-7/8	specify	12	4	6	WS3	8	WS3	Lbs	15325	4575	12030	3590
													kN	68.17	20.35	53.51	15.97
	KHGLT7	HGLT7, HGLTV7	3	7	6-7/8	specify	12	6	12	WS3	6	WS3	Lbs	19455	3875	15275	3040
													kN	86.54	17.24	67.95	13.52

1) Factored uplift resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) "Specify" denotes the required supported beam height that must be specified at time of ordering, with 7-1/2" being the minimum.
3) MiTek's WS3 structural wood screws are 1/4" dia. x 3" long and are included with the hangers.

Continued on next page

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Beam Width	MiTek Stock No.	Ref. No.	Top Flange	U-Strap	Dimensions (in)			Fastener Schedule[3]					Unit	D Fir-L Factored Resistance		S-P-F Factored Resistance	
								Header			Joist						
					W	H[2]	L	Top Qty	Face Qty	Wood Screw	Qty	Wood Screw		Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%
8-3/4	KGLT9	--	3	7	8-7/8	specify	14	4	6	WS3	8	WS3	Lbs	15325	4575	12030	3590
													kN	68.17	20.35	53.51	15.97
	KHGLT9	HGLT9	3	7	8-7/8	specify	14	6	12	WS3	6	WS3	Lbs	19455	3875	15275	3040
													kN	86.54	17.24	67.95	13.52
10-3/4	KHGLT11	--	3	7	10-7/8	specify	16	6	12	WS3	6	WS3	Lbs	19455	3875	15275	3040
													kN	86.54	17.24	67.95	13.52

1) Factored uplift resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) "Specify" denotes the required supported beam height that must be specified at time of ordering, with 7-1/2" being the minimum.
3) MiTek's WS3 structural wood screws are 1/4" dia. x 3" long and are included with the hangers.

KGLT Nailer Options – chart represents maximum factored resistance for hangers used on wood nailers. Reference page 177.

MiTek Series	Nailer Size[2]	Fastener Schedule[4,5]					D Fir-L Factored Resistance[1,3]		S-P-F Factored Resistance[1,3]	
		Header			Joist		Vertical 100%		Vertical 100%	
		Top Qty	Face Qty	Type	Qty	Type	Lbs	kN	Lbs	kN
KGLT	2x	4	--	WS15	8	WS15	7565	33.65	6220	27.67
	3x	4	2	WS15	8	WS15	7565	33.65	6220	27.67
	(2) 2x	4	4	WS3	8	WS3	9335	41.52	7935	35.30
	4X	4	6	WS3	8	WS3	9895	44.02	8580	38.17

1) Listed loads shall not be increased.
2) The nailer must be sized to fit the supported width and be of sufficient thickness to satisfy specified top flange nailing requirements. A design professional must specify nailer attachment to steel beams.
3) Values in the table apply to standard top mount hangers without slope, skew or any other specialty options.
4) MiTek's WS15 structural wood screws are 1/4" dia. x 1-1/2" long and are not included with hangers.
5) MiTek's WS3 structural wood screws are 1/4" dia. x 3" long and are included with hangers.
New products or updated product information are designated in blue font.

Specialty Options Chart

– refer to Specialty Options pages 294, 296-297 for additional details

Option	Skewed[1,3]	Sloped Seat[2,3]	Sloped / Skewed[1,2,3]	Sloped Top Flange[4]	Top Flange Offset	Saddle
Range	1˚ to 50˚	1˚ to 45˚	See Sloped Seat and Skewed	0˚ to 45˚	--	--
Factored Resistance	50% of uplift load on skew greater than 15˚	KGLT – 5,920 lbs. Max. KHGLT – 10,080 lbs. Max.	50% of uplift load on skew greater than 15˚	100% of table load	60% of table load for KGLT. 45% of table load for KHGLT.	100% of table load per side
Ordering	Add *SK*, angle required, right *(R)* or left *(L)*, and square cut *(SQ)* or bevel cut *(BV)* to product number. Ex. KGLT3_H=16_SK45R_BV	Add *SL*, slope required, and up *(U)* or down *(D)*, to product number. Ex. KGLT3_H=16_SL30D	See Sloped Seat and Skewed. Ex. KGLT3_H=16_SK45R_BV_SL30D	Add *SLTF*, angle required and right *(R)* or left *(L)*, to product number. Ex. KGLT3_H=16_SLTF30L	Add *OS*, and right *(R)* or left *(L)*, to product number. Ex. KGLT3_H=16_OSL	Add *SA*, and saddle width required to product number. Ex. KGLT3_H=16_SA=5-1/2"

1) Skewed hangers with skews greater than 15° may have all joist nailing on outside flange.
2) Sloped or sloped / skewed hangers with slopes greater than 15° may have additional joist nails.
3) Skewed hangers typically require a bevel cut however, a square cut option may be available as a custom when requested.
4) Sloped top flanges with slopes greater than 15° may have additional header nails.
New products or updated product information are designated in blue font.

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KEG / KLEG / KMEG Bolted Glulam Beam Hangers

Bolt-only fastening, heavy steel construction, and a continuous top flange allow the KLEG, KMEG, and KEG products to have high load capacities.

KLEG – (4) bolt light-duty hanger

KMEG – (6) bolt medium-duty hanger

KEG – (8) bolt heavy-duty hanger

Materials: See chart

Finish: Primer

Options: See Specialty Options Chart

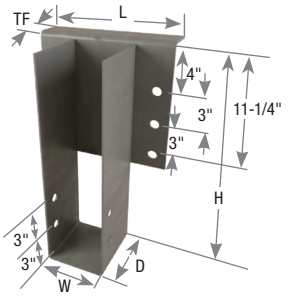
Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:

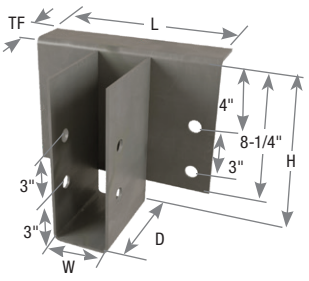
- Use all specified fasteners. See Product Notes, page 16.
- Bolts are not supplied unless ordered separately. Bolts provided by other suppliers must meet or exceed ASTM A 307 Grade A, or ASME SAE Grade 2.
- **Minimum header height is 10" for the KLEG; 13" for the KMEG; 20" for the KEG.**
- Supported beam height dimension (H) must be specified when ordering.



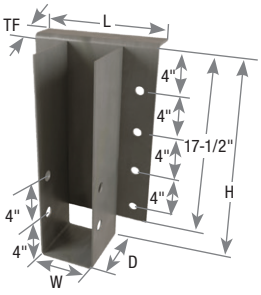
Typical KLEG5 installation



KMEG5



KLEG3



KEG5



KLEG without top flange

Beam Width (in)	MiTek Stock No.	Ref. No.	Steel Gauge		Dimensions (in)					Fastener Schedule				Unit	D Fir-L Factored Resistance[1]			S-P-F Factored Resistance[1]		
										Header		Joist			With Top Flange	Without Top Flange		With Top Flange	Without Top Flange	
			Top Flange	U-Strap	W	H[3]	D	TF	L	Qty	Bolt Dia.	Qty	Bolt Dia.		Vertical 100%	Vertical 100%	Uplift 115%[2]	Vertical 100%	Vertical 100%	Uplift 115%[2]
3-1/8	KLEG3	LEG3	7	7	3-1/4	specify	6	2-1/2	12	4	3/4	2	3/4	Lbs	15060	5125	4040	12950	4410	3475
														kN	66.99	22.80	17.97	57.60	19.62	15.46
5-1/8	KLEG5	LEG5	7	7	5-1/4	specify	6	2-1/2	12	4	3/4	2	3/4	Lbs	15060	5125	5125	12950	4410	5085
														kN	66.99	22.80	22.80	57.60	19.62	22.62
	KMEG5	MEG5	7	7	5-1/4	specify	6	2-1/2	12	6	3/4	2	3/4	Lbs	17555	7620	5915	15095	6555	5085
														kN	78.09	33.90	26.31	67.15	29.16	22.62
	KEG5	EG5	1/4	7	5-1/4	specify	6	2-1/2	12	8	1	2	1	Lbs	23125	13190	7625	19890	11345	6560
														kN	102.87	58.67	33.92	88.48	50.47	29.18
6-3/4	KLEG7	LEG7	7	7	6-7/8	specify	6	2-1/2	12	4	3/4	2	3/4	Lbs	15060	5125	5125	12950	4410	5085
														kN	66.99	22.80	22.80	57.60	19.62	22.62
	KMEG7	MEG7	7	7	6-7/8	specify	6	2-1/2	12	6	3/4	2	3/4	Lbs	17555	7620	5910	15095	6555	5085
														kN	78.09	33.90	26.29	67.15	29.16	22.62
	KEG7	EG7	1/4	7	6-7/8	specify	6	2-1/2	13-1/2	8	1	2	1	Lbs	24410	13235	9595	20995	11380	8250
														kN	108.58	58.87	42.68	93.39	50.62	36.70
8-3/4	KEG9	EG9	1/4	7	8-7/8	specify	6	2-1/2	15-1/2	8	1	2	1	Lbs	26100	13270	9580	22445	11410	8240
														kN	116.10	59.03	42.61	99.84	50.75	36.65
10-3/4	KEG11	--	1/4	7	10-7/8	specify	6	2-1/2	17-1/2	8	1	2	1	Lbs	27785	13300	9570	23895	11440	8230
														kN	123.59	59.16	42.57	106.29	50.89	36.61

1) Factored resistances are for a supporting member with a width of 5-1/2", and 560 psi perpendicular to grain loading in single shear.
2) Factored uplift resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
3) "Specify" denotes the required supported beam height that must be specified at the time of ordering, with 12" being the minimum.

Specialty Options Chart – refer to Specialty Options pages 294, 296-297 for additional details

Option	Skewed[3,4]	Sloped Seat	Top Flange Offset[1,2]
Range	1° to 45°	1° to 45°	--
Factored Resistance	KLEG – 14,400 lbs. Max. KMEG – 14,400 lbs. Max. KEG – 20,520 lbs. Max.	KLEG – 13,920 lbs. Max. KMEG – 13,920 lbs. Max. KEG – 13,920 lbs. Max.	KLEG - 8,160 lbs. Max. KLEG - 9" min. height KMEG - 8,160 lbs. Max. KMEG - 11" min. height
Ordering	Add *SK*, angle required, right *(R)* or left *(L)*, and square cut *(SQ)* to product number. Ex. KLEG3_H=11_SK45R_SQ	Add *SL*, slope required, and up *(U)* or down *(D)*, to product number. Ex. KLEG3_H=11_SL30D	Add *OS*, and right *(R)* or left *(L)*, to product number. Ex. KLEG3_H=11_OSL

1) Top flange offset hangers may not be skewed.
2) Top flange offset option is not available for KEG models.
3) Carried member must have square cut end on skewed option. Refer to Typical HLBH hanger, skewed, left shown, square cut illustration on page 296.

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Heavy-duty hanger installs with NA20D nails for higher load capacities.

Materials: Top flange – 3 gauge; stirrup – 10 gauge

Finish: Primer

Options: See Specialty Options Chart below

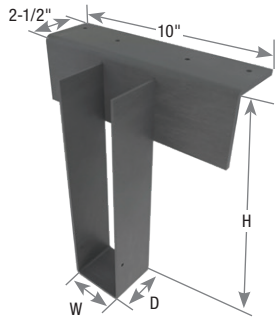
Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:

- Use all specified fasteners. See Product Notes, page 16.
- NA20D nails are supplied with KHW hangers.
- For Welded installations see page 299
- KHW models are not recommended for use with LVL, PSL or LSL headers



Typical KHW installation



KHW

Beam Width (in)	MiTek Stock No.	Ref. No.	Ga.	Dimensions (in) W	H	D	Fastener Schedule[2,3] Header Top Qty	Header Type	Joist Qty	Joist Type	D Fir-L Factored Resistance (Lbs.)[2] Lbs Download 100%	Lbs Uplift[1] 115%	kN Download 100%	kN Uplift[1] 115%	S-P-F Factored Resistance (Lbs.)[2] Lbs Download 100%	Lbs Uplift[1] 115%	kN Download 100%	kN Uplift[1] 115%
2-1/2 glulam	KHW26	--	3/10	2-11/16	specify	4	4	NA20D	2	10d x 1-1/2	8200	270	36.48	1.20	6810	225	30.29	1.00
3-1/8 glulam	KHW3	HW3.25	3/10	3-1/4	specify	3	4	NA20D	2	10d	8575	270	38.14	1.20	6785	225	30.18	1.00
5-1/8 glulam	KHW5	HW5.25	3/10	5-1/4	specify	2-1/2	4	NA20D	2	10d	8575	270	38.14	1.20	6785	225	30.18	1.00

1) Factored uplift resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) Refer to Nailer Options chart for hangers installed on wood nailers.
3) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long, 10d nails are 0.148" dia. x 3" long, NA20D nails are 0.192" dia. x 2-1/2" long and are included with KHW hangers.

Nailer Installation Chart

Chart represents maximum factored resistance for hangers used on wood nailers. Reference page 177.

MiTek Stock No.	Nailer Size[2]	Fastener Schedule[4] Nailer Top Qty	Nailer Type	Joist Qty	Joist Type	D Fir-L Factored Resistance Vertical (100%)[1,3] Lbs	D Fir-L Factored Resistance Vertical (100%)[1,3] kN	S-P-F Factored Resistance Vertical (100%)[1,3] Lbs	S-P-F Factored Resistance Vertical (100%)[1,3] kN
KHW	3X	4	16d x 2-1/2	2	10d	5180	23.04	3925	17.46

1) Listed loads shall not be increased.
2) The nailer must be sized to fit the supported width and be of sufficient thickness to satisfy specified top flange nailing requirements. A design professional must specify nailer attachment to steel beams.
3) Values in the table apply to standard top mount hangers without slope, skew or any other specialty options.
4) **NAILS:** 10d nails are 0.148" dia. x 3" long, 16d x 2-1/2 nails are 0.162" dia. x 2-1/2" long.
New products or updated product information are designated in blue font.

Specialty Options Chart

– refer to Specialty Options pages 294-295 for additional details

Option	Skewed[1,3]	Sloped Seat[2]	Sloped / Skewed[1,2,3]	Sloped Top Flange[4]	Top Flange Offset		Saddle	Ridge
Range	1° to 84°	1° to 45°	See Sloped Seat and Skewed	0° to 35°	--		--	0° to 45°
Factored Resistance	100% of table load	100% of table load	100% of table load	100% of table load	**Hanger Width** 3-1/4" or less 5-1/4"	**% of table load:** 60% 75%	100% of table load per side	100% of table load
Ordering	Add *SK,* angle required, right (*R*) or left (*L*), and square cut (*SQ*) or bevel cut (*BV*) to product number. Ex. KHW5_H=16_SK45R_SQ	Add *SL,* slope required, and up *(U)* or down *(D),* to product number. Ex. KHW5_H=16_SL30D	See Sloped Seat and Skewed. Ex. KHW5_H=16_SK45R_SQ_SL30D	Add *SLTF,* angle required, and right *(R)* or left *(L),* to product number. Ex. KHW5_H=16_SLTF30L	Add *OS,* and right *(R)* or left *(L),* to product number. Ex. KHW5_H=16_OSL		Add *SA,* and saddle width required to product number. Ex. KHW5_H=16_SA=5-1/2"	Add *DA,* angle required to product number. Ex. KHW5_H=16_DA30

1) Skewed hangers with skews greater than 15° may have all joist nailing on outside flange.
2) Sloped or sloped / skewed hangers with slopes greater than 15° may have additional joist nails.
3) For skewed hangers, the required cut type (square or bevel) of joist member may vary based on skew angle and width of hanger. Some square cut hangers will require custom pricing due to welded back plate.
4) Sloped top flanges with greater than 15° may have additional header nails.
New products or updated product information are designated in blue font.

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KGLS / KGLST / KHGLS / KHGLST Glulam Saddle Hangers

KGLS – Saddle hanger

KGLST – Saddle hanger with seismic straps

KHGLS – Heavier version of KGLS

KHGLST – Heavier version of KGLST

Materials: Top flange - 3 gauge; Stirrup - 7 gauge

Finish: Primer

Options: See KGLS / KHGLS Specialty Options Chart on page 223

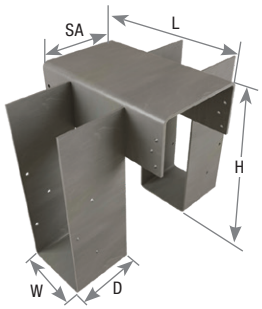
Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:

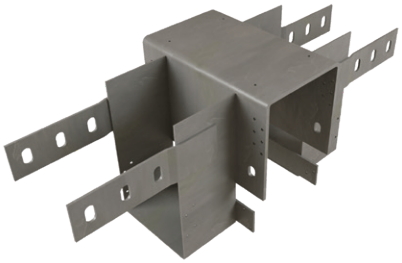
- Use all specified fasteners. See Product Notes, page 16.
- Loads and nail schedule apply to each saddle hanger stirrup.
- **Minimum header height is 8-1/2" for the KGLS and KGLST; 10-1/2" for the KGLS and KGLST.**
- Beam height dimension (H) must be specified when ordering.
- **KGLST** and **KHGLST** models include seismic straps which must be installed with (3) 3⁄4" thru-bolts in each supported member and (2) 3⁄4" thru-bolts into the supporting beams.
- See Welded Installation chart on page 299.



Typical KHGLST installation



KGLS



KHGLST

Supported Glulam Beam Size (in)	MiTek Stock No.	Ref. No.	Dimensions (in)[3]					Fastener Schedule						Unit	D Fir-L Factored Resistance[2]		S-P-F Factored Resistance[2]	
								Wood Screws[2,5]			Bolts							
			W	H[6]	D	L	SA[7]	Header Qty	Joist Qty	Type	Header Qty	Joist Qty	Dia. (in)		Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%
3-1/8	KGLS35	GLS3-5	3-1/4	Specify	5	6	5-1/4	6	6	WS3	--	--	--	Lbs	15570	3755	12225	2945
														kN	69.26	16.70	54.38	13.10
	KGLST35	--	3-1/4	Specify	6-1/2	10	5-1/4	6	6	WS3	2	3	3/4	Lbs	19265	3755	15125	2945
														kN	85.69	16.70	67.28	13.10
	KGLS37	GLS3-7	3-1/4	Specify	5	6	6-7/8	6	6	WS3	--	--	--	Lbs	15570	3755	12225	2945
														kN	69.26	16.70	54.38	13.10
	KGLST37	--	3-1/4	Specify	6-1/2	10	6-7/8	6	6	WS3	2	3	3/4	Lbs	19265	3755	15125	2945
														kN	85.69	16.70	67.28	13.10
	KGLS39	GLS3-9	3-1/4	Specify	5	6	8-7/8	6	6	WS3	--	--	--	Lbs	15570	3755	12225	2945
														kN	69.26	16.70	54.38	13.10
	KGLST39	--	3-1/4	Specify	6-1/2	10	8-7/8	6	6	WS3	2	3	3/4	Lbs	19265	3755	15125	2945
														kN	85.69	16.70	67.28	13.10
5-1/8	KGLS55	GLS5-5	5-1/4	Specify	5	9	5-1/4	6	6	WS3	--	--	--	Lbs	22020	3755	17290	2945
														kN	97.95	16.70	76.91	13.10
	KGLST55	--	5-1/4	Specify	6-1/2	12	5-1/4	6	6	WS3	2	3	3/4	Lbs	28075	3755	22040	2945
														kN	124.88	16.70	98.04	13.10
	KGLS57	GLS5-7	5-1/4	Specify	5	9	6-7/8	6	6	WS3	--	--	--	Lbs	23450	3755	18410	2945
														kN	104.31	16.70	81.89	13.10
	KGLST57	--	5-1/4	Specify	6-1/2	12	6-7/8	6	6	WS3	2	3	3/4	Lbs	29505	3755	23165	2945
														kN	131.24	16.70	103.04	13.10
	KHGLS5	HGLS5	5-1/4	Specify	6-1/2	12	Specify	14	8	WS3	--	--	--	Lbs	30595	5005	24020	3930
														kN	136.09	22.26	106.85	17.48
	KHGLST5	--	5-1/4	Specify	6	12	Specify	14	8	WS3	2	3	3/4	Lbs	28575	5005	22435	3930
														kN	127.11	22.26	99.80	17.48

1) Factored uplift resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) Factored resistances and fastener schedules apply to each side of the saddled hanger.
3) Minimum header height is 8-1/2" for the KGLS and KGLST; 10-1/2" for the KHGLS and KHGLST.
4) Hangers with seismic straps may require a minimum joist depth. Consult MiTek for additional information.
5) MiTek's WS3 structural wood screws are 1/4" dia. x 3" long and are included with hangers.
6) "Specify" denotes the required supported beam height that must be specified at time of ordering.
7) Where “Specify” is called out for the saddle width, the minimum saddle width shall be 5".

Continued on next page

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Supported Glulam Beam Size (in)	MiTek Stock No.	Ref. No.	Dimensions (in)[3]					Fastener Schedule						Unit	D Fir-L Factored Resistance[2]		S-P-F Factored Resistance[2]	
								Wood Screws[2,5]			Bolts							
			W	H[6]	D	L	SA[7]	Header Qty	Joist Qty	Type	Header Qty	Joist Qty	Dia. (in)		Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%
3-1/8	KGLS35	GLS3-5	3-1/4	Specify	5	6	5-1/4	6	6	WS3	--	--	--	Lbs	15570	3755	12225	2945
														kN	69.26	16.70	54.38	13.10
	KGLST35	--	3-1/4	Specify	6-1/2	10	5-1/4	6	6	WS3	2	3	3/4	Lbs	19265	3755	15125	2945
														kN	85.69	16.70	67.28	13.10
	KGLS37	GLS3-7	3-1/4	Specify	5	6	6-7/8	6	6	WS3	--	--	--	Lbs	15570	3755	12225	2945
														kN	69.26	16.70	54.38	13.10
	KGLST37	--	3-1/4	Specify	6-1/2	10	6-7/8	6	6	WS3	2	3	3/4	Lbs	19265	3755	15125	2945
														kN	85.69	16.70	67.28	13.10
	KGLS39	GLS3-9	3-1/4	Specify	5	6	8-7/8	6	6	WS3	--	--	--	Lbs	15570	3755	12225	2945
														kN	69.26	16.70	54.38	13.10
	KGLST39	--	3-1/4	Specify	6-1/2	10	8-7/8	6	6	WS3	2	3	3/4	Lbs	19265	3755	15125	2945
														kN	85.69	16.70	67.28	13.10
5-1/8	KGLS55	GLS5-5	5-1/4	Specify	5	9	5-1/4	6	6	WS3	--	--	--	Lbs	22020	3755	17290	2945
														kN	97.95	16.70	76.91	13.10
	KGLST55	--	5-1/4	Specify	6-1/2	12	5-1/4	6	6	WS3	2	3	3/4	Lbs	28075	3755	22040	2945
														kN	124.88	16.70	98.04	13.10
	KGLS57	GLS5-7	5-1/4	Specify	5	9	6-7/8	6	6	WS3	--	--	--	Lbs	23450	3755	18410	2945
														kN	104.31	16.70	81.89	13.10
	KGLST57	--	5-1/4	Specify	6-1/2	12	6-7/8	6	6	WS3	2	3	3/4	Lbs	29505	3755	23165	2945
														kN	131.24	16.70	103.04	13.10
	KHGLS5	HGLS5	5-1/4	Specify	6-1/2	12	Specify	14	8	WS3	--	--	--	Lbs	30595	5005	24020	3930
														kN	136.09	22.26	106.85	17.48
	KHGLST5	--	5-1/4	Specify	6	12	Specify	14	8	WS3	2	3	3/4	Lbs	28575	5005	22435	3930
														kN	127.11	22.26	99.80	17.48

1) Factored uplift resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) Factored resistances and fastener schedules apply to each side of the saddled hanger.
3) Minimum header height is 8-1/2" for the KGLS and KGLST; 10-1/2" for the KHGLS and KHGLST.
4) Hangers with seismic straps may require a minimum joist depth. Consult MiTek for additional information.
5) MiTek's WS3 structural wood screws are 1/4" dia. x 3" long and are included with hangers.
6) "Specify" denotes the required supported beam height that must be specified at time of ordering.
7) Where "Specify" is called out for the saddle width, the minimum saddle width shall be 5".

KGLS / KHGLS Specialty Options Chart – refer to Specialty Options pages 294, 296-297 for additional details

Option	Skewed[1,3]	Sloped Seat[2]	Sloped / Skewed[1,2]	Sloped Top Flange[4]	Top Flange Offset
Range	1° to 50°	1° to 45°	See Sloped Seat and Skewed	0° to 30°	May not be skewed
Factored Resistance	KGLS – 6,500 lbs. Max. KHGLS – 7,980 lbs. Max. 50% of uplift load on skews greater than 15°.	KGLS – 9,360 lbs. Max. KHGLS – 13,200 lbs. Max.	KGLS - 7,920 lbs. Max. **KHGLS - may not be sloped / skewed.**	100% of table load	50% of table load for KGLS. 45% of table load for KHGLS.
Ordering	Add *SK*, angle required, right *(R)* or left *(L)*, and square cut *(SQ)* or bevel cut *(BV)* to product number. Ex. KGLS35H115_SK45R_BV	Add *SL,* slope required, and up *(U)* or down *(D),* to product number. Example: KGLS35H115_SL30D	See Sloped Seat and Skewed. Example: KGLS35H115_SK45R_BV_SL30D	Add *SLTF,* angle required, and right *(R)* or left *(L),* to product number. Example: KGLS35H115_SLTF30L	Add *OS,* and right *(R)* or left *(L),* to product number. Example: KGLS35H115_OSL

1) Skewed hangers with skews greater than 15° may have all joist fasteners on outside flange.
2) Sloped or sloped / skewed hangers with slopes greater than 15° may have additional joist nails.
3) Skewed hangers typically require a bevel cut however, a square cut option may be available as a custom when requested.
4) Sloped top flanges with greater than 15° may have additional header nails.

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TRUSS & RAFTER



MiTek®

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Hurricane Ties	230, 237-239
Moisture Barrier Plates	226
Strap Connector	236
Truss Anchors	226-227



NOP Moisture Barrier Plates

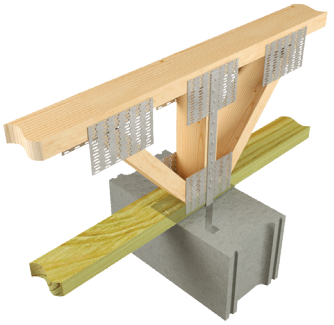
Moisture Barrier Plates protect the bottom chords of trusses from moisture damage caused by direct contact with concrete. These plates eliminate the need for more expensive treated wood plates.

Materials: See chart
Finish: G90 galvanizing

Installation:
- Use all specified fasteners. See Product Notes, page 16.
- Pre-attach to truss bottom chord or rafter using pre-punched prongs and/or 6d common nails to prevent wood-to-concrete contact.

Size	MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in)		Fastener Schedule[1]	
				W	L	Qty	Type
2x	NOP2X	TSS2, TBP8	26	1-7/16	8	--	--
	NOP1	--	22	1-1/2	8	2	6d
4x	NOP4	TSS2-2	26	3-1/2	8	2	6d

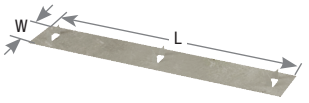
1) **NAILS:** 6d nails are 0.120" dia. x 2" long.



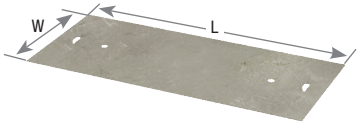
Typical NOP4 installation



NOP1



NOP2X



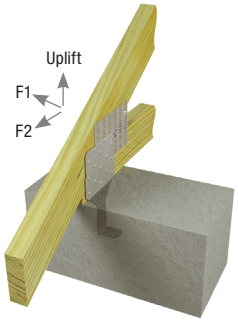
NOP4

LPTA Embedded Truss Anchors

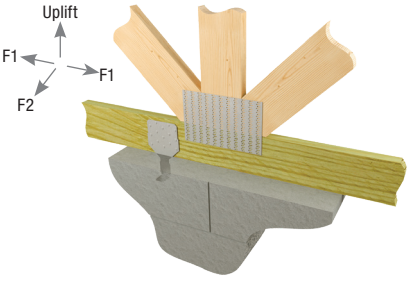
Low profile design attaches to 2x4 or larger bottom chords and provides uplift and lateral load resistance.

Materials: 18 gauge
Finish: G90 galvanizing
Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:
- Use all specified fasteners. See Product Notes, page 16.
- Embed LPTA 4" into concrete tie beam or masonry bond beam.
- Anchors should be spaced no closer than 8" center-to-center.
- **Moisture barrier may be required.**



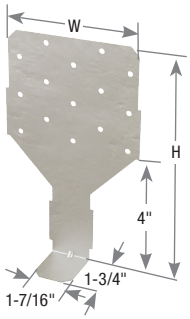
Typical LPTA perpendicular installation



Typical LPTA parallel installation

MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in)		Fastener Schedule		Unit	D Fir-L Factored Resistance[1]			S-P-F Factored Resistance[1]		
			W	H	Min Qty[2]	Type[3]		Uplift 115%	F1 115%	F2 115%	Uplift 115%	F1 115%	F2 115%
LPTA	LTA2	18	5	8-1/4	10	10d x 1-1/2	Lbs	1555	1005	1865	1555	1005	1865
							kN	6.92	4.47	8.30	6.92	4.47	8.30

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) Minimum quantity of fasteners to be installed. Product may have additional nail holes not needed to meet published factored resistance of product.
3) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long.



LPTA

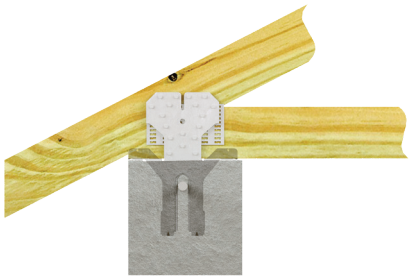
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The HLPTA75 is designed and tested to provide higher lateral capacity and net uplift. Offers greater pullout resistance and is compatible with bond beam reinforcing.

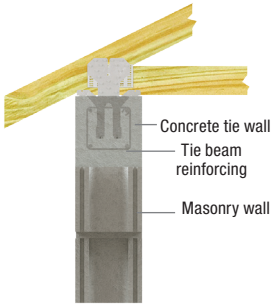
Materials: 18 gauge
Finish: G90 galvanizing

Installation:

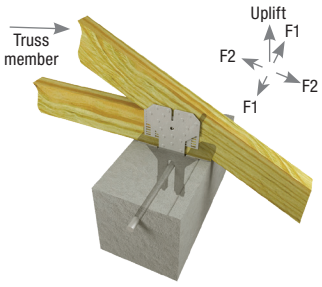
- Use all specified fasteners. See Product Notes, page 16.
- Embed in concrete tie beam or masonry bond beam until the seat is resting on the surface.
- Minimum of one #7 rebar or two #5 rebars through the theoretical shear cone is required.
- Minimum spacing between anchors is 10" to achieve full design load capacities on single anchors.
- When used in a double rebar installation, concrete tie beam stirrup should be sized to accommodate connector leg placement.
- Designer shall verify connector clearance when using in conjunction with stirrups and two rebar applications.
- Verify grout is not in contact with truss member. **Moisture barrier may be required.**



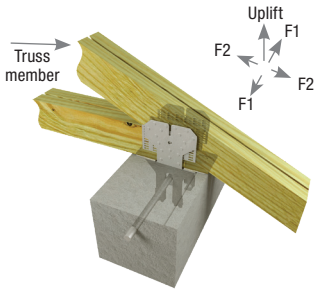
Typical HLPTA75 single rebar installation



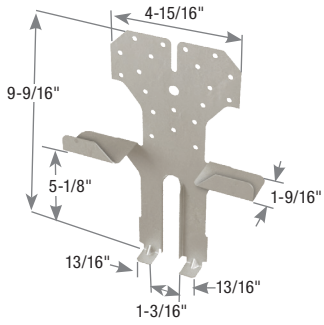
Typical HLPTA75 double rebar installation



Typical HLPTA75 single anchor installation



Typical HLPTA75 double anchor installation



HLPTA75

MiTek Stock No.	Ref. No.	Ga.	Installation Type	Fastener Schedule[3]			D Fir-L Factored Resistance[1]						S-P-F Factored Resistance[1]					
				Seat Plate	Truss/ Rafter		Lbs			kN			Lbs			kN		
				Qty	Qty	Type	Uplift 115%	F1 115%	F2 115%	Uplift 115%	F1 115%	F2 115%	Uplift 115%	F1 115%	F2 115%	Uplift 115%	F1 115%	F2 115%
HLPTA75	--	18	Single Anchor	2	20	10d x 1-1/2	3105	2590	2500	13.81	11.52	11.12	2660	2220	2145	11.83	9.88	9.54
			Double Anchor	--	40	10d x 1-1/2	5085	2995	3045	22.62	13.32	13.54	4355	2565	2610	19.37	11.41	11.61

1) Short-term load duration has been taken into consideration; no further increase is allowed.
2) Connector shall be installed to fully grouted and reinforced masonry units (CMU) type S or better mortar or reinforced concrete (f'c = 2,500 psi at 28 days).
3) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long.

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LUGT Girder Tiedowns

The LUGT series is an adaptable tiedown for girder trusses and offers several installation options to accommodate different framing conditions. It is an ideal retrofit solution to reinforce truss connections to transfer high wind loads to supporting walls and can be used on either concrete or CMU block walls. Sizes available for 2-ply, 3-ply and 4-ply trusses.

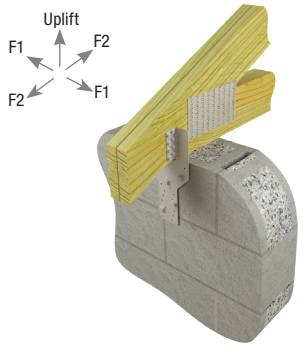
Materials: See chart

Finish: G90 galvanizing

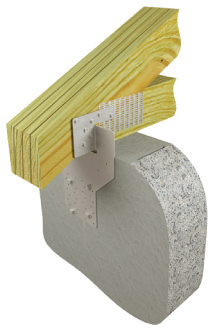
Codes: Factored resistances are derived from data submitted to various North American building code evaluators and are in accordance with CSA O86:19

Installation:

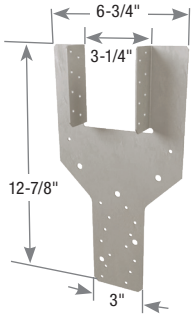
- Use all specified fasteners. See Product Notes, page 16.
- All large fastener holes must be filled with specified fasteners to achieve loads listed in the chart. Smaller fasteners holes are for girder-to-stud applications (reference page 233) and do not need to be filled when used for concrete/masonry installations.
- MiTek's WS structural wood screws are included with LUGT3 and LUGT4.
- **For concrete and masonry applications, a moisture barrier may be required, check local building code.**



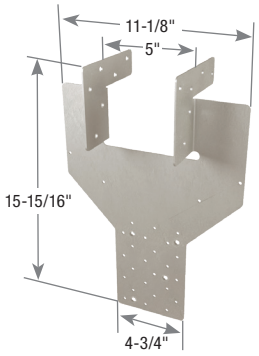
Typical LUGT2 masonry installation



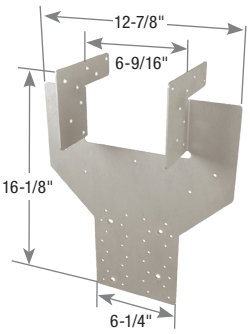
Typical LUGT4 masonry installation
(LUGT3 similar)



LUGT2



LUGT3



LUGT4

No. of Plies	MiTek Stock No.	Ref. No.	Steel Gauge	Fastener Schedule: Rafter/Truss Qty	Fastener Schedule: Rafter/Truss Type[4,5]	Fastener Schedule: CMU/Concrete Wall[3] Qty	Fastener Schedule: CMU/Concrete Wall[3] Screw Anchor[2]	Unit	D Fir-L Factored Resistance: Uplift 115%[1]	D Fir-L Factored Resistance: F1 115%[1]	D Fir-L Factored Resistance: F2 115%[1]	S-P-F Factored Resistance: Uplift 115%[1]	S-P-F Factored Resistance: F1 115%[1]	S-P-F Factored Resistance: F2 115%[1]
Concrete/Masonry Installation														
2	LUGT2	LGT2	14	16	10d	5	1/4" x 3"	Lbs	3015	1480	590	2695	1150	525
								kN	13.41	6.58	2.62	11.99	5.12	2.34
3	LUGT3	LGT3-SDS2.5	12	12	WS25	4	3/8" x 5"	Lbs	5295	--	--	4960	--	--
								kN	23.55	--	--	22.06	--	--
4	LUGT4	LGT4-SDS3	12	16	WS3	4	3/8" x 5"	Lbs	5295	--	--	4960	--	--
								kN	23.55	--	--	22.06	--	--

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) 1/4" x 3" or 3/8" x 5" screw anchor denotes DeWalt Screw-Bolt+; or equal, installed in accordance with manufacturer's specification. Screw Anchors must be ordered seperately.
3) Fasteners must be installed in fully grouted and reinforced concrete masonry (f'm = 1,500 psi) or reinforced concrete (f'c = 2,500 psi).
4) MiTek's WS25 structural wood screws are 1/4" dia. x 2-1/2" long (supplied with LUGT3) and WS3 structural wood screws are 1/4" dia. x 3" long (supplied with LUGT4).
5) **NAILS:** 10d nails are 0.148" dia. x 3" long.
New products or updated product information are designated in blue font.

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MUGT Girder Tiedown

Designed for higher uplift resistance for concrete block construction. The MUGT15 can accommodate variable truss bearing depths.

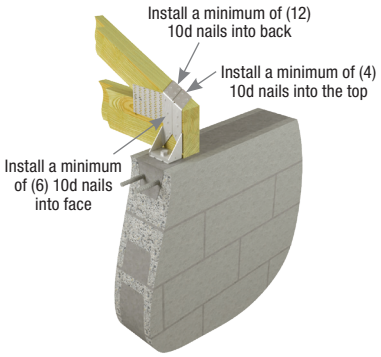
Materials: 12 gauge

Finish: G90 galvanizing

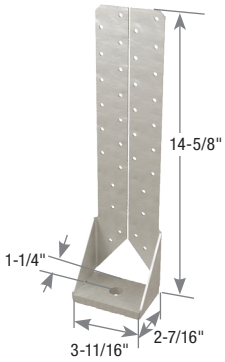
Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:

- Use all specified fasteners. See Product Notes, page 16.
- Top-Min mounting condition: When straps are wrapped over the truss, install nails in backside of truss. See MUGT15 installation diagram for minimum nail requirements into the face, backside, and on top of the truss.
- Face-Max mounting condition: If installed straight-up with no wrap over the top of the truss, fill all nail holes.
- **Moisture barrier may be required.**



Typical MUGT15 installation



MUGT15

MiTek Stock No.	Ref. No.	Steel Gauge	Mounting Condition	Fastener Schedule[3]						D Fir-L Factored Resistance		S-P-F Factored Resistance	
				Anchor Bolt[2,4]		Rafter/Truss[5]				Uplift 115%[1]		Uplift 115%[1]	
				Qty	Dia. (in)	Top Qty	Face Qty	Back Qty	Type	Lbs	kN	Lbs	kN
Concrete/Masonry Installation													
MUGT15	MGT	12	Face-Max	1	5/8	--	28	--	10d	5800	25.80	5800	25.80
			Top-Min	1	5/8	4	6	12	10d	5385	23.95	5385	23.95

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) MiTek CIA-GEL 7000-C may be used to anchor 5/8" threaded rod when installed into an 8" wide reinforced masonry or concrete wall. With 12" minimum embedment, the MUGT15 will achieve loads listed in table. Reinforcement is to be specified by the certified designer.
3) Additional anchorage products to be designed by others.
4) Designer must specify anchor bolt type, length, and embedment.
5) **NAILS:** 10d nails are 0.148" dia. x 3" long.
New products or updated product information are designated in blue font.

HUGT Girder Tiedowns

The HUGT series high uplift girder tiedowns can be installed on beams and top chords of trusses with slopes from 0˚ to 34˚.

Materials: 7 gauge

Finish: Primer

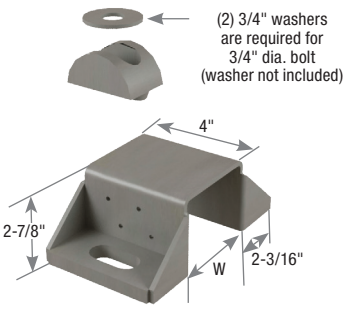
Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:

- Use all specified fasteners. See Product Notes, page 16.
- Install the HUGT over the beam or truss (see "W" dimension on chart for appropriate width).
- Attached members shall be designed to resist applied loads.
- **Moisture barrier may be required.**



Typical HUGT3 installation



HUGT

MiTek Stock No.	Ref. No.	Steel Gauge	W (in)	O.C. Dim Between Anchors (in)	Fastener Schedule				D Fir-L Factored Resistance		S-P-F Factored Resistance	
					Threaded Rod[3]		Girder[5]		Uplift 115%[1,2,4]		Uplift 115%[1,2,4]	
					Qty	Dia. (in)	Qty	Type	Lbs	kN	Lbs	kN
Concrete/Masonry Installation												
HUGT2	HGT-2	7	3-5/16	5-3/4	2	3/4	8	10d	14625	65.06	11980	53.29
HUGT3	HGT-3	7	4-15/16	7-3/8	2	3/4	8	10d	14625	65.06	11980	53.29
HUGT4	HGT-4	7	6-7/8	9	2	3/4	8	10d	14625	65.06	11980	53.29

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; no further increase allowed.
2) Factored resistances apply where roof pitch is no more than 8:12.
3) Designer must specify anchor bolt type, length, and embedment.
4) Anchorage into concrete must be designed by a design professional.
5) **NAILS:** 10d nails are 0.148" dia. x 3" long.

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RFUS Uplift Girder Ties

The RFUS is a multi-purpose engineered solution for attaching trusses to concrete or masonry walls. Screw anchor fastening eliminates mislocated cast-in-place anchor bolts and allows retrofit installations.

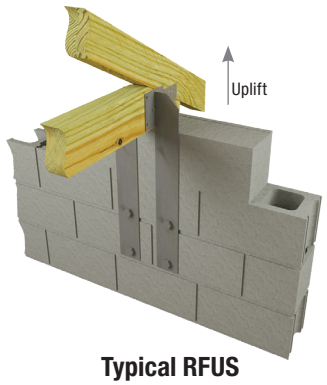
Materials: 10 gauge

Finish: Primer

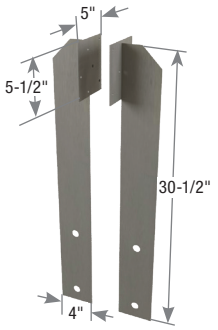
Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:

- **Always install in pairs.**
- Use all specified fasteners. See Product Notes, page 16.
- Designer shall be responsible for design of masonry structure, including any required reinforcement.
- For 1-ply applications, add filler block. Refer to page 264 for wood filler block installation.
- **Moisture barrier may be required.**



Typical RFUS installation



RFUS

MiTek Stock No.	Ref. No.	Steel Gauge	No. of Plies[6]	Fastener Schedule[5]				D Fir-L Factored Resistance		S-P-F Factored Resistance	
				Rafter/Truss		Concrete/Masonry[4]		Uplift 115%[1]		Uplift 115%[1]	
				Qty	Type[7]	Qty	Screw Anchor[2,3]	Lbs	kN	Lbs	kN
RFUS	FGTR	10	≥ 2 Ply	12	WS3	4	3/4" x 6"	7100	31.58	5965	26.53

1) 15% increase for short-term loads has been considered for the factored uplift resistance, no further increased allowed.
2) Use DeWalt 3/4" x 6" Screw-Bolt+; or equal, installed in accordance with manufacturer's specifications.
3) DeWalt 3/4" x 6" Screw-Bolt+ are not supplied with RFUS ties.
4) Fasteners shall be installed to fully grouted and reinforced masonry units (CMU) type S or better mortar or reinforced concrete (f'c = 2,500 psi at 28 days).
5) Fastener shedule is for two straps used together. The straps shall be installed in pairs.
6) Truss plies shall be fastened together to act as a single unit.
7) MiTek WS3 structural wood screws are 1/4" dia. x 3" long and are supplied with RFUS connector.

RTM Hurricane Retrofit Connector

Designed as a retrofit connector for trusses installed on top plates. Can also be used as a holdown for a roof or floor system.

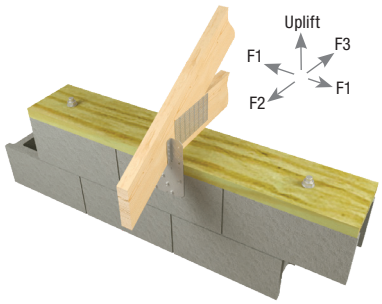
Materials: 18 gauge

Finish: G90 galvanizing

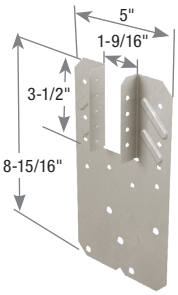
Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:

- Use all specified fasteners. See Product Notes, page 16.
- Concrete screws are not supplied with RT16M connector.
- Install concrete screws in lower two holes for Single Top Plate or Conventional Raised Foundation or Modular Home Installations.
- **Moisture barrier may be required.**



Typical RT16M top plate installation



RT16M

MiTek Stock No.	Ref. No.	Steel Gauge	Fastener Schedule[2,3,4]						Unit	D Fir-L Factored Resistance[1]				S-P-F Factored Resistance[1]			
			Truss/Rafter		Top Plate		Masonry Block			Uplift 115%	F1 115%	F2 115%	F3 115%	Uplift 115%	F1 115%	F2 115%	F3 115%
			Qty	Type	Qty	Type	Qty	Type									
RT16M	HM9KT	18	9	10d x 1-1/2	--	--	4	1/4" x 1-3/4" Tapcon	Lbs	1730	1045	190	795	1470	1045	190	795
									kN	7.70	4.65	0.85	3.54	6.54	4.65	0.85	3.54
			9	10d x 1-1/2	4	16d	2	1/4" x 1-3/4" Tapcon	Lbs	1690	--	--	--	1470	--	--	--
									kN	7.52	--	--	--	6.54	--	--	--

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; no further increase is allowed.
2) Install with 1/4" dia. x 1-3/4" long Tapcon® Concrete Screws in accordance to manufacturer's installation specifications.
3) Fasteners to be installed to fully grouted and reinforced concrete masonry.
4) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long.

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Connects trusses directly to masonry or concrete and features slotted base holes to ease installation.

Materials: Angle – 3 gauge; Gussets – 10 gauge

Finish: Primer

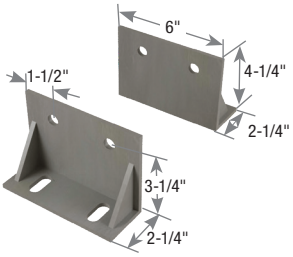
Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:

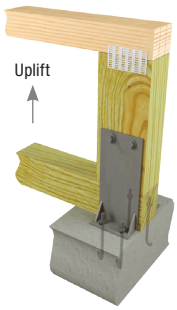
- Use all specified fasteners. See Product Notes, page 16.
- Install directly flush to masonry wall.
- **The SHA series connectors shall be installed in pairs.**
- **Moisture barrier may be required.**



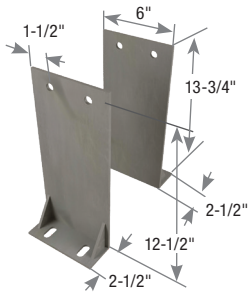
Typical SHA6 installation



SHA6



Typical SHA6T installation



SHA6T

MiTek Stock No.	Ref. No.	Fastener Schedule[3]				No. of Plies[6]	D Fir-L Factored Resistance		S-P-F Factored Resistance	
		Concrete Wall		Rafter/Truss[7]			Uplift 115% [1,2]		Uplift 115% [1,2]	
		Anchor Bolts[4,5,8]								
		Qty	Dia. (in)	Qty	Dia. (in)		Lbs	kN	Lbs	kN
SHA6	--	4	1/2	2	3/4	2 Ply	2500	11.12	2500	11.12
						3 Ply or >	3750	16.68	3750	16.68
SHA6T	--	4	1/2	2	3/4	2 Ply	11180	49.73	8825	39.26
						3 Ply or >	12600	56.05	8945	39.79

1) Factored resistances have been increased 15% for wind or seismic loads; no further increase shall be permitted.
2) Factored resistances are for a pair of SHA devices. SHAs shall be installed in pairs.
3) Fastener schedule is for a pair of SHA devices.
4) 1/2" x 8" J-Bolts or equivalent.
5) Concrete compressive strength shall be 2,500 psi or greater at 28 days.
6) Multiple ply truss shall be fastened together to act as a single unit.
7) Bolts shall conform to ASTM A 307 or better.
8) The designer must specify anchor bolt type, length, and embedment.

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HGAM Hurricane Gusset Angles

For installation into grouted concrete tie beam or masonry bond beam. Provides lateral and uplift resistance.

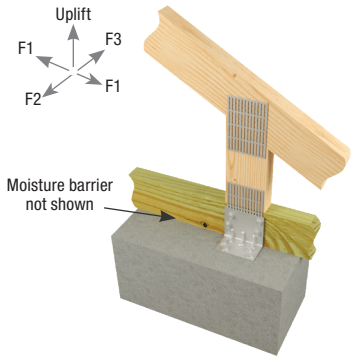
Materials: 14 gauge

Finish: G90 galvanizing

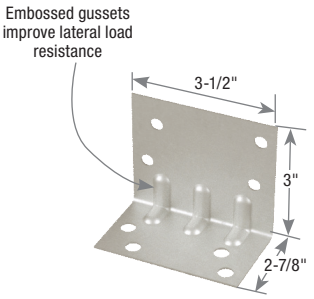
Codes: Load values are derived from data submitted to various North American building code evaluators.

Installation:

- Use all specified fasteners. See Product Notes, page 16.
- Install MiTek's WS15 structural wood screws into the truss and drill holes for screw anchors. Install screw anchors into concrete block per manufacturer's recommendation.
- MiTek's WS structural wood screws and 1-3/4" screw anchors are included with HGAM10 angles.
- **Moisture barrier may be required.**



Typical HGAM10 installation



HGAM10

MiTek Stock No.	Ref. No.	Steel Gauge	Fastener Schedule				Unit	D Fir-L Factored Resistance				S-P-F Factored Resistance			
			Rafter/Truss		Plate			Uplift 115%[1]	F1 115%[1]	F2 115%[1]	F3 115%[1]	Uplift 115%[1]	F1 115%[1]	F2 115%[1]	F3 115%[1]
			Qty	Type[2]	Qty	Screw Anchor[3]									
HGAM10KT[4]	HGAM10KTA	14	4	WS15	4	1/4" x 1-3/4"	Lbs	945	1115	1150	765	815	955	990	660
							kN	4.20	4.96	5.12	3.40	3.63	4.25	4.40	2.94

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; no further increase is allowed.
2) MiTek's WS15 structural wood screws are 1/4" dia. x 1-1/2" long.
3) Use DeWalt 1/4" dia. x 1-3/4" long Screwbolt^{TM}+; or equal, installed in predrilled 1/4" hole into minimum 2,000 psi concrete compressive strength in accordance with manufacturer's specification.
4) The HGAM10KT is a kit with (10) HGAM10 angles packaged with MiTek's WS structural wood screws and 1-3/4" screw anchors.

HGA Hurricane Gusset Angles

Versatile wood-to-wood connector that satisfies high wind and seismic loading requirements.

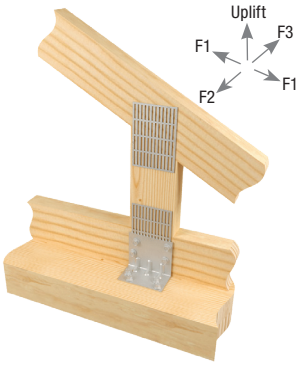
Materials: 14 gauge

Finish: G90 galvanizing

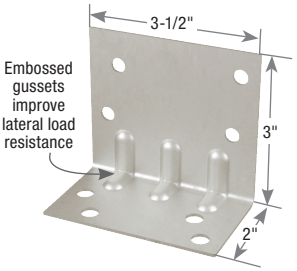
Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:

- Use all specified fasteners. See Product Notes, page 16.
- Install with MiTek's WS3 structural wood screws into top plate, and MiTek's WS15 structural wood screws into the truss.
- MiTek's WS structural wood screws are included with HGA10 angles.
- **Moisture barrier may be required.**



Typical HGA10 installation



HGA10

MiTek Stock No.	Ref. No.	Steel Gauge	Fastener Schedule[2]				Unit	D Fir-L Factored Resistance[1]				S-P-F Factored Resistance[1]			
			Rafter/Truss		Plate			Uplift 115%	F1 115%	F2 115%	F3 115%	Uplift 115%	F1 115%	F2 115%	F3 115%
			Qty	Wood Screw	Qty	Wood Screw									
HGA10KT[3]	HGA10KT	14	4	WS15	4	WS3	Lbs	1330	1365	1620	865	1145	1175	1395	745
							kN	5.92	6.07	7.21	3.85	5.09	5.23	6.21	3.31

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; no further increase is allowed.
2) MiTek's WS15 structural wood screws are 1/4" dia. x 1-1/2" long and WS3 structural wood screws are 1/4" dia. x 3" long.
3) The HGA10KT is a kit with (10) HGA10 angles packaged with MiTek's WS structural wood screws.

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LUGT Girder Tiedowns

The LUGT series is an adaptable tiedown for girder trusses and offers several installation options to accommodate different framing conditions. It is an ideal retrofit solution to reinforce truss connections to transfer high wind loads to supporting walls. Sizes available for 1-ply, 2-ply, 3-ply and 4-ply trusses.

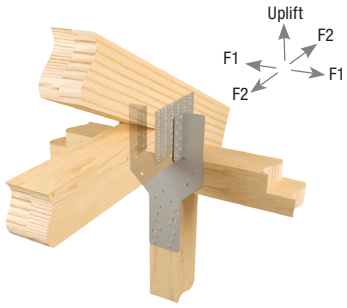
Materials: See chart

Finish: G90 galvanizing

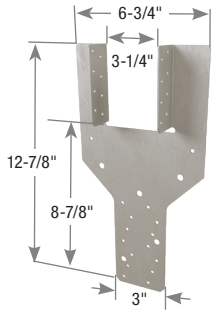
Codes: Factored resistances are derived from data submitted to various North American building code evaluators and are in accordance with CSA 086:19

Installation:

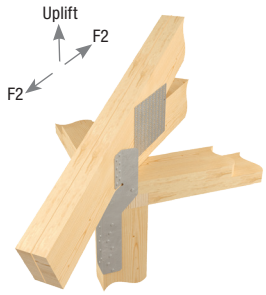
- Use all specified fasteners. See Product Notes, page 16.
- All fastener holes must be filled with specified fasteners to achieve loads listed in the chart. Large fastener holes are for concrete/masonry installations (reference page 228) and do not need to be filled when used for girder-to-stud applications.
- MiTek's WS structural wood screws are included with LUGT3 and LUGT4.



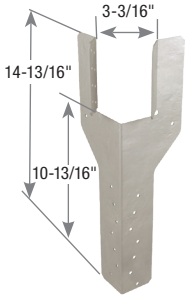
Typical LUGT2 installation



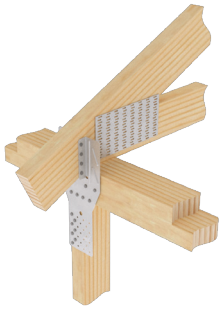
LUGT2



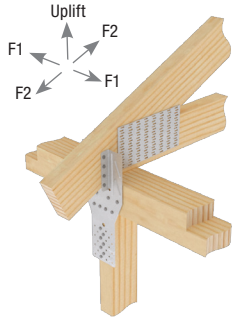
Typical LUGTC2 corner hip installation



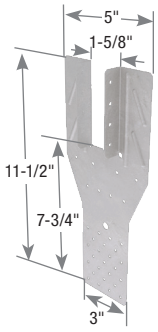
LUGTC2



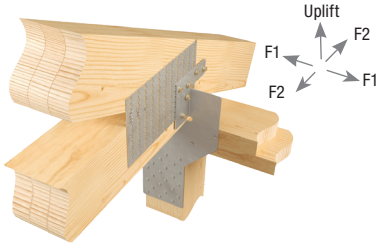
LUGT1 offset stud installation



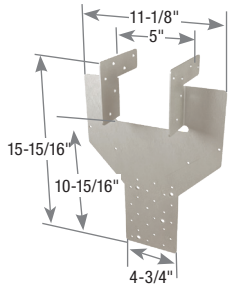
Typical LUGT1 installation



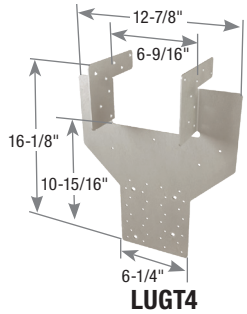
LUGT1



Typical LUGT3 installation
(LUGT4 similar)



LUGT3



LUGT4

No. of Plies	MiTek Stock No.	Ref. No.	Steel Gauge	Fastener Schedule[4,5,6]					Unit	D Fir-L Factored Resistance			S-P-F Factored Resistance		
				Rafter/Truss		Plate	Stud[2]			Uplift 115%[1]	F1 115%[1]	F2 115%[1]	Uplift 115%[1]	F1 115%[1]	F2 115%[1]
				Qty	Type	Qty	Qty	Type							
Wood-to-Wood Installation															
1	LUGT1[3]	H10S	18	8	8d x 1-1/2	8	7	8d x 1-1/2	Lbs	1550	950	260	1545	735	235
									kN	6.89	4.23	1.16	6.87	3.27	1.05
2	LUGT2	LGT2	14	16	10d	2	14	10d	Lbs	3405	1480	760	3045	1150	680
									kN	15.15	6.58	3.38	13.54	5.12	3.02
	LUGTC2	--	14	16	10d	2	14	10d	Lbs	3405	--	825	3045	--	760
									kN	15.15	--	3.67	13.54	--	3.38
3	LUGT3	LGT3-SDS2.5	12	12	WS25	4	24	16d Sinker	Lbs	5485	2920	1360	5140	2320	1195
									kN	24.40	12.99	6.05	22.86	10.32	5.32
4	LUGT4	LGT4-SDS3	12	16	WS3	5	32	16d Sinker	Lbs	7280	--	--	6390	--	--
									kN	32.38	--	--	28.42	--	--

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) For proper installation, the number of studs must be equal-to or greater-than the number of roof truss plies.
3) The LUGT1 can be installed with the stud offset from the rafter a maximum of 1" (center-to-center) for a reduced factored uplift resistance of 1535-lb (D Fir-L) and 1405-lb (S-P-F); install with 8d (0.131" dia. x 2-1/2" long) nails into the wall plate and the stud.
4) MiTek's WS25 structural wood screws are 1/4" dia. x 2-1/2" long (supplied with LUGT3) and WS3 structural wood screws are 1/4" dia. x 3" long (supplied with LUGT4).
5) 16d sinkers may be substituted for the specified 10d common nails with no load reduction.
6) **NAILS:** 8d x 1-1/2 are 0.131" dia. x 1-1/2" long, 10d nails are 0.148" dia. x 3" long, 16d Sinkers are 0.148" dia. x 3-1/4" long,
New products or updated product information are designated in blue font.

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Designed for higher uplift resistance for wood frame construction. The MUGT15 can accommodate variable truss bearing depths.

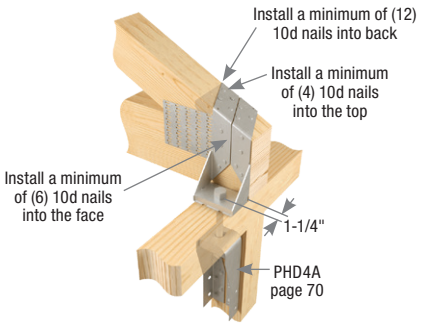
Materials: 12 gauge

Finish: G90 galvanizing

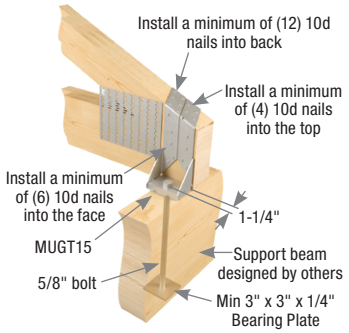
Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:

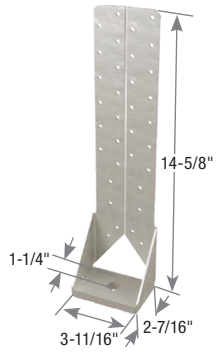
- Use all specified fasteners. See Product Notes, page 16.
- Top-Min mounting condition: When straps are wrapped over the truss, install nails in backside of truss. See MUGT15 installation diagram for minimum nail requirements into the face, backside, and on top of the truss.
- Face-Max mounting condition: If installed straight-up with no wrap over the top of the truss, fill all nail holes.
- **Moisture barrier may be required.**



Typical MUGT15 top-min installation with PHD4A



Typical MUGT15 connection to support beam



MUGT15

MiTek Stock No.	Ref. No.	Steel Gauge	Mounting Condition	Fastener Schedule[2] Rod/Bolt[3] Qty	Rod/Bolt[3] Dia. (in)	Rafter/Truss[4] Top Qty	Rafter/Truss[4] Face Qty	Rafter/Truss[4] Back Qty	Rafter/Truss[4] Type	D Fir-L Factored Resistance Uplift 115%[1] Lbs	D Fir-L Factored Resistance Uplift 115%[1] kN	S-P-F Factored Resistance Uplift 115%[1] Lbs	S-P-F Factored Resistance Uplift 115%[1] kN
Wood-To-Wood Installation													
MUGT15	MGT	12	Face-Max	1	5/8	--	28	--	10d	5800	25.80	5800	25.80
			Top-Min	1	5/8	4	6	12	10d	5385	23.95	5385	23.95

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) Additional anchorage products to be designed by others.
3) Designer must specify anchor bolt type, length, and holdown device.
4) **NAILS:** 10d nails are 0.148" dia. x 3" long.

New products or updated product information are designated in blue font.

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HUGT Girder Tiedowns

The HUGT series high uplift girder tiedowns can be installed on beams and top chords of trusses with slopes from 0˚ to 34˚.

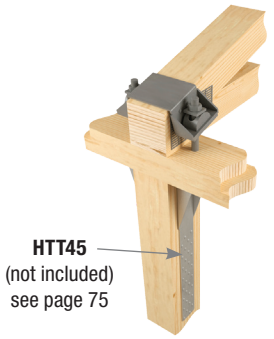
Materials: 7 gauge

Finish: Primer

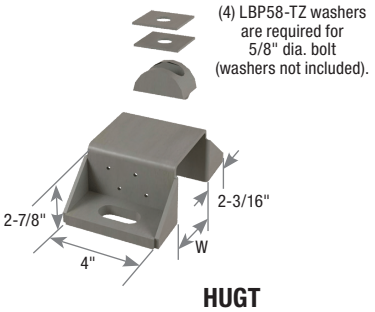
Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:

- Use all specified fasteners. See Product Notes, page 16.
- Install the HUGT over the beam or truss (see "W" dimension on chart for appropriate width).
- Install (4) LBP58-TZ washers for (2) 5/8" tension rod/bolts.
- Attached members shall be designed to resist applied loads.



Typical HUGT3 installation with HTT45's



HUGT

MiTek Stock No.	Ref. No.	Steel Gauge	W (in)	O.C. Dim Between Anchors (in)	Fastener Schedule: Anchor Washers Qty	Anchor Washers Type	Threaded Rod[3] Qty	Threaded Rod[3] Dia. (in)	Girder[4] Qty	Girder[4] Type	D Fir-L Factored Resistance Uplift[1,2,3] Lbs	D Fir-L Factored Resistance Uplift[1,2,3] kN	S-P-F Factored Resistance Uplift[1,2,3] Lbs	S-P-F Factored Resistance Uplift[1,2,3] kN
Wood-to-Wood Installation														
HUGT2	HGT-2	7	3-5/16	5-3/4	4	LBP58-TZ	2	5/8	8	10d	14625	65.06	11980	53.29
HUGT3	HGT-3	7	4-15/16	7-3/8	4	LBP58-TZ	2	5/8	8	10d	14625	65.06	11980	53.29
HUGT4	HGT-4	7	6-7/8	9	4	LBP58-TZ	2	5/8	8	10d	14625	65.06	11980	53.29

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; no further increase allowed.
2) Factored resistances apply where roof pitch is no more than 8:12.
3) Additional anchorage products to be designed by others. Designer must specify anchor bolt type, length, and holdown device. Factored uplift resistance shall be limited by the minimum of HUGT and anchorage product.
4) **NAILS:** 10d nails are 0.148" dia. x 3" long.
New products or updated product information are designated in blue font.

RUSC Retrofit Strap Connector

The RUSC retro uplift strap connector provides a wood-to-wood uplift connection attaching trusses with a 2x4 bottom chord to a double stud in the wall below. WS3 Wood Screws are utilized for fast installation. The connector can be installed after roof sheathing has been installed.

Materials: 10 gauge

Finish: Primer

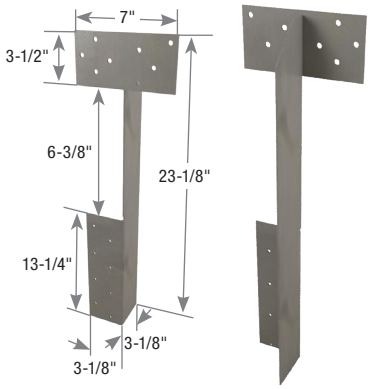
Codes: Load values are derived from data submitted to various North American building code evaluators.

Installation:

- Use all specified fasteners. See Product Notes, page 16.
- **The RUSC shall be installed in pairs.**
- Install on minimum 2 ply with equal wall studs centered directly below.
- Works with 2x4 bottom chord member and 2x4 wall studs.



Typical RUSC installation



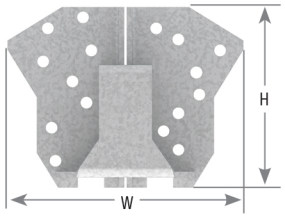
RUSC

MiTek Stock No.	Ref. No.	Steel Gauge	No. of Plies[5]	Fastener Schedule[3,4] Rafter/Truss Qty	Rafter/Truss Type	Stud Qty	Stud Type	D Fir-L Factored Resistance Uplift 115%[1,2] Lbs	D Fir-L Factored Resistance Uplift 115%[1,2] kN	S-P-F Factored Resistance Uplift 115%[1,2] Lbs	S-P-F Factored Resistance Uplift 115%[1,2] kN
RUSC	--	10	2 Ply or greater	16	WS3	16	WS3	6250	27.80	5410	24.07

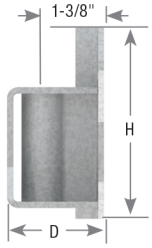
1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; no further increase is allowed.
2) Designer must specify stud or post to resist published load values.
3) MiTek's WS3 structural wood screws are 1/4" dia. x 3" long and are included with RUSC connectors.
4) Fastener schedule is for two straps used together. The RUSC shall be installed in pairs with a minimum 2-ply truss and wall stud attachment.
5) Truss plies shall be fastened together to act as a single unit.

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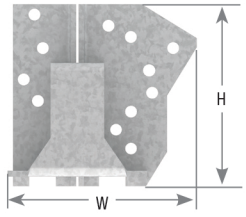
The Universal Girder Tiedown, UGTQ, is a high capacity tiedown designed to resist uplift loads on multi-ply roof trusses. The UGTQ installs with MiTek's WS structural wood screws and is fastened on one side for single connector installations or opposite sides for two connector installations. The UGTQ is available in left and right models for installation near the end of girders.



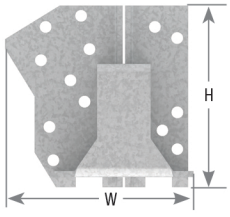
UGTQ



Side View



UGTQL



UGTQR

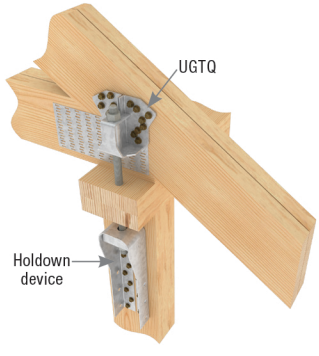
Features and Benefits:

- UGTQs may be installed as a single connector or in pairs
- May be installed elevated from top plate
- Can be installed on trusses and beams with top chord slopes up to 8/12
- May be used with holdown device, bearing plate or embedded/epoxy rod

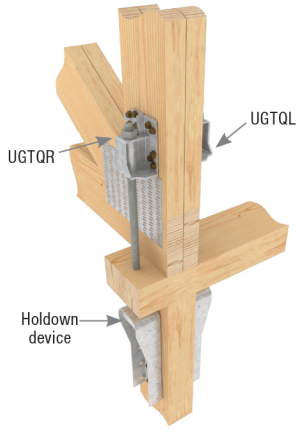
Materials: 10 gauge
Finish: G90 galvanizing

Installation:

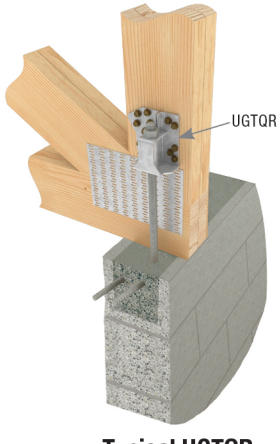
- Use all specified fasteners.
- MiTek's WS3 structural wood screws, 1/4" dia. x 3" long, are supplied with UGTQ tiedowns.
- Install UGTQ on minimum 2-ply truss/rafter (or minimum 3" thickness wood).
- Left and right connectors shall be installed as shown.
- UGTQ shall be installed minimum 1/2" from the edge of the supported member, and minimum 2-1/2" from member end (parallel-to-grain end distance) where there is no presence of truss plates.



Typical UGTQ single installation with holdown device



Typical UGTQL/R back-to-back installation



Typical UGTQR masonry installation
(right shown)

MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in) W	H	D	Installation Type	Qty of UGTQs	Fastener Schedule: Connecting Rod Qty	Connecting Rod Type	Truss/Rafter[4] Qty	Truss/Rafter[4] Type[3]	Unit	Factored Resistance Uplift 115%[1,2,5,6] D Fir-L	S-P-F
UGTQ	VGT	10	5-9/16	4-1/4	2-1/8	Single Installation	1	1	5/8" Rod	16	WS3	Lbs	6615	6285
												kN	29.42	27.95
						Back-to-Back	2	2	5/8" Rod	32	WS3	Lbs	13230	12565
												kN	58.84	55.89
UGTQL	VGTL	10	4-1/4	4-1/4	2-1/8	Single Installation	1	1	5/8" Rod	12	WS3	Lbs	4890	4595
												kN	21.75	20.43
UGTQR	VGTR	10	4-1/4	4-1/4	2-1/8	Single Installation	1	1	5/8" Rod	13	WS3	Lbs	4890	4595
												kN	21.75	20.43
UGTQL/R	VGTL/R	10	4-1/4	4-1/4	2-1/8	UGTQL + UGTQR Back-to-Back	2	2	5/8" Rod	25	WS3	Lbs	9780	9195
												kN	43.5	40.9

1) Increase for short-term loading has been considered, no further increase shall be permitted.
2) Designer must specify the connection from the connecting rod to the supporting structure.
3) MiTek's WS3 structural wood screws are 1/4" dia. x 3" long and are included with UGTQ connectors.
4) Truss/rafter plies shall be fastened together to act as a single unit.
5) Additional anchorage product to be designed by others. Designer must specify anchor rod type, length, and holdown device. Factored uplift resistance shall be limited by the minimum of UGTQ and the anchorage product.
6) Anchorage into concrete/masonry must be designed by a designer.

New products or updated product information are designated in blue font.

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HC / HCPRS / HHCP / LFTA / RT / TSP Hurricane Ties

These anchors tie trusses and rafters to top plates and may be used to tie wood framing members to resist uplift and lateral forces.

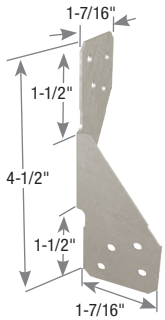
Materials: See chart

Finish: G90 galvanizing; HHCP4-TZ – G-185 galvanizing

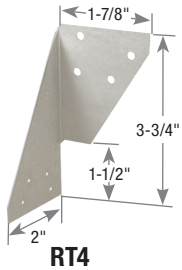
Options: See chart for Corrosion Finish Options

Codes: Factored resistances are derived from data submitted to various North American building code evaluators

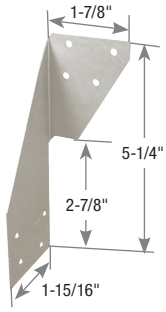
AVAILABLE IN GOLD COAT



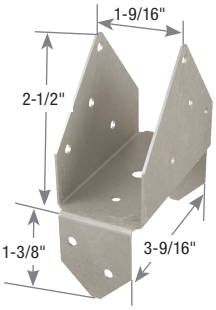
RT3A



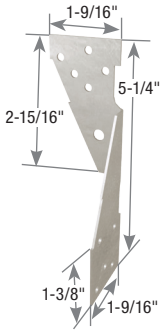
RT4
(left version shown)



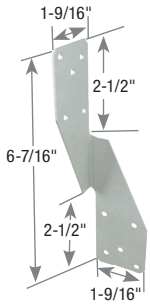
RT5
(left version shown)



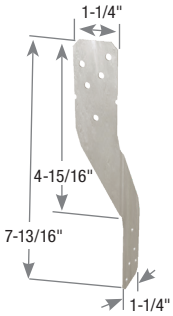
RT6



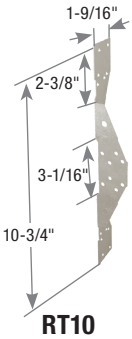
RT7
(left version shown)



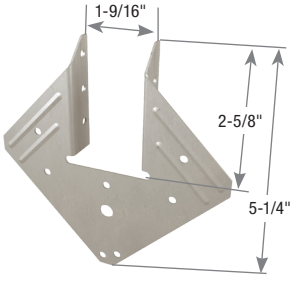
RT7A



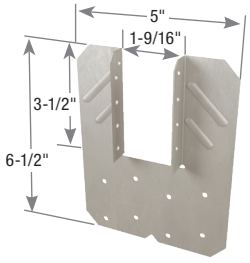
RT8A



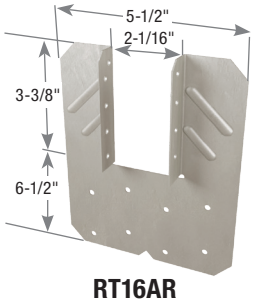
RT10



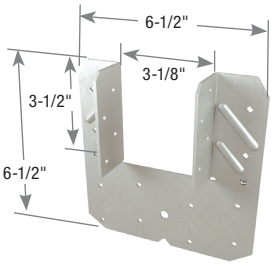
RT15



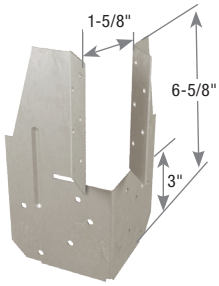
RT16A



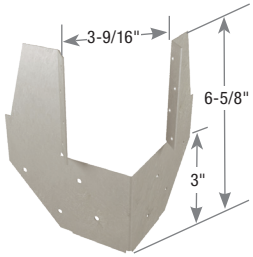
RT16AR



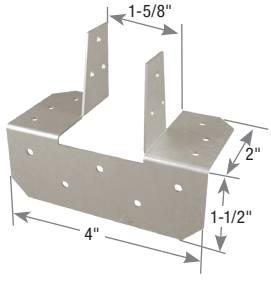
RT16-2



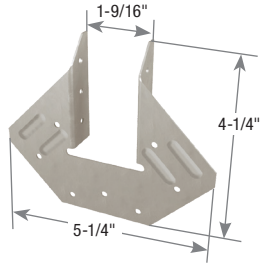
HHCP2



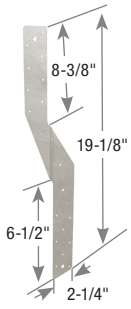
HHCP4-TZ



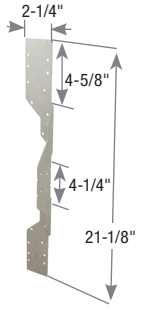
HC520



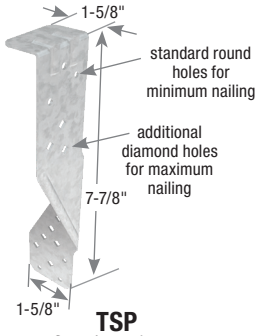
HCPRS



LFTA6
(left version shown)



RT20



TSP

Continued on next page

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Installation:

- Use all specified fasteners. See Product Notes, page 16.
- **TSP Min Nailing** – Fill all round holes.
- **TSP Max Nailing** – Fill all round and diamond holes.
- All nail holes must be filled with specified nails to achieve loads listed in the chart. For substituting with different nail sizes, refer to "Optional Nails" on page 20 or consult a design professional.
- Depending on pitch, birdsmouth notching may be required with some models to enable installers to fill all nail holes. Consult a design professional for appropriate notching.
- Designer shall determine if solid blocking is required.
- LFTA6, RT4, RT5, and RT7 ship in equal quantities of left and right versions. Left version images shown.

MiTek Stock No.	Ref. No.	Steel Gauge	Fastener Schedule[5]						Unit	D Fir-L Factored Resistance					S-P-F Factored Resistance					Corrosion Finish
			Truss/Rafter		Plate		Stud			Uplift 115%[1]	F1 115%[1]	F2 115%[1]	F3 115%[1]	F4 115%[1]	Uplift 115%[1]	F1 115%[1]	F2 115%[1]	F3 115%[1]	F4 115%[1]	
			Qty	Type	Qty	Type	Qty	Type												
RT3A	H3	18	4	8d x 1-1/2	4	8d	--	--	Lbs	570	305	100	195	140	520	235	90	165	130	
									kN	2.54	1.36	0.44	0.87	0.62	2.31	1.05	0.40	0.73	0.58	
RT4	--	18	4	8d x 1-1/2	4	8d	--	--	Lbs	465	310	205	335	350	465	310	185	285	345	
									kN	2.07	1.38	0.91	1.49	1.56	2.07	1.38	0.82	1.27	1.53	
RT5	--	18	4	8d x 1-1/2	4	8d	--	--	Lbs	605	245	130	440	275	555	210	120	355	255	
									kN	2.69	1.09	0.58	1.96	1.22	2.47	0.93	0.53	1.58	1.13	
RT6	HS24	18	8	8d x 1-1/2	6	8d	--	--	Lbs	1075	1430	1480	1480	1430	1005	1140	1190	1190	1140	
									kN	4.78	6.36	6.58	6.58	6.36	4.47	5.07	5.29	5.29	5.07	
RT7	--	18	5	8d x 1-1/2	5	8d	--	--	Lbs	775	395	180	270	205	775	340	160	220	190	
									kN	3.45	1.76	0.80	1.20	0.91	3.45	1.51	0.71	0.98	0.85	
RT7A	H2.5A	18	5	8d x 1-1/2	5	8d	--	--	Lbs	910	450	290	205	185	845	375	265	170	170	
									kN	4.05	2.00	1.29	0.91	0.82	3.76	1.67	1.18	0.76	0.76	
RT8A	H8	18	5	10d x 1-1/2	5	10d x 1-1/2	--	--	Lbs	1160	435	160	370	255	1110	330	150	285	235	
									kN	5.16	1.93	0.71	1.65	1.13	4.94	1.47	0.67	1.27	1.05	
RT10	H2A	18	6	8d x 1-1/2	8	8d	6	8d x 1-1/2	Lbs	775	395	180	270	205	775	340	160	220	190	
									kN	3.45	1.76	0.80	1.20	0.91	3.45	1.51	0.71	0.98	0.85	
RT15	H1A	18	5	8d x 1-1/2	5	8d	--	--	Lbs	750	715	325	615	715	725	625	300	530	625	
									kN	3.34	3.18	1.45	2.74	3.18	3.22	2.78	1.33	2.36	2.78	
RT16A [2]	H10A, H14	18	9	10d x 1-1/2	8	10d	--	--	Lbs	1655	1280	790	725	1280	1535	960	725	585	960	
									kN	7.36	5.69	3.51	3.22	5.69	6.83	4.27	3.22	2.60	4.27	
RT16AR	H10AR	18	9	10d x 1-1/2	8	10d	--	--	Lbs	1655	1280	790	725	1280	1535	960	725	585	960	
									kN	7.36	5.69	3.51	3.22	5.69	6.83	4.27	3.22	2.60	4.27	
RT16-2	H10A-2	18	8	8d	8	8d	--	--	Lbs	1690	1230	640	615	1230	1555	1035	590	500	1035	
									kN	7.52	5.47	2.85	2.74	5.47	6.92	4.60	2.62	2.22	4.60	
HHCP2	HCP2	18	10	10d x 1-1/2	10	10d x 1-1/2	--	--	Lbs	1505	710	--	--	--	1070	505	--	--	--	
									kN	6.69	3.16	--	--	--	4.76	2.25	--	--	--	
HHCP4-TZ	HCP4Z	16	8	10d	8	10d	--	--	Lbs	1835	690	--	--	--	1575	590	--	--	--	
									kN	8.16	3.07	--	--	--	7.01	2.62	--	--	--	
HC520	GBC	18	--	--	11	8d	6	8d	Lbs	640	510	560	--	--	555	440	485	--	--	
									kN	2.85	2.27	2.49	--	--	2.47	1.96	2.16	--	--	
HCPRS	--	18	--	--	5	8d	6	8d	Lbs	1020	945	340	--	--	660	665	240	--	--	
									kN	4.54	4.20	1.51	--	--	2.94	2.96	1.07	--	--	
LFTA6 [3]	H6	16	8	8d	8	8d	--	--	Lbs	1265	870	--	--	--	1075	775	--	--	--	
									kN	5.63	3.87	--	--	--	4.78	3.45	--	--	--	
RT20	H7	16	9	10d x 1-1/2	4	10d	9	10d x 1-1/2	Lbs	1695	--	--	--	--	1650	--	--	--	--	
									kN	7.54	--	--	--	--	7.34	--	--	--	--	
TSP	TSP	16	3	10d x 1-1/2	3	10d x 1-1/2	--	--	Lbs	740	--	--	--	--	675	--	--	--	--	
									kN	3.29					3.00					
			9	10d x 1-1/2	6	10d x 1-1/2	--	--	Lbs	1300	565	295	315	365	1170	520	270	290	335	
									kN	5.78	2.51	1.31	1.40	1.62	5.20	2.31	1.20	1.29	1.49	
					6	10d	--	--	Lbs	1345	565	295	315	365	1235	520	270	290	335	
									kN	5.98	2.51	1.31	1.40	1.62	5.49	2.31	1.20	1.29	1.49	

1) 15% increase for short-term loads such as wind and earthquake has been taken into account for factored resistances, no further increase allowed.
2) RT16A: For RT16A installed over truss metal plates, with Min. 1-1/2" upper flanges overlapping the metal plates and Min. top 4 nails (2 each side) into the metal plates, factored uplift resistance = 2035 lb (9.05 kN) for DF and SPF at $K_D = 1.15$.
3) LFTA6: To achieve F1 lateral loads, three nails must be installed on each side on the strap located closest to the bend line. Lateral F1 load direction does not apply to roof truss-to-top plate installations.
4) Non-identical hurricane ties are not to be combined to resist the uplift force or lateral loads at a single connection location.
5) **NAILS:** 8d x 1-1/2 are 0.131" dia. x 1-1/2" long, 8d nails are 0.131" dia. x 2-1/2" long, 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long, 10d nails are 0.148" dia. x 3" long.

Corrosion Finish Key Stainless Steel HDG Triple Zinc

Continued on next page

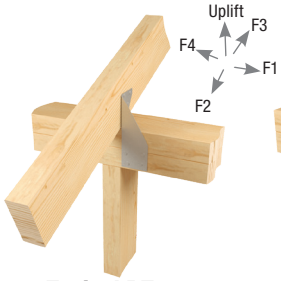
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Typical RT3A truss/rafter to plate installation



Typical RT4 truss/rafter to plate installation



Typical RT5 truss/rafter to double plate installation



Typical RT6 truss/rafter to plate installation



Typical RT7 truss/rafter to double plate installation



Typical RT7A truss/rafter to double plate installation



Typical RT8A I-joist to double plate installation



Typical RT10 truss/rafter to double plate to stud installation



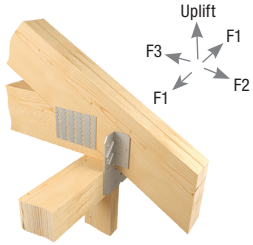
Typical RT15 truss/rafter to double plate installation



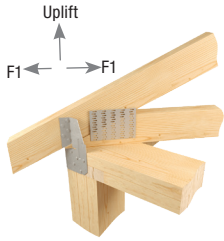
Typical RT16A truss/rafter to double plate installation



Typical RT16AR truss/rafter to double plate installation



Typical RT16-2 truss/rafter to double plate installation



Typical HHCP2 truss/rafter to double plate corner installation



Typical HHCP4-TZ truss/rafter to double plate corner installation



Typical HC520 stud to plate installation



Typical HC520 gable brace installation



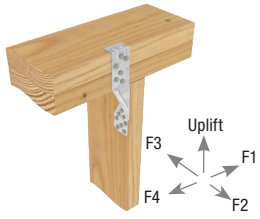
Typical HCPRS truss/rafter to plate installation



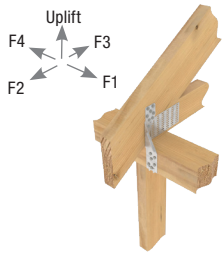
Typical LFTA6 stud to plate installation



Typical RT20 truss/rafter to double plate to stud installation

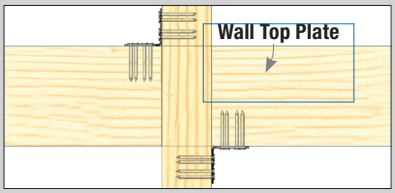


Typical TSP top plate installation
(max nailing)

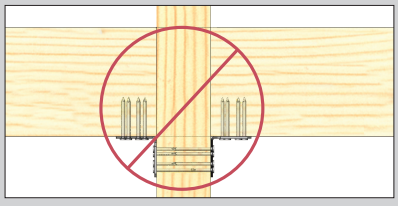


Typical TSP truss/rafter installation
(max nailing)

Anchor installation to achieve twice the load
(using two identical anchors)



Install diagonally across from each other for minimum 1-1/2" truss/rafter.



Nailing into both sides of a single-ply 2x truss/rafter may cause damages in wood

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PLATED TRUSS



MiTek®

PLATED TRUSS 240-271

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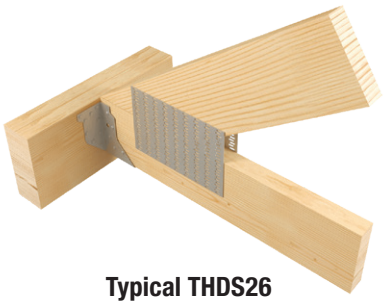


THDS Truss Hanger

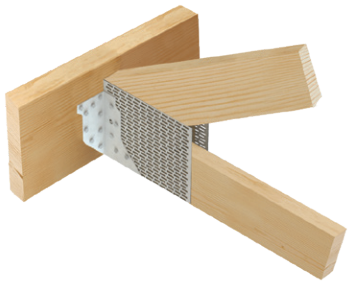
THDS26 hangers can be used to support headers, joists and trusses in medium load conditions. An open back design allows installation after a member is placed in position.

Materials: 18 gauge
Finish: G90 galvanizing

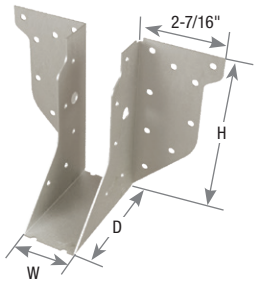
Installation:
• Use all specified fasteners. See Product Notes, page 16.



Typical THDS26 installation



Supported truss plated with flush plates



THDS26

MiTek Stock No.	Ref. No.	GA	Dimensions (in) W	H	D	Application[4] Header	Joist	Fastener Schedule[5] Header Qty	Header Type	Joist Qty	Joist Type	Unit	D Fir-L Factored Resistance Vertical 100%	Uplift[1] 115%	S-P-F Factored Resistance Vertical 100%	Uplift[1] 115%
THDS26	--	18	1-5/8	5-1/8	3-1/2	(1) 2x6 S-P-F	2x6 S-P-F	18	16d x 2-1/2	10	10d x 1-1/2	Lbs	2110	1690	2110	1690
												kN	9.39	7.52	9.39	7.52
						(2) 2x6 S-P-F	2x6 S-P-F	18	16d x 2-1/2	10	10d x 1-1/2	Lbs	2340	1690	2340	1690
												kN	10.41	7.52	10.41	7.52
						(1) 2x6 S-P-F	Truss with flush plates[2]	18	16d x 2-1/2	10	10d x 1-1/2[3]	Lbs	3415	1690	3415	1690
												kN	15.19	7.52	15.19	7.52
						(2) 2x6 S-P-F	Truss with flush plates[2]	18	16d x 2-1/2	10	10d x 1-1/2[3]	Lbs	3640	1690	3640	1690
												kN	16.19	7.52	16.19	7.52

1) Factored uplift resistances have been increased 15% for short-term loading such as wind and earthquake; reduce for other load durations in accordance with the code.
2) Truss flush plates must be sized to cover the entire THDS26 bucket area, and positioned no more than 1/4" from the end and the bottom edge of the truss member.
3) When used in a truss with flush plates application, the fasteners into the supported member will need to be driven through the truss flush plates to complete the installation.
4) Supporting and supported wood members are to be designed by others. Ensure supporting member can accept all fasteners.
5) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long, 16d x 2-1/2 nails are 0.162" dia. x 2-1/2" long.

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The MUS / HUS hanger series offers double shear nailing. MiTek's raised dimple allows for 30° to 45° nailing through the joist into header, resulting in higher loads and less nailing.

Materials: MUS – 18 gauge; HUS – 16 gauge

Finish: G90 galvanizing

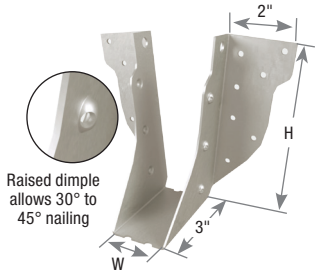
Codes: Factored resistances are derived from data submitted to various North American building code evaluators and a in accordance with current CSA O86 standard

Installation:

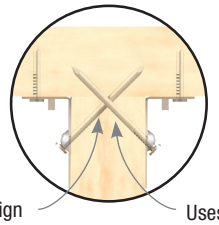
- Use all specified fasteners. See Product Notes, page 16.
- Joist nails must be driven in at a 30° to 45° angle through the joist or truss into the header to achieve listed loads. **Standard length slant / double shear nails must be used to achieve listed load values.**
- HUS – See EWP applications page 187.



Typical HUS installation
(MUS similar)

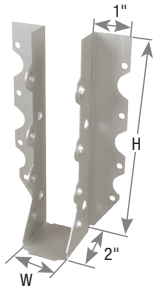


HUS



Double shear nail design features fewer nails and faster installation

Uses standard length nails



MUS

Joist / Truss Size	MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in)		Fastener Schedule[3]				Unit	D Fir-L Factored Resistance		S-P-F Factored Resistance		Corrosion Finish
						Header		Truss[2]							
				W	H	Qty	Type	Qty	Type		Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%	
2 x 6 - 8	MUS26	MUS26	18	1-9/16	5-1/16	6	10d	6	10d	Lbs	2845	1425	2825	1415	
										kN	12.66	6.34	12.57	6.29	
	HUS26	HUS26, LJS26DS	16	1-5/8	5-7/16	14	16d	6	16d	Lbs	6090	3915	5195	3625	
										kN	27.09	17.41	23.11	16.12	
2 x 8 - 10	MUS28	MUS28	18	1-9/16	7-1/16	8	10d	8	10d	Lbs	3855	2030	3830	2015	
										kN	17.15	9.03	17.04	8.96	
	HUS28	HUS28	16	1-5/8	7-3/16	22	16d	8	16d	Lbs	8050	5775	6875	5345	
										kN	35.81	25.69	30.58	23.78	
2 x 10 - 12	HUS210	HUS210	16	1-5/8	9-3/16	30	16d	10	16d	Lbs	9625	8045	8070	7455	
										kN	42.81	35.79	35.90	33.16	

1) Factored uplift resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) Nails must be driven at a 30° to 45° angle through the joist or truss into the header to achieve the table loads.
3) **NAILS:** 10d nails are 0.148" dia. x 3" long, 16d nails are 0.162" dia. x 3-1/2" long.
New products or updated product information are designated in blue font.

Corrosion Finish Key Stainless Steel HDG Triple Zinc

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THD Heavy-Duty Face Mount Truss Hangers

Medium-to-heavy capacity face mount hanger. Some THD models are available with a min/max installation option.

Materials: See chart

Finish: G90 galvanizing

Options: See chart for Corrosion Finish Options and Specialty Options Chart

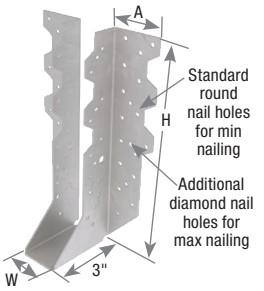
Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:

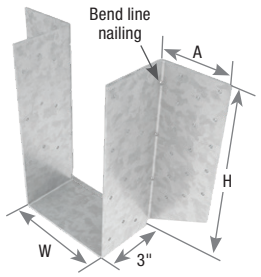
- Use all specified fasteners. See Product Notes, page 16.
- Drive bend line nails into header at 45° to achieve listed loads.
- See EWP applications on pages 188-189.
- **Min Nailing** – Fill all round nail holes.
- **Max Nailing** – Fill all round and diamond holes.



Typical THD210 installation

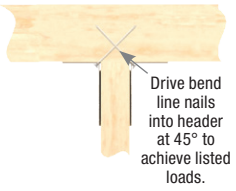


THD210



THD210-3

Some model designs may vary from illustration shown



Typical bend line nail installation

Joist / Truss Size	MiTek Stock No.	Ref. No.	GA	Dimensions (in)			Fastener Schedule[2]					Unit	D Fir-L Factored Resistance		S-P-F Factored Resistance		Corrosion Finish
								Header		Joist							
				W	H	A	Min/ Max	Qty	Type	Qty	Type		Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%	
2 x 6 - 8	THD26	HTU26	16	1-5/8	5-1/16	2	Min	18	16d	12	10d x 1-1/2	Lbs	5490	4020	4675	3725	
												kN	24.42	17.88	20.80	16.57	
							Max	20	16d	20	10d x 1-1/2	Lbs	5490	4020	4675	3725	
												kN	24.42	17.88	20.80	16.57	
2 x 8 - 10	THD28	HTU28	16	1-5/8	7	2	Min	28	16d	16	10d x 1-1/2	Lbs	6895	4020	6245	3725	
												kN	30.67	17.88	27.78	16.57	
							Max	28	16d	26	10d x 1-1/2	Lbs	7620	4020	7365	3725	
												kN	33.90	17.88	32.76	16.57	
2 x 10 - 12	THD210	HTU210	16	1-5/8	9	2	Min	38	16d	20	10d x 1-1/2	Lbs	9430	7715	8250	7145	
												kN	41.95	34.32	36.70	31.78	
							Max	38	16d	32	10d x 1-1/2	Lbs	10035	7715	8790	7145	
												kN	44.64	34.32	39.10	31.78	
(2) 2 x 6 - 8	THD26-2	HHUS26-2, HTU26-2	14	3-7/16	5-3/8	2	--	18	16d	12	10d	Lbs	6525	5270	6030	4715	
												kN	29.02	23.44	26.82	20.97	
(2) 2 x 8 - 10	THD28-2	HHUS28-2, HTU28-2	14	3-7/16	7-1/8	2	--	28	16d	16	10d	Lbs	7545	4480	6970	4005	
												kN	33.56	19.93	31.00	17.82	
(2) 2 x 10 - 12	THD210-2	HHUS210-2, HTU210-2	14	3-7/16	9-1/8	2	--	38	16d	20	10d	Lbs	10625	7715	9815	7145	
												kN	47.26	34.32	43.66	31.78	
(3) 2 x 10 - 12	THD210-3	HHUS210-3	12	5-1/8	9	3	--	38	16d	20	10d	Lbs	11705	7715	11245	7145	
												kN	52.07	34.32	50.02	31.78	
(4) 2 x 10 - 12	THD210-4	HHUS210-4	12	6-3/4	9	3	--	38	16d	20	10d	Lbs	11705	7715	11245	7145	
												kN	52.07	34.32	50.02	31.78	

1) Factored uplift resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long, 10d nails are 0.148" dia. x 3" long, 16d nails are 0.162" dia. x 3-1/2" long.

Corrosion Finish Key Stainless Steel HDG Triple Zinc

Continued on next page

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Specialty Options Chart

– refer to Specialty Options pages 294-295 for additional details.

Option	Skewed[1,3]	Sloped Seat[2]	Sloped / Skewed[1,2,3]	Inverted Flange
Range	1˚ to 45˚	1˚ to 45˚	See Sloped Seat and Skewed	THD26 – THD210 N/A THD26-2 – THD210-3 One flange THD610 – THD7210 Two flange
Factored Resistance	85% of table load	65% of table load	65% of table load	100% of table load. 65% of table load when nailing into the support members end grain.
Ordering	Add *SK*, angle required, right *(R)* or left *(L)*, and square cut *(SQ)* or bevel cut *(BV)* to product number. Ex. THD410_SK45R_SQ	Add *SL,* slope required, and up *(U)* or down *(D),* to product number. Ex. THD410_SL30D	See Sloped Seat and Skewed. Ex. THD410_SK45R_SQ_SL30D	**One flange option:** Add *IF,* and right *(R)* or left *(L),* to product number. Ex. THD410_IFR **Two flange option:** Add *IF,* to product number. Ex. THD610_IF

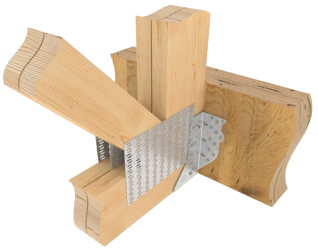
1) Skewed hangers with skews greater than 15° may have all joist nailing on outside flange.
2) Sloped or sloped / skewed hangers with slopes greater than 15° may have additional joist nails.
3) For skewed hangers, the required cut type (square or bevel) of joist member may vary based on skew angle and width of hanger. Some square cut hangers will require custom pricing due to welded back plate.

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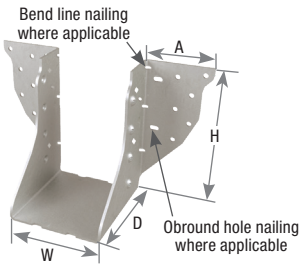
THDH Heavy-Duty Truss Hangers

Materials: 12 gauge
Finish: G90 galvanizing
Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:
- Use all specified fasteners. See Product Notes, page 16.
- Joist nails must be driven in at a 30° to 45° angle through the joist or truss into the header to achieve listed loads. **Slant / double shear nails must be used to achieve listed load values.**
- See EWP applications on pages 188-189.

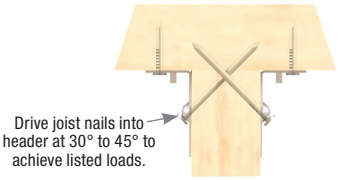


Typical THDH installation

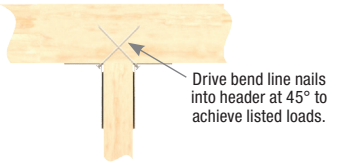


THDH

Some model designs may vary from illustration shown



Typical double shear installation



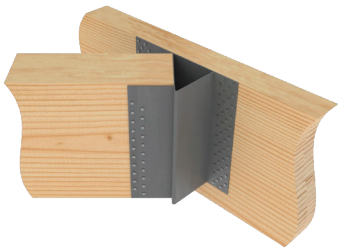
Typical bend line nail installation

Joist / Truss Size	MiTek Stock No.	Ref. No.	Dimensions (in)				Fastener Schedule[2,3]				Unit	D Fir-L Factored Resistance		S-P-F Factored Resistance	
							Header		Truss						
			W	H	D	A	Qty	Type	Qty	Type		Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%
2 x 6 - 8	THDH26	HGUS26	1-5/8	5-7/16	5	3-1/2	20	16d	8	16d	Lbs	7130	4880	5470	4740
											kN	31.72	21.71	24.33	21.08
2 x 8 - 10	THDH28	HGUS28	1-5/8	7-3/16	5	3-1/2	36	16d	12	16d	Lbs	12130	7575	9475	7345
											kN	53.96	33.70	42.15	32.67
2 x 10 - 12	THDH210	--	1-5/8	9-3/16	5	3-1/2	46	16d	16	16d	Lbs	14620	10030	11905	8775
											kN	65.03	44.62	52.96	39.03
(2) 2 x 6 - 8	THDH26-2	HGUS26-2	3-1/4	5-1/2	4	2-1/2	22	16d	8	16d	Lbs	9480	4880	7420	4740
											kN	42.17	21.71	33.01	21.08
(2) 2 x 8 - 10	THDH28-2	HGUS28-2	3-1/4	7-1/4	4	2-1/2	36	16d	10	16d	Lbs	12130	5110	9475	5110
											kN	53.96	22.73	42.15	22.73
(2) 2 x 10 - 12	THDH210-2	HGUS210-2	3-1/4	9-1/4	4	2-1/2	46	16d	12	16d	Lbs	12430	7575	9725	7345
											kN	55.29	33.70	43.26	32.67
(3) 2 x 6 - 8	THDH26-3	HGUS26-3	5-1/8	5-7/16	4	2-1/2	20	16d	8	16d	Lbs	7130	4880	5470	4740
											kN	31.72	21.71	24.33	21.08
(3) 2 x 8 - 10	THDH28-3	HGUS28-3	5-1/8	7-3/16	4	2-1/2	36	16d	12	16d	Lbs	12130	7575	9475	7345
											kN	53.96	33.70	42.15	32.67
(3) 2 x 10 - 12	THDH210-3	HGUS210-3	5-1/8	9-3/16	4	2-1/2	46	16d	16	16d	Lbs	12430	10030	9725	8775
											kN	55.29	44.62	43.26	39.03
(3) 2 x 12 - 14	THDH212-3	HGUS212-3	5-1/8	11-3/16	4	2-1/2	56	16d	20	16d	Lbs	13975	10030	11750	8775
											kN	62.16	44.62	52.27	39.03
(3) 2 x 14 - 16	THDH214-3	HGUS214-3	5-1/8	13-3/16	4	2-1/2	66	16d	22	16d	Lbs	17720	10185	15320	8905
											kN	78.82	45.31	68.15	39.61
(4) 2 x 6 - 8	THDH26-4	HGUS26-4	6-9/16	5-7/16	4	2	20	16d	8	16d	Lbs	7130	4880	5470	4740
											kN	31.72	21.71	24.33	21.08
(4) 2 x 8 - 10	THDH28-4	HGUS28-4	6-7/16	7-9/16	4	2-1/2	36	16d	12	16d	Lbs	11015	7575	8680	7345
											kN	49.00	33.70	38.61	32.67

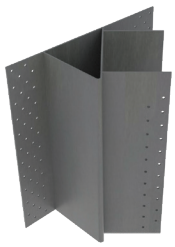
1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) Joist nails need to be toe nailed at a 30° to 45° angle to achieve factored resistances shown.
3) **NAILS:** 16d nails are 0.162" dia. x 3-1/2" long.
New products or updated product information are designated in blue font.

Continued on next page

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Typical THDH614_SK45L_SQ installation



THDH614-SK45RSQ

Specialty Options Chart

– refer to Specialty Options pages 294-295 for additional details.

Option	Skewed[1,3]	Sloped Seat[2]	Sloped / Skewed[1,2,3]
Range	1˚ to 45˚	1˚ to 45˚	See Sloped Seat and Skewed
Factored Resistance	85% of table load. 50% of table uplift load.	85% of table load	52% of table load. 50% of table uplift load.
Ordering	Add *SK*, angle required, right *(R)* or left *(L)*, and square cut *(SQ)* or bevel cut *(BV)* to product number. Ex. THDH410_SK45R_BV	Add SL, slope required, and up (U) or down (D), to product number. Ex. THDH410_SL30D	See Sloped Seat and Skewed. Ex. THDH410_SK45R_BV_SL30D

1) Skewed THDH hangers with skews greater than 15° always have all joist nailing on one side of the outside flange.
2) Sloped or sloped / skewed hangers with slopes greater than 15° may have additional joist nails.
3) Skewed hangers typically require a bevel cut. A square cut option may be available as a custom.

Inverted flange option is not available for THDH models.

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THDHQ Girder Truss Hangers

The THDHQ hangers are designed to attach multi-ply girder trusses together using MiTek's WS structural wood screws for higher design load capacity. THDHQ hangers can also be used to attach structural composite lumber (SCL).

Materials: 12 gauge

Finish: G90 galvanizing

Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:

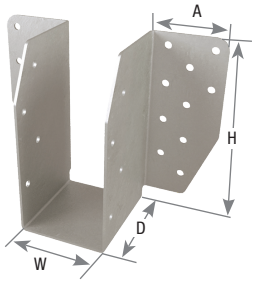
- Use all specified fasteners.
- MiTek's WS structural wood screws are supplied with THDHQ hangers.
- See table footnotes.



Typical THDHQ28-2 truss installation



Typical THDHQ28-2 dimension lumber installation



THDHQ28-2

Supported Member	MiTek Stock No.	Ref. No.	Dimensions (in)				Fastener Schedule[2,7]				Unit	D Fir-L Factored Resistance		S-P-F Factored Resistance	
							Supporting Member[3,4,5]		Supported Member			Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%
			W	H	D	A	Qty	Type	Qty	Type					
Double 2x Sizes															
(2) 2 x 6 - 8	THDHQ26-2	HGUQ26-2-SDS3	3-5/16	5-7/16	4	1-15/16	12	WS3	4	WS3	Lbs	8070	3430	6175	3175
											kN	35.90	15.26	27.47	14.12
(2) 2 x 8 - 10	THDHQ28-2	HGUQ28-2-SDS3	3-5/16	7-3/16	4	2-13/16	20	WS3	8	WS3	Lbs	14610	6080	11360	5970
											kN	64.99	27.05	50.53	26.56
(2) 2 x 10 - 12	THDHQ210-2	HGUQ210-2-SDS3	3-5/16	9-3/16	4	2-13/16	28	WS3	8	WS3	Lbs	16675	9700	13615	9115
											kN	74.17	43.15	60.56	40.55
Triple 2x Sizes															
(3) 2 x 6 - 8	THDHQ26-3	HGUQ26-3-SDS4.5	4-15/16	5-7/16	4	1-15/16	12	WS45	4	WS45	Lbs	8070	3430	6175	3175
											kN	35.90	15.26	27.47	14.12
(3) 2 x 8 - 10	THDHQ28-3	HGUQ28-3-SDS4.5	4-15/16	7-3/16	4	2-13/16	20	WS45	8	WS45	Lbs	14610	6080	11360	5970
											kN	64.99	27.05	50.53	26.56
(3) 2 x 10 - 12	THDHQ210-3	HGUQ210-3-SDS4.5	4-15/16	9-3/16	4	2-13/16	28	WS45	8	WS45	Lbs	16675	9700	13615	9115
											kN	74.17	43.15	60.56	40.55
Quadruple 2x Sizes															
(4) 2 x 6 - 8	THDHQ26-4	HGUQ26-4-SDS6	6-9/16	5-7/16	4	1-15/16	12	WS6	4	WS6	Lbs	8070	4425	6175	3875
											kN	35.90	19.68	27.47	17.24
(4) 2 x 8 - 10	THDHQ28-4	HGUQ28-4-SDS6	6-9/16	7-3/16	4	2-13/16	20	WS6	8	WS6	Lbs	14610	8205	11360	7835
											kN	64.99	36.50	50.53	34.85
(4) 2 x 10 - 12	THDHQ210-4	HGUQ210-4-SDS6	6-9/16	9-3/16	4	2-13/16	28	WS6	8	WS6	Lbs	16675	7870	13615	7235
											kN	74.17	35.01	60.56	32.18
4x Sizes															
4 x 6 - 8	THDHQ46	HGUQ46-SDS3	3-5/8	5-7/16	4	1-15/16	12	WS3	8	WS3	Lbs	8070	3430	6175	3175
											kN	35.90	15.26	27.47	14.12
4 x 8 - 10	THDHQ48	HGUQ48-SDS3	3-5/8	7-3/16	4	2-13/16	20	WS3	8	WS3	Lbs	14610	6080	11360	5970
											kN	64.99	27.05	50.53	26.56
4 x 10 - 12	THDHQ410	HGUQ410-SDS3	3-5/8	9-3/16	4	2-13/16	28	WS3	8	WS3	Lbs	16675	9700	13615	9115
											kN	74.17	43.15	60.56	40.55

1) Factored uplift resistances have been increased 15% for short-term loads such as wind and earthquake; no further increase allowed.
2) MiTek's WS3 (1/4" dia. x 3" long), WS45 (1/4" dia. x 4-1/2" long), and WS6 (1/4" dia. x 6" long) structural wood screws are included with THDHQ hangers.
3) WS wood screw length into supporting member is based on supporting member width being equal to supported member width. See notes 4 and 5 for fastening information.
4) WS wood screws shall penetrate properly into all plies of the supporting member and as a minimum, penetration into the last ply of the supporting member shall be at least 1". Additional WS screws (not supplied) can be installed to the back side of the outer ply, designed by others, when the aforementioned penetration requirement is not met.
5) For construction safety concern, if the supplied WS structural wood screws protrude past the last ply of the supporting member, shorter length WS screws can be used; ex. WS3 screws may be substituted for WS45 screws and WS45 screws may be substituted for WS6 screws, with no load reduction. Alternately, a backer block member may be used as determined by the designer.
6) Cross-grain tension may limit factored resistances per CSA O86:19 Section 12.2.1.4. For assistance, contact MiTek.
7) MiTek's WS structural wood screws may be installed through metal truss connector plates as approved by the Truss Designer, provided the requirements of CSA O86:19 Section 5.3.8 and TPIC-2014 Section 7.5 are met. (Pre-drilling required through the plate using a maximum of 5/32" bit).
8) For hanger installations supported by LSL, of specific gravity no less than 0.50, use the D Fir-L factored resistances.

Specialty Options Chart

– refer to Specialty Options pages 294-295 for additional details.

Option	Skewed[1,3]	Sloped Seat[2]	Sloped / Skewed[1,2,3]	Inverted Flange[4,5]
Range	1° to 45°	1° to 45°	See Sloped Seat and Skewed	One flange option available on all sizes. Two flange option available on widths ≥ 6-9/16"
Allowable Loads	100% of table allowable load. 75% of table uplift load.	100% of table allowable load	100% of table allowable load. 75% of table uplift load.	100% of table value. May not be installed into the support members endgrain.
Ordering	Add *SK*, angle required, right *(R)* or left *(L)*, and square cut *(SQ)* or bevel cut *(BV)* to product number. Ex. THDHQ410_SK45R_BV	Add *SL*, slope required, and up *(U)* or down *(D)*, to product number. Ex. THDHQ410_SL30D	See Sloped Seat and Skewed. Ex. THDHQ410_SK45R_BV_SL30D	One flange option: Add *IF*, and right *(R)* or left *(L)*, to product number. Ex. THDHQ410_IFR Two flange option: Add *IF*, to product number. Ex. THDHQ26-3_IF

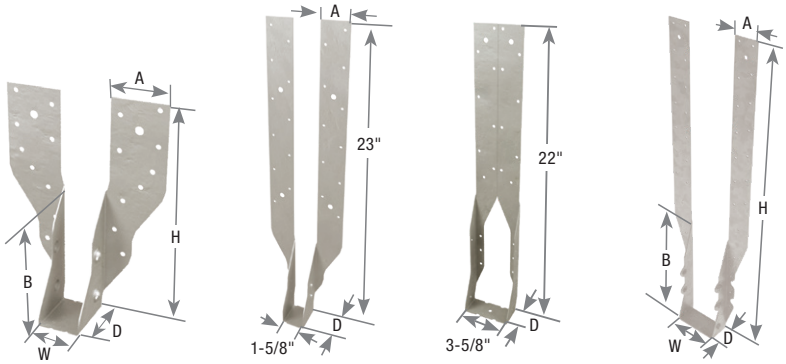
1) Skewed THDHQ hangers with skews greater than 15° always have all joist fasteners on one side of the outside flange.
2) Sloped or sloped / skewed hangers with slopes greater than 15° may have additional joist fasteners.
3) Skewed hangers typically require a bevel cut however, a square cut option may be available as a custom when requested. Some square cut hangers will require custom pricing due to welded back plate.
4) The inverted flange option is not available on skewed THDHQ hangers.
5) THDHQ26-3 is available with both flanges inverted.

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The MSH is field adjustable. The flanges can be used in top mount, face mount, or combination installations. An open back design allows installation after a member is placed in position.

Materials: See chart
Finish: G90 galvanizing
Options: See chart for Corrosion Finish Options
Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:
- Use all specified fasteners. See Product Notes, page 16.
- Web stiffeners are required for I-Joist installations.

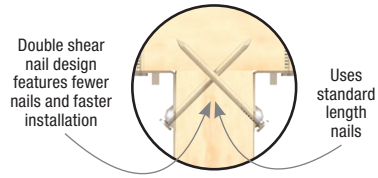


MSH | MSH222 | MSH422IF | MSH426

Nailer Options

– chart represents maximum factored resistance for hangers used on wood nailers. Reference page 177.

MiTek Series	Nailer Size[2]	Fastener Schedule[5] Header Top Qty	Header Face Qty	Header Type	Joist Qty	Joist Type	D Fir-L Factored Resistance[1,3] Lbs Vertical 100%	D Fir-L Factored Resistance[1,3] kN Vertical 100%	S-P-F Factored Resistance[1,3] Lbs Vertical 100%	S-P-F Factored Resistance[1,3] kN Vertical 100%
MSH (18GA)	2X	4	--	10d x 1-1/2	4	10d x 1-1/2	2045	9.10	1655	7.36
	3X	4	--	10d x 1-1/2	4	10d x 1-1/2	2045	9.10	1655	7.36
	(2) 2X	4	2	10d	4	10d x 1-1/2	3200	14.23	2635	11.72
	4X	4	2	10d	4	10d x 1-1/2	3200	14.23	2635	11.72
MSH (16GA or 14GA)	2X	4	2	10d x 1-1/2	6[4]	10d x 1-1/2	3215	14.30	2525	11.23
	3X	4	2	10d x 1-1/2	6[4]	10d x 1-1/2	3215	14.30	2525	11.23
	(2) 2X	4	2	16d x 2-1/2	6[4]	10d x 1-1/2	3215	14.30	2525	11.23
	4X	4	2	16d x 2-1/2	6[4]	10d x 1-1/2	3215	14.30	2525	11.23



1) Listed loads shall not be increased.
2) The nailer must be sized to fit the supported width and be of sufficient thickness to satisfy specified top flange nailing requirements. A design professional must specify nailer attachment to steel beams.
3) Values in the table apply to standard top mount hangers without slope, skew or any other specialty options.
4) Refer to load table on pages 250-251 for gauge and joist nail quantity of desired MSH hanger.
5) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long, 10d nails are 0.148" dia. x 3" long, 16d x 2-1/2 nails are 0.162" dia. x 2-1/2" long.

New products or updated product information are designated in blue font.

Mounting Conditions

Face Max

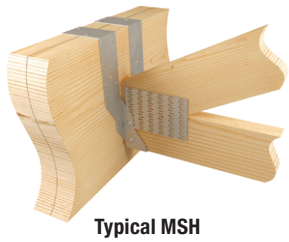
All header nails used should be driven into the wide face of the header



Typical MSH face-max installation

Top-Max

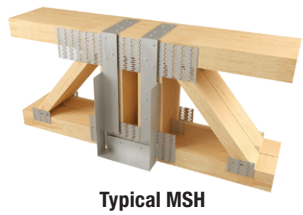
The hanger is installed in a topmount condition with at least six lowest header face nail holes filled, and four top flange nails filled. Refer to **Table 1** below for minimum top flange length requirements.



Typical MSH top-max installation

Top-Min

The hanger is installed in a top mount condition with at least the top two header face nail holes filled, and four top flange nail holes filled. Refer to **Table 1** below for minimum top flange length requirements. The joist nails shall be installed straight into the joist for all models.



Typical MSH top-min installation

Combination Face-Max / Top-Max

Face-Max values apply for the entire connection. Follow fastening directions for the applicable mounting condition for each individual flange strap.



Typical MSH combination installation

Table 1

Minimum Top Flange Length for Top Mount Installations[1]											
7/8"	1-1/8"	1-3/8"	1-1/2"	1-3/4"	1-7/8"	2"	2-3/16"		2-5/8"	2-3/4"	2-13/16"
MSH426	MSH29	MSH2322-2	MSH422-2	MSH426-2	MSH1713	MSH424	MSH222	MSH222-2	MSH218-2	MSH218	MSH213
MSH426IF	--	MSH2622-2	MSH422-2IF	--	--	--	MSH1722	MSH422IF	--	MSH413	--
--	--	--	--	--	--	--	MSH2322	MSH2022	--	MSH418	--
--	--	--	--	--	--	--	MSH322		--	MSH422	--

1) Total hanger height will be reduced by the top flange length. Carried member height must be accounted for accordingly.

Continued on next page

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Joist Material & Width	MiTek Stock No.	Ref. No.	GA	Dimensions (in)					Mounting Condition	Fastener Schedule[2]					Unit	D Fir-L Factored Resistance		S-P-F Factored Resistance	
										Header			Joist						
				W	H	D	A	B		Top Qty	Face Qty	Type	Qty	Type		Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%
2x Lumber or Trusses	MSH29	THA29	18	1-5/8	8-3/4	2-1/4	2-7/16	5	face-max	--	18	10d	4	10d x 1-1/2	Lbs	4625	1435	3630	1125
															kN	20.57	6.38	16.15	5.00
									top-max	4	6	10d	4	10d x 1-1/2	Lbs	4785	1435	3760	1125
															kN	21.28	6.38	16.73	5.00
									top-min	4	2	10d	4	10d x 1-1/2	Lbs	3630	--	2850	--
															kN	16.15	--	12.68	--
	MSH213	THA213	18	1-5/8	12-3/4	2-1/4	2-3/8	5	face-max	--	20	10d	4	10d	Lbs	4625	1435	3630	1125
															kN	20.57	6.38	16.15	5.00
									top-max	4	6	10d	4	10d	Lbs	4785	1435	3760	1125
															kN	21.28	6.38	16.73	5.00
									top-min	4	2	10d	4	10d x 1-1/2	Lbs	3630	--	2850	--
															kN	16.15	--	12.68	--
	MSH218		18	1-5/8	16-3/4	2-1/4	2-7/16	5	face-max	--	26	10d	4	10d x 1-1/2	Lbs	4625	1435	3630	1125
															kN	20.57	6.38	16.15	5.00
									top-max	4	6	10d	4	10d x 1-1/2	Lbs	4785	1435	3760	1125
															kN	21.28	6.38	16.73	5.00
									top-min	4	2	10d	4	10d x 1-1/2	Lbs	3630	--	2850	--
															kN	16.15	--	12.68	--
	MSH222	THAI222	18	1-5/8	23	1-3/4	1-13/16	10-13/16	face-max	--	22	10d	4	10d x 1-1/2	Lbs	3640	1085	2860	850
															kN	16.19	4.83	12.72	3.78
									top-max	4	6	10d	4	10d x 1-1/2	Lbs	4125	1085	3235	850
															kN	18.35	4.83	14.39	3.78
									top-min	4	2	10d	4	10d x 1-1/2	Lbs	3440	--	2700	--
															kN	15.30	--	12.01	--
1-3/4" LVL or I-Joist	MSH1713	--	18	1-13/16	14-7/16	1-3/4	1-13/16	10-3/4	face-max	--	12	10d	4	10d	Lbs	3640	1085	2860	850
															kN	16.19	4.83	12.72	3.78
									top-max	4	6	10d	4	10d	Lbs	4125	1085	3235	850
															kN	18.35	4.83	14.39	3.78
									top-min	4	2	10d	4	10d x 1-1/2	Lbs	3440	--	2700	--
															kN	15.30	--	12.01	--
	MSH1722	THAI1.81/22	18	1-13/16	22-7/8	1-3/4	1-7/8	10-3/4	face-max	--	22	10d	4	10d x 1-1/2	Lbs	3410	940	2900	800
															kN	15.17	4.18	12.90	3.56
									top-max	4	6	10d	4	10d x 1-1/2	Lbs	4495	975	3660	795
															kN	19.99	4.34	16.28	3.54
									top-min	4	2	10d	4	10d x 1-1/2	Lbs	3370	--	2750	--
															kN	14.99	--	12.23	--
2" wide I-Joist	MSH2022	THAI2.06/22	18	2-1/16	22-5/8	1-3/4	1-13/16	10-7/16	face-max	--	22	10d	4	10d	Lbs	3410	940	2900	800
															kN	15.17	4.18	12.90	3.56
									top-max	4	6	10d	4	10d	Lbs	4495	975	3660	795
															kN	19.99	4.34	16.28	3.54
									top-min	4	2	10d	4	10d	Lbs	3370	--	2750	--
															kN	14.99	--	12.23	--
2-5/16" wide I-Joist	MSH2322	THAI3522	18	2-3/8	22-5/8	1-3/4	1-13/16	10-7/16	face-max	--	22	10d	4	10d x 1-1/2	Lbs	3410	940	2900	800
															kN	15.17	4.18	12.90	3.56
									top-max	4	6	10d	4	10d x 1-1/2	Lbs	4495	975	3660	795
															kN	19.99	4.34	16.28	3.54
									top-min	4	2	10d	4	10d x 1-1/2	Lbs	3370	--	2750	--
															kN	14.99	--	12.23	--
2-1/2" wide Floor Trusses	MSH322	THAI322	18	2-9/16	22-1/2	1-3/4	1-13/16	10-3/8	face-max	--	22	10d	4	10d x 1-1/2	Lbs	3410	940	2900	800
															kN	15.17	4.18	12.90	3.56
									top-max	4	6	10d	4	10d x 1-1/2	Lbs	4495	975	3660	795
															kN	19.99	4.34	16.28	3.54
									top-min	4	2	10d	4	10d x 1-1/2	Lbs	3370	--	2750	--
															kN	14.99	--	12.23	--
(2) 2x Lumber or Trusses	MSH218-2	THA218-2	16	3-1/8	17-3/4	1-3/4	1-13/16	10-1/16	face-max	--	16	10d	4	10d	lb	3940	1105	3090	865
															kN	17.525989	4.92	13.75	3.85
									top-max	4	6	10d	4	10d	lb	5530	1105	4340	865
															kN	24.598659	4.92	19.31	3.85
									top-min	4	2	10d	4	10d	lb	3425	--	2690	--
															kN	15.235155	--	11.965713	--
	MSH222-2	THA222-2	16	3-1/8	22-1/4	1-3/4	1-13/16	10-1/16	face-max	--	22	10d	4	10d	lb	5335	1105	4190	865
															kN	23.731256	4.92	18.64	3.85
									top-max	4	6	10d	4	10d	lb	5530	1105	4340	865
															kN	24.598659	4.92	19.31	3.85
									top-min	4	2	10d	4	10d	lb	3425	--	2690	--
															kN	15.235155	--	11.965713	--

1) Factored uplift resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long, 10d nails are 0.148" dia. x 3" long, 16d nails are 0.162" dia. x 3-1/2" long.

Continued on next page

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Joist Material & Width	MiTek Stock No.	Ref. No.	GA	Dimensions (in) W	H	D	A	B	Mounting Condition	Fastener Schedule[2] Header Top Qty	Header Face Qty	Header Type	Joist Qty	Joist Type	Unit	D Fir-L Factored Resistance Vertical 100%	D Fir-L Uplift[1] 115%	S-P-F Factored Resistance Vertical 100%	S-P-F Uplift[1] 115%	Corrosion Finish
3-1/2" wide Floor Trusses	MSH413	THA413	16	3-9/16	14	1-3/4	1-7/8	7-5/8	face-max	--	14	10d	6	10d	Lbs	5505	2865	4320	2250	
															kN	24.49	12.74	19.22	10.01	
									top-max	4	6	10d	6	10d	Lbs	5125	2865	4020	2250	
															kN	22.80	12.74	17.88	10.01	
									top-min	4	2	10d	6	10d	Lbs	3215	--	2525	--	
															kN	14.30	--	11.23	--	
	MSH418	THA418	16	3-9/16	17-1/2	1-3/4	1-7/8	7-5/8	face-max	--	18	10d	6	10d	Lbs	6930	2865	5440	2250	
															kN	30.83	12.74	24.20	10.01	
									top-max	4	6	10d	6	10d	Lbs	5125	2865	4020	2250	
															kN	22.80	12.74	17.88	10.01	
									top-min	4	2	10d	6	10d	Lbs	3215	--	2525	--	
															kN	14.30	--	11.23	--	
	MSH422	THA422, THAI422	16	3-9/16	21-1/2	1-3/4	1-7/8	7-5/8	face-max	--	22	10d	6	10d	Lbs	6015	2490	5115	2115	
															kN	26.76	11.08	22.75	9.41	
									top-max	4	6	10d	6	10d	Lbs	5125	2865	4020	2250	
															kN	22.80	12.74	17.88	10.01	
									top-min	4	2	10d	6	10d	Lbs	3215	--	2525	--	
															kN	14.30	--	11.23	--	
	MSH422IF	THAC418, THAC422	16	3-5/8	22	1-3/4	--	9-13/16	face-max	--	22	10d	6	10d	Lbs	5335	1105	4190	865	
															kN	23.73	4.92	18.64	3.85	
									top-max	4	6	10d	6	10d	Lbs	5530	1105	4340	865	
															kN	24.60	4.92	19.31	3.85	
									top-min	4	2	10d	6	10d	Lbs	3425	--	2690	--	
															kN	15.24	--	11.97	--	
	MSH424	--	16	3-5/8	21-1/2	2	2-1/16	5-3/16	face-max	--	36	10d	6	10d	Lbs	6285	2345	4935	1840	
															kN	27.96	10.43	21.95	8.18	
									top-max	4	6	10d	6	10d	Lbs	4705	2345	3695	1840	
															kN	20.93	10.43	16.44	8.18	
									top-min	4	2	10d	6	10d	Lbs	2455	--	1930	--	
															kN	10.92	--	8.59	--	
	MSH426 MSH426IF	THA426, THAC426	14	3-5/8	26	1-3/4	1-13/16	8	top-max	4	8	16d	6	16d	Lbs	6115	3415	4800	2685	
															kN	27.20	15.19	21.35	11.94	
									top-min	4	2	16d	6	16d	Lbs	4340	905	3405	710	
															kN	19.31	4.03	15.15	3.16	
(2) 3-1/2" wide Floor Trusses	MSH422-2	THA422-2	14	7-1/4	22-1/8	2	2-1/8	11	face-max	--	26	16d	6	16d	Lbs	9025	1935	7355	1575	
															kN	40.15	8.61	32.72	7.01	
									top-max	4	10	16d	6	16d	Lbs	7275	2145	5710	1685	
															kN	32.36	9.54	25.40	7.50	
									top-min	4	4	16d	6	16d	Lbs	6665	--	5230	--	
															kN	29.65	--	23.26	--	
	MSH422-2IF	THAC422-2	14	7-1/4	22-1/8	2	--	11	face-max	--	26	16d	6	16d	Lbs	9025	1935	7355	1575	
															kN	40.15	8.61	32.72	7.01	
									top-max	4	10	16d	6	16d	Lbs	7275	2145	5710	1685	
															kN	32.36	9.54	25.40	7.50	
									top-min	4	4	16d	6	16d	Lbs	6665	--	5230	--	
															kN	29.65	--	23.26	--	
	MSH426-2	THA426-2	14	7-1/4	26-1/16	2	2-1/8	11	face-max	--	22	10d	4	10d	Lbs	9025	1935	7355	1575	
															kN	40.15	8.61	32.72	7.01	
									top-max	4	6	10d	4	10d	Lbs	7275	2145	5710	1685	
															kN	32.36	9.54	25.40	7.50	
									top-min	4	4	10d	4	10d	Lbs	6665	--	5230	--	
															kN	29.65	--	23.26	--	
(2) 2-5/16" wide I-Joist	MSH2322-2	--	16	4-3/4	22	1-3/4	1-7/8	9-1/4	face-max	--	46	10d	4	10d	Lbs	8120	995	6375	810	
															kN	36.12	4.43	28.36	3.60	
									top-max	4	6	10d	4	10d	Lbs	5240	995	4115	810	
															kN	23.31	4.43	18.30	3.60	
									top-min	4	2	10d	4	10d	Lbs	3475	--	2830	--	
															kN	15.46	--	12.59	--	
(2) 2-1/2" wide I-Joist	MSH2622-2	--	16	5-3/8	22	1-3/4	1-7/8	9-1/4	face-max	--	46	10d	4	10d	Lbs	8120	995	6375	810	
															kN	36.12	4.43	28.36	3.60	
									top-max	4	6	10d	4	10d	Lbs	5240	995	4115	810	
															kN	23.31	4.43	18.30	3.60	
									top-min	4	2	10d	4	10d	Lbs	3475	--	2830	--	
															kN	15.46	--	12.59	--	

1) Factored uplift resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long, 10d nails are 0.148" dia. x 3" long, 16d nails are 0.162" dia. x 3-1/2" long.

Corrosion Finish Stainless Steel Gold Coat HDG Triple Zinc

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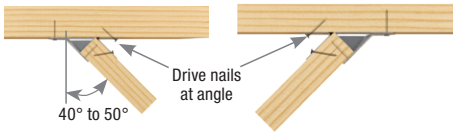
MSHL / R Skewed Truss Hangers

The MSHL/R is a versatile 45-degree skewed hanger with multiple installation options. It can be installed on a supporting girder truss as well as solid-sawn and structural composite lumber headers.

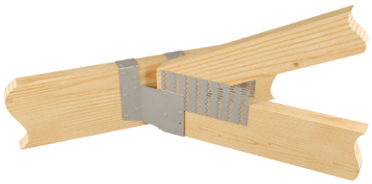
Materials: See chart
Finish: G90 galvanizing

Installation:

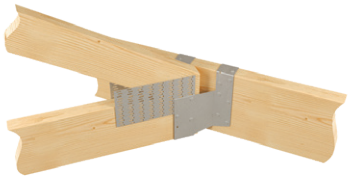
- Install the required number of fasteners according to the load table.
- Install fasteners into the carrying members at the locations described below based on the proper "Mounting Condition."
- Web stiffeners are required for I-Joist installations
- Hanger is factory skewed at 45° left or right.



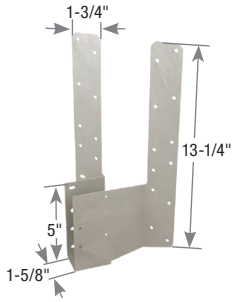
Right skew **Left skew**



Typical MSH213R installation
right skew



Typical MSH213L installation
left skew



MSH213L
left skew

CONNECTION TO CARRYING MEMBER
Mounting Conditions:

Face-Max

For MSH422L/R, bottom six (6) fastener holes (three on each side of bucket must be filled. Install eight (8) additional fasteners (four (4) in each strap) where applicable. For MSH213L/R, bottom eight (8) fastener holes must be filled (four (4) in each strap). Install fourteen (14) additional fasteners, seven (7) in each strap. Min. 2x6 bottom chord required.



Typical MSH422R face-max installation

Top-Max

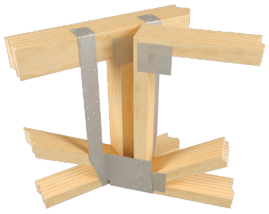
The straps must be field-bent over the header a minimum of 2" to allow four (4) top flange nail holes to be filled (two in each strap). The bottom six (6) fastener holes (three on each side of the bucket) must be filled. Min. 2x6 bottom chord required.



Typical MSH422R top-max installation

Top-Min

The straps must be field bent over the header a minimum of 2" to allow four (4) top flange nail holes to be filled (two in each strap). Also install the two (2) uppermost face nails (one on each strap) near the top of the header.



Typical MSH422R top-min installation

Combination (Face-Max/Top-Max)

Follow the Face-Max installation for one side of the connector and the Top-Max installation for the opposite side of the connector. The Face-Max factored resistances apply to this type of installation. Min. 2x6 bottom chord required.



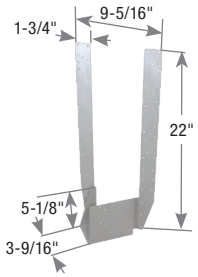
Typical MSH422R combination installation

CONNECTION TO CARRIED MEMBER
All Mounting Conditions

Install six (6) 10d x 1-1/2" nails into 2x carried member, or six (6) 10d nails into 3-1/2" wide carried member.

Continued on next page

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MSH422L
left skew



MSH422R
right skew

Joist Material & Width	MiTek Stock No.	Ref. No.	Steel Gauge	Mounting Condition	Fastener Schedule[2]					Unit	D Fir-L Factored Resistance		S-P-F Factored Resistance	
					Header			Joist						
					Top Qty	Face Qty	Type	Qty	Type		Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%
2x Lumber or Trusses	MSH213L/R	--	18	face-max	--	22	10d	6	10d x 1-1/2	Lbs	2795	1155	2790	1150
										kN	12.43	5.14	12.41	5.12
				top-max	4	6	10d	6	10d x 1-1/2	Lbs	2700	1155	2600	1150
										kN	12.01	5.14	11.57	5.12
				top-min	4	2	10d	6	10d x 1-1/2	Lbs	1925	--	1855	--
										kN	8.56	--	8.25	--
				combination	2	14	10d	6	10d x 1-1/2	Lbs	2795	1155	2790	1150
										kN	12.43	5.14	12.41	5.12
3-1/2" LVL or Floor Trusses	MSH422L/R	THAL/R422	16	face-max	--	14	10d	6	10d	Lbs	2630	995	2065	780
										kN	11.70	4.43	9.19	3.47
				top-max	4	6	10d	6	10d	Lbs	2605	995	2045	780
										kN	11.59	4.43	9.10	3.47
				top-min	4	2	10d	6	10d	Lbs	2290	--	1800	--
										kN	10.19	--	8.01	--
				combination	2	10	10d	6	10d	Lbs	2630	995	2065	780
										kN	11.70	4.43	9.19	3.47

1) Factored uplift resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) **NAILS**: 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long, 10d nails are 0.148" dia. x 3" long.

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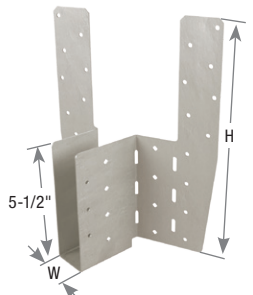
MSHA Adjustable Strap Skewed Hangers

MiTek's MSHA Series hanger offers the most flexible field solution for truss-to-truss connections accommodating a range of skews and challenging web-chord geometry often found in truss framing. Eliminating the need for special orders, the MSHA Series hanger provides economical solutions for 1-ply or 2-ply roof trusses and 1-ply floor trusses skewed between 22-1/2° to 75°. MSHA hangers can be installed in top-min, top-max, face-max or combination conditions as required.

Materials: 16 gauge
Finish: G90 galvanizing

Installation:

- Install the required number of fasteners according to the load table.
- Install fasteners into the carrying member at the locations described below based on the proper "Mounting Condition".
- Product is factory skewed 22-1/2° and may be field skewed from 22-1/2° to 75°. See installation sequence below for skews greater than 22-1/2°.
- Face-Max and Combination mounting conditions require a minimum chord or header height of 7-1/4". Top-Max and Top-Min mounting conditions require a minimum chord or header height of 5-1/2".



MSHA29L
Left Shown



MSHA29R-2
Right Shown

CONNECTION TO CARRYING MEMBER
Mounting Conditions:

Face-Max

Fill the lowest four holes nearest each side of the bucket. For a 22-1/2° skew, fill the four diamond holes on one side and 4 round holes on the other. For skews greater than 22-1/2°, fill the 4 round holes on each side.

Add an equal amount of nails in each side of the hanger in any of the remaining nail holes to meet the minimum fastener requirements listed in the table on page 255.

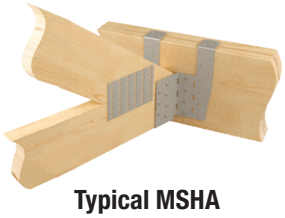


Typical MSHA face-max installation

Top-Max

Field bend the strap over the supporting member. The bent strap must extend a minimum of 2 inches over the carrying member to allow for the four top flange nail holes to be filled.

Fill the lowest four nail holes nearest each side of the bucket. For a 22-1/2° skew, fill the four diamond holes on one side and 4 round holes on the other. For skews greater than 22-1/2°, fill the 4 round holes on each side.



Typical MSHA top-max installation

Top-Min

Field bend the strap over the supporting member. The bent strap must extend a minimum of 2 inches over the carrying member to allow for the four top flange nail holes to be filled.

Fill the four nail holes (two each strap) nearest the top of the carrying member.



Typical MSHA top-min installation

Combination (Face-Max/Top-Max)

Follow the Face-Max installation for one side of the connector. Follow the Top-Max installation for the opposite side of the connector.

The Face-Max factored resistance apply to this type of installation.



Typical MSHA combination installation

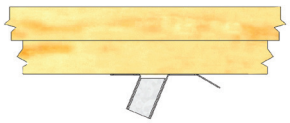
CONNECTION TO CARRIED MEMBER
Mounting Conditions:

For the 22-1/2° skew installation, all round holes must be filled. For skews greater than 22-1/2°, all holes must be filled in bucket including diamond holes.

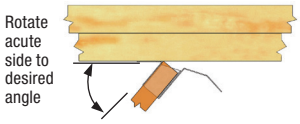
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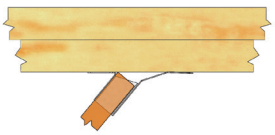
Installation Sequence for Skews > 22-1/2°



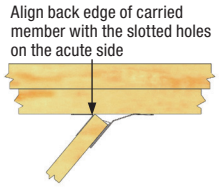
Step 1: Install acute side top and/or face header fasteners.



Step 2: Utilizing a piece of scrap fastened to the hanger on the obtuse side, bend the hanger to the desired angle.



Step 3: Bend the obtuse side of hanger back toward the header until the flange lies flat against the header, and install header top and/or face fasteners as noted above.



Step 4: Install carried truss and all required fasteners working from the bottom up.

Joist Width	MiTek Stock No.	Ref. No.	Dimensions (in) W	Dimensions (in) H	Min H_{eff}[2] (in)	Mounting Condition[3]	Skew Angle (degrees)	Fastener Schedule[4] Carrying Member Top Qty	Carrying Member Face Qty	Carrying Member Type	Carried Member Qty	Carried Member Type	D Fir-L Factored Resistance Lbs Vertical 100%	D Fir-L Lbs Uplift[1] 115%	D Fir-L kN Vertical 100%	D Fir-L kN Uplift[1] 115%	S-P-F Factored Resistance Lbs Vertical 100%	S-P-F Lbs Uplift[1] 115%	S-P-F kN Vertical 100%	S-P-F kN Uplift[1] 115%
2x Trusses	MSHA29L/R	THASR/L29	1-5/8	10-3/4	7-1/4	face-max	22-1/2	--	12	10d	7	10d x 1-1/2	2335	1625	10.39	7.23	2015	1400	8.96	6.23
							23 to 45	--	12	10d	4	10d x 1-1/2	2025	930	9.01	4.14	1590	805	7.07	3.58
							46 to 75	--	12	10d	4	10d x 1-1/2	2025	930	9.01	4.14	1590	805	7.07	3.58
					5-1/2	top-max	22-1/2	4	8	10d	7	10d x 1-1/2	2870	1625	12.77	7.23	2260	1360	10.05	6.05
							23 to 45	4	8	10d	4	10d x 1-1/2	2435	930	10.83	4.14	1915	755	8.52	3.36
							46 to 75	4	8	10d	4	10d x 1-1/2	2190	930	9.74	4.14	1720	755	7.65	3.36
						top-min	22-1/2	4	4	10d	7	10d x 1-1/2	1955	--	8.70	--	1685	--	7.50	--
							23 to 45	4	4	10d	4	10d x 1-1/2	1765	--	7.85	--	1385	--	6.16	--
							46 to 75	4	4	10d	4	10d x 1-1/2	950	--	4.23	--	745	--	3.31	--
2-2x Trusses	MSHA29L/R-2	THASR/L29-2	3-1/8	10-3/4	7-1/4	face-max	22-1/2	--	12	10d	7	10d	2340	1630	10.41	7.25	1955	1360	8.70	6.05
							23 to 45	--	12	10d	4	10d	1910	935	8.50	4.16	1495	755	6.65	3.36
							46 to 75	--	12	10d	4	10d	1910	935	8.50	4.16	1495	755	7.70	3.36
					5-1/2	top-max	22-1/2	4	8	10d	7	10d	2880	1630	12.81	7.25	2260	1360	10.05	6.05
							23 to 45	4	8	10d	4	10d	2470	935	10.99	4.16	1970	780	8.76	3.47
							46 to 75	4	8	10d	4	10d	2125	935	9.45	4.16	1665	780	7.41	3.47
						top-min	22-1/2	4	4	10d	7	10d	1960	--	8.72	--	1685	--	7.50	--
							23 to 45	4	4	10d	4	10d	1765	--	7.85	--	1385	--	6.16	--
							46 to 75	4	4	10d	4	10d	950	--	4.23	--	745	--	3.31	--
4x Trusses	MSHA422L/R	THASR/L422	3-5/8	22	7-1/4	face-max	22-1/2	--	12	10d	7	10d	2320	1615	10.32	7.18	2015	1400	8.96	6.23
							23 to 45	--	12	10d	4	10d	2025	925	9.01	4.11	1590	805	7.07	3.58
							46 to 75	--	12	10d	4	10d	2025	925	9.01	4.11	1590	805	7.07	3.58
					5-1/2	top-max	22-1/2	4	8	10d	7	10d	2855	1615	12.70	7.18	2260	1360	10.05	6.05
							23 to 45	4	8	10d	4	10d	2450	925	10.90	4.11	1970	780	8.76	3.47
							46 to 75	4	8	10d	4	10d	2125	925	9.45	4.11	1665	780	7.41	3.47
						top-min	22-1/2	4	4	10d	7	10d	1940	--	8.63	--	1685	--	7.50	--
							23 to 45	4	4	10d	4	10d	1765	--	7.85	--	1385	--	6.16	--
							46 to 75	4	4	10d	4	10d	950	--	4.23	--	745	--	3.31	--

1) Factored uplift resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) H_{eff} is the minimum distance from the top of the hanger seat to the top of the carrying member.
3) For tabulated top-mount installation loads, the straps must be wrapped over the header a minimum of 2".
4) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long, 10d nails are 0.148" dia. x 3" long.

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MSSHL/R Severely Skewed Hangers

MiTek's MSSH217 hanger accommodates a skew range of 60° to 85° (5° minimum to 30° maximum off the girder) without the need for a more expensive custom design hanger. Face nail to webs or bend the flange strap over the chord. Available in left (L) or right (R) configurations.

Materials: 18 gauge

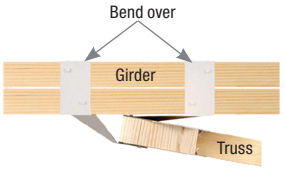
Finish: G90 galvanizing

Installation:

- Use all specified fasteners. See Product Notes, page 16.
- The 3 lower holes on each strap are for top nailing when the strap is bent over the truss chord. These holes are not for face nailing.
- One or both straps may be bent over the bottom chord of the girder with top and backside nailing.
- **Note:** Select the correct (right or left) hanger so that the strap on the outside of the angle will pass the end of the truss. When facing the hanger, the strap in the rear turns in the direction of the skew. The front strap turns to pass behind the end of the carried member.
- Attach the hanger at the end of the truss with a single 10d (0.148" dia) x 1-1⁄2" nail into the side flange or bottom.
- Place the truss in position against the girder. Push the outside strap past the end of the truss to the girder web and face nail through the top 8 holes with 10d (0.148" dia) x 1-1⁄2" nails into the girder.
- The strap inside the angle can be formed over diagonal webs (if design allows) or bend over the girder chord. Use two nails into the top and fill all nail holes on the front/back side of the girder.
- If the outside strap does not contact a web, bend the strap tightly over the girder chord. Use two nails into the top and fill all nail holes on the back side of the girder.
- For uplift resistance, other means of attachment are required. If both the truss and girder have vertical webs, attach a scab to pack out the girder web nearly flush with the truss web and use a field adjustable MP framing angle across the two. A top chord connection for uplift requires a flat LSTA strap tie wrapped under the girder and over the truss chord.



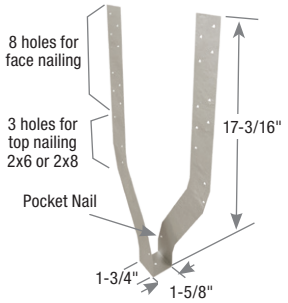
MSSH217L
Left shown attached to web and top of chord



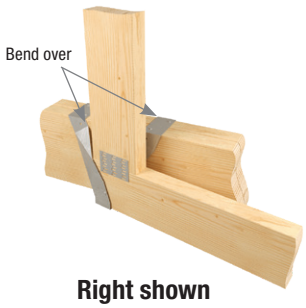
Top view right shown



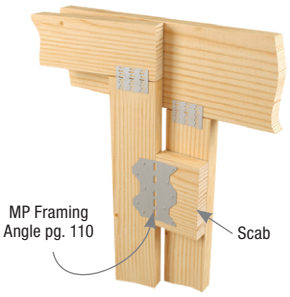
MSSH217R
Right shown attached to webs



MSSH217R
right shown



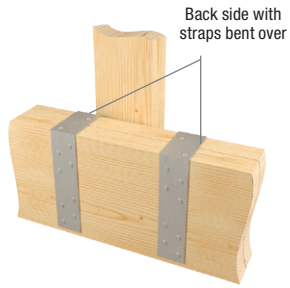
Right shown bent over bottom chord



Additional strapping for high uplift



Additional strapping for high uplift



Back view shown

MiTek Stock No.	Ref. No.	Steel Gauge	Mounting Condition	Fastener Schedule[2,3,5] Supporting Member Top (per strap) Qty	Top (per strap) Type	Face/Backside (per strap) Qty	Face/Backside (per strap) Type	Supported Member Qty	Supported Member Type	Girder Plies	D Fir-L Factored Resistance[1] Vertical 100% Lbs	D Fir-L Factored Resistance[1] Vertical 100% kN	S-P-F Factored Resistance[1] Vertical 100% Lbs	S-P-F Factored Resistance[1] Vertical 100% kN
MSSH217L/R	--	18	face-max	--	--	8	10d x 1-1/2	1	10d x 1-1/2	1 or 2	2115	9.41	1720	7.65
			top-min	2	10d	3	10d x 1-1/2	1	10d x 1-1/2		2115	9.41	1720	7.65

1) No uplift value with this hanger. Use other hardware higher on carried member to counteract uplift.
2) One or both straps may be bent over chord member with top and backside nailing.
3) Maintain minimum 3/4" edge distance when installing nails.
4) The supported member shall be supported by blocking or other means to prevent rotation.
5) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long, 10d nails are 0.148" x 3" long.
Note: The lower holes on each strap are for top nailing when strap is bent. These holes are not for face nailing.

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The SNP3 Skewed Nail Plate is designed for connecting square cut corner jack trusses at skews from 0° to 90°. An alternate installation for front side attachment at skews from 0° to 45° is depicted in Figure 2 below.

Materials: 16 gauge

Finish: G90 galvanizing

Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:

- **Bend angle only once.**
- 8d common (0.131" dia. x 2-1/2" long) nails may be used in lieu of 8d (0.131" dia.) x 1-1/2 nails with no reduction in load.

Standard Installation (Figure 1):

- Attach the SNP3 to the supported truss on the acute angle side so the SNP3 runs behind the end of the jack truss. Use all the specified fasteners listed in the table below. The fasteners should be installed nearest to bend line as possible then working to the opposite end of flange. Not all nail holes will be filled.

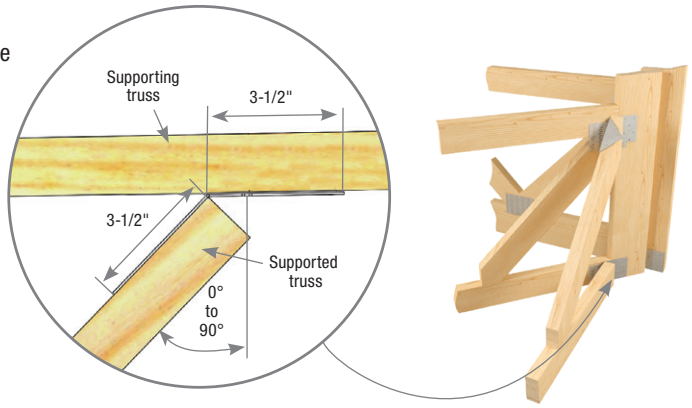
- Set the jack truss against the supporting truss and nail the exposed flange of the SNP3 into place. Use all the specified fasteners listed in the table below. The fasteners should be installed nearest to bend line as possible then working to the opposite end of flange. Not all nail holes will be filled.

Alternate Installation (Figure 2):

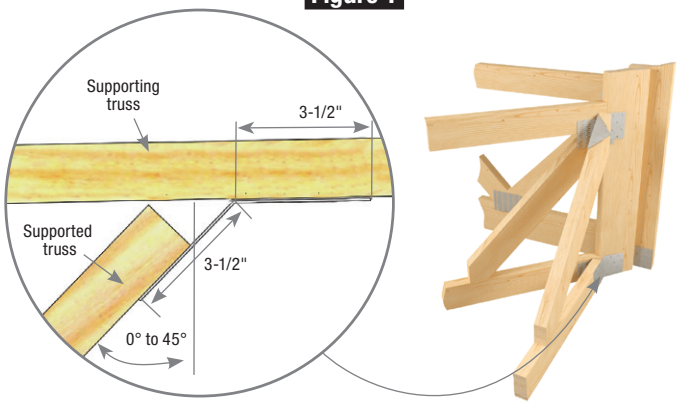
- Place SNP3 on the front side of the jack truss (obtuse angle side) and the face of the supporting truss. Use all the specified fasteners listed in the table below. The fasteners should be installed nearest to bend line as possible then working to the opposite end of flange but no closer than 5/8" from the end of the truss. Not all nail holes will be filled.

Back-to-Back Installation (Figure 3):

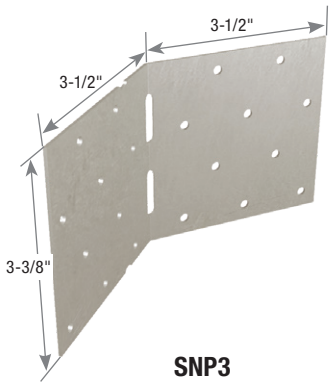
- Install SNP3 per Standard Installation instructions. SNP3 may be installed on the front side and the back side of the supporting truss at the same location, see reduced factored resistance in the table below.



Typical SNP3 standard installation
Figure 1



Typical SNP3 alternate installation
Figure 2



SNP3



Typical SNP3 back-to-back installation
Figure 3

MiTek Stock No.	Ref. No.	Steel Gauge	Installation Type[2]	Fastener Schedule[3] Each End Qty	Fastener Schedule[3] Each End Type	D Fir-L Factored Resistance Lbs Vertical 100%	D Fir-L Factored Resistance Lbs Uplift[1] 115%	D Fir-L Factored Resistance kN Vertical 100%	D Fir-L Factored Resistance kN Uplift[1] 115%	S-P-F Factored Resistance Lbs Vertical 100%	S-P-F Factored Resistance Lbs Uplift[1] 115%	S-P-F Factored Resistance kN Vertical 100%	S-P-F Factored Resistance kN Uplift[1] 115%
SNP3	TJC37	16	Standard	6	8d x 1-1/2	790	910	3.51	4.05	730	840	3.25	3.74
			Alternate	6	8d x 1-1/2	525	600	2.34	2.67	450	515	2.00	2.29
			Back to Back (each)	6	8d x 1-1/2	565	650	2.51	2.89	485	555	2.16	2.47

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; no further increase is allowed.
2) Refer to images for installation type.
3) **NAILS:** 8d x 1-1/2 nails are 0.131" dia. x 1-1/2" long.
New products or updated product information are designated in blue font.

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HHC / HJC / HJHC / HTHJ Hip/Jack Connectors

HHC – Designed to support hip/hip to girder truss conection

HJHC – Allows for hip/hip support and hip/jack/hip installations

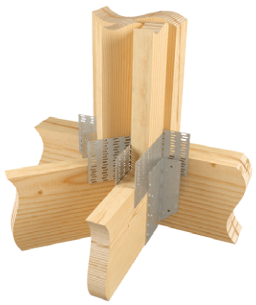
HJC / HTHJ – Used to simultaneously hang a combination of hips and jacks off girder trusses. These hangers fit both left-hand and right-hand applications. An open back design allows for retrofit installations

Materials: HHC / HJC / HJHC – 12 gauge, HTHJ –18 gauge

Finish: G90 galvanizing

Options: See Specialty Options Chart

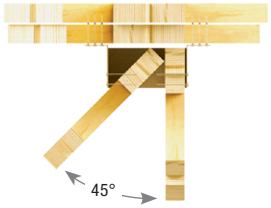
Codes: Load values are derived from data submitted to various North American building code evaluators



Typical HJC/HTHJ installation

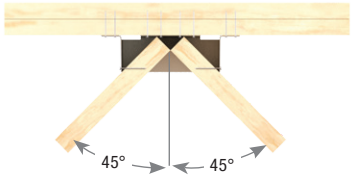
Installation:

- Use all specified fasteners. See Product Notes, page 16.

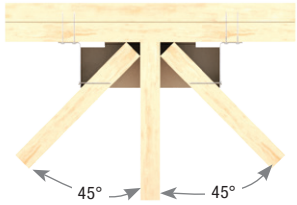




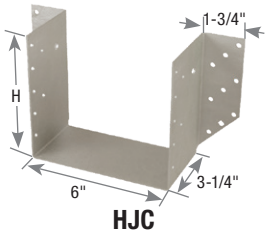
Typical HJC/HTHJ installation top view



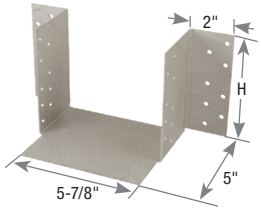
Typical HHC installation top view



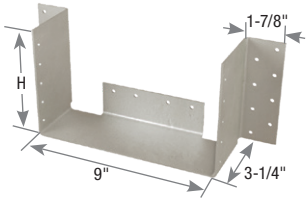
Typical HJHC installation top view



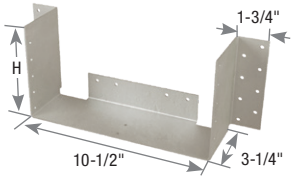
HJC



HTHJ



HHC



HJHC

Description	MiTek Stock No.	Ref. No.	Gauge	H (in)	Fastener Schedule[3]						Unit	D Fir-L Factored Resistance[2]			S-P-F Factored Resistance[2]		
					Carrying Member		Carried Member per Hip		Carried Member per Jack			Vertical[2] 100%	Uplift[1] Hip (each) 115%	Uplift[1] Jack 115%	Vertical[2] 100%	Uplift[1] Hip (each) 115%	Uplift[1] Jack 115%
					Qty	Type	Qty	Type	Qty	Type							
2 x 6 right / left	HJC26	LTHJA26, THJA26, THJU26	12	5-3/8	16	16d	5	10d	7	10d	Lbs	5160	795	795	4505	750	750
											kN	22.95	3.54	3.54	20.04	3.34	3.34
2 x 8 right / left	HJC28	--	12	7-1/8	20	16d	6	10d	8	10d	Lbs	5160	955	955	4505	900	900
											kN	22.95	4.25	4.25	20.04	4.00	4.00
2 x 6 terminal	HHC26	LTHJA26, THJA26	12	5-7/16	20	16d	5	10d	--	--	Lbs	5160	795	--	4505	750	--
											kN	22.95	3.54	--	20.04	3.34	--
2 x 8 terminal	HHC28	--	12	7-3/16	24	16d	6	10d	--	--	Lbs	5160	955	--	4505	900	--
											kN	22.95	4.25	--	20.04	4.00	--
2 x 6 terminal	HJHC26	--	12	5-7/16	20	16d	5	10d	2	10d	Lbs	5160	795	--	4505	750	--
											kN	22.95	3.54	--	20.04	3.34	--
2 x 8 terminal	HJHC28	--	12	7-3/16	24	16d	6	10d	2	10d	Lbs	5160	955	--	4505	900	--
											kN	22.95	4.25	--	20.04	4.00	--
2 x 6 terminal	HTHJ26-18	--	18	5	16	16d	7	16d	5	16d	Lbs	3695	460	460	2900	455	455
											kN	16.44	2.05	2.05	12.90	2.02	2.02

1) Factored uplift resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.

2) Tabulated values are for total load of hip(s) / jack combined, and require the load distribution to be as indicated below:
HJC, HTHJ: diagonal hip load shall be within 65% to 85% of the total load.
HHC: two hip members are equally loaded.
HJHC: two hip members are equally loaded, and each hip carries more load than the center jack.

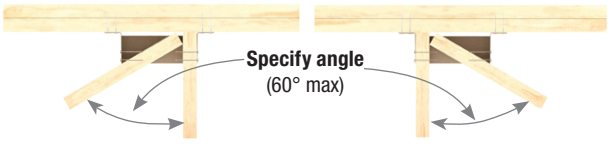
3) **NAILS:** 10d nails are 0.148" dia. x 3" long, 16d nails are 0.162" dia. x 3-1/2" long.

New products or updated product information are designated in blue font.

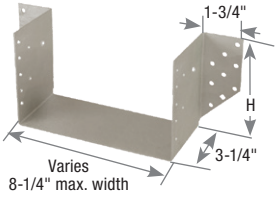
HJC Specialty Options Chart

– refer to Specialty Options pages 294-295 for additional details.

Option	Hip Truss Skew
Range	30˚ to 60˚
Factored Resistance	100% of table load
Ordering	Add SK, angle of hip required, to product number. Ex. HJC26_SK55



Typical HJC (skewed) installation with alternate skew angle top view



HJC (skewed)

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BN Breakfast Nook Hangers

Designed to carry four mono trusses in one connector, it reduces installation time and cost. Provides a tested, load rated connection. Standard configuration spacing: 22-1/2°, 45°, 45°, 45°, 22-1/2°. The design also includes field adjustable nailing tabs.

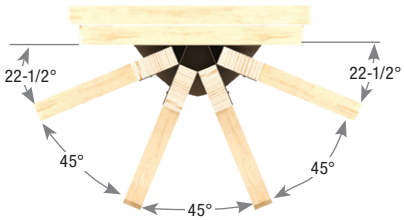
Materials: 14 gauge

Finish: Primer

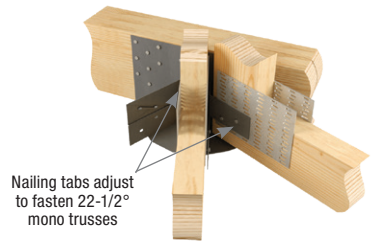
Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:

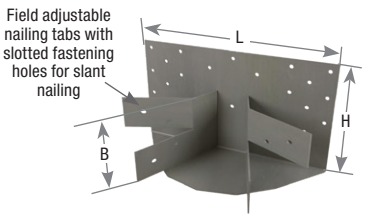
- Use all specified fasteners. See Product Notes, page 16.
- Allow a 2" setback for each mono truss.
- For pitched ceiling, design mono trusses with end-vertical upset. Upset equals tangent of the ceiling slope times 5.6".
- **Bend tab only once.**



Standard configuration
(top view)



Typical BN264 installation



BN264

MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in)			Fastener Schedule[3]				D Fir-L Factored Resistance[2]				S-P-F Factored Resistance[2]			
						Carrying Member		Carried Member per Mono Truss		Vertical (100%)		Uplift (115%)[1]		Vertical (100%)		Uplift (115%)[1]	
			L	H	B	Qty	Type	Qty	Type	Lbs	kN	Lbs	kN	Lbs	kN	Lbs	kN
BN264	THJM2-4-SDS3	14	10	5-3/8	3-1/4	20	10d	2	10d x 1-1/2	4565	20.31	1060	4.72	3585	15.95	830	3.69
BN284	--	14	10	7-1/8	3-1/4	20	10d	2	10d x 1-1/2	4565	20.31	1060	4.72	3585	15.95	830	3.69

1) Short-term load duration factor has been taken into consideration; no further increase allowed.
2) Loading published for total load of connection. Factored load on each single member shall not exceed 25% of the factored resistance listed.
3) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long, 10d nails are 0.148" dia. x 3" long.

LDSC / DSC Drag Strut Connectors

Transfers lateral loads from girder truss into bearing walls

Materials: See chart

Finish: Primer

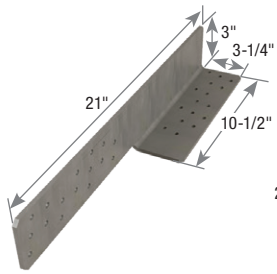
Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:

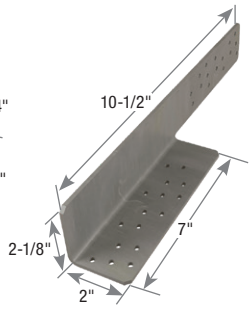
- Use all specified fasteners. See Product Notes, page 16.
- MiTek's WS3 structural wood screws, 1/4" dia. x 3" long, are supplied with DSC4 connector.



Typical DSC4R installation



DSC4R right shown



LDSC4L left shown

MiTek Stock No.	Ref. No.	Steel Gauge	Fastener Schedule[2,3]				D Fir-L Factored Resistance				S-P-F Factored Resistance			
			Truss		Top Plate		Compression 115%[1]		Tension 115%[1]		Compression 115%[1]		Tension 115%[1]	
			Qty	Type	Qty	Type	Lbs	kN	Lbs	kN	Lbs	kN	Lbs	kN
LDSC4L/R	--	14	9	10d x 1-1/2	9	10d x 1-1/2	1700	7.56	1700	7.56	1475	6.56	1475	6.56
DSC4L/R	DSC5R/L-SDS3	3	16	WS3	16	WS3	6165	27.42	6140	27.31	5305	23.60	5280	23.49

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) MiTek's WS3 structural wood screws (1/4" dia. x 3" long) are included with DCS4 connector.
3) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long.

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GTWS High Uplift Girder Truss Hangers

The GTWS series girder-to-girder hangers feature high uplift capacities along with high gravity load ratings.

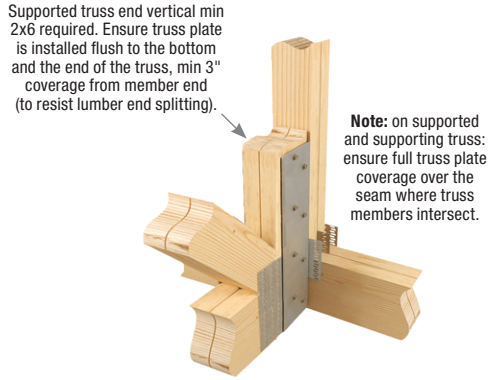
Materials: 10 gauge

Finish: G90 galvanizing

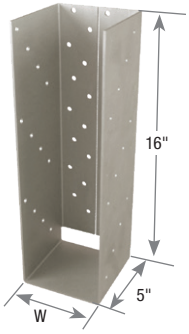
Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:

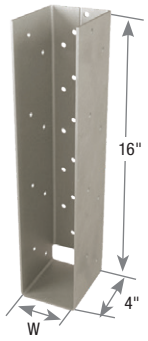
- Use all specified fasteners. See Product Notes, page 16.
- MiTek's WS structural wood screws are included with hangers where specified.
- **GTWS2T** shall be installed to a minimum 2x4 vertical member of a girder truss with no restriction on the size of the bottom chord.
- **GTWS3T** shall be installed to a minimum 2x6 vertical member of a girder truss with no restriction on the size of the bottom chord.
- **GTWS4T** shall be installed to a minimum 2x8 vertical member of a girder truss with no restriction on the size of the bottom chord.



Typical GTWS installation



GTWS3T



GTWS2T

MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in)			Fastener Schedule				Unit	D Fir-L Factored Resistance		S-P-F Factored Resistance	
						Supporting Truss		Supported Truss						
			W	H	D	Qty	Wood Screw[2,3]	Qty	Wood Screw[2,3]		Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%
GTWS2T	--	10	3-1/4	16	4	22	WS3	16	WS3	Lbs	20425	18400	16035	14445
										kN	90.85	81.85	71.33	64.25
GTWS3T	--	10	4-7/8	16	5	28	WS3	24	WS3	Lbs	20425	23530	16035	18470
										kN	90.85	104.67	71.33	82.16
GTWS4T	--	10	6-1/2	16	5	28	WS3	24	WS3	Lbs	20425	23530	16035	18470
										kN	90.85	104.67	71.33	82.16

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; no further increase allowed.
2) MiTek's WS3 structural wood screws (1/4" dia. x 3" long) are included with the GTWS hangers.
3) The wood screws of the GTWS hangers may be installed in both vertical and horizontal members.

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GTQ / GTQM Girder Truss Hangers

The GTQ / GTQM hangers connect to multi-ply girder truss with MiTek's WS structural wood screws offering high load capacities. Design features minimum and maximum fastening installation options to accommodate various sizes of vertical web. GTQM's are designed for LVL sizes, for example GTQM218.

Materials: 7 gauge

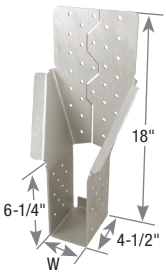
Finish: G90 galvanizing

Installation:

- Use all MiTek WS structural wood screws as specified.
- Install hanger centered on vertical web.
- GTQ's are designed to be installed on various sizes of vertical web. Maintain a minimum 5/8" fastener edge distance as per the National Design Specification where truss connector plates are not present.
- Install WS structural wood screws in all fastener holes including diamond holes for maximum values.
- Refer to Backer Block Installation on page 264 if the length of the screw going into the supporting truss are longer than the thickness of the plies.



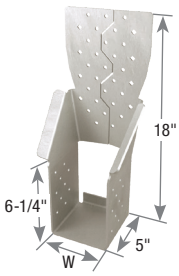
Typical GTQ218 installation
(GTQM218 similar)



GTQ218
(GTQM218 similar)



Typical GTQ318 installation
(GTQM318 similar)

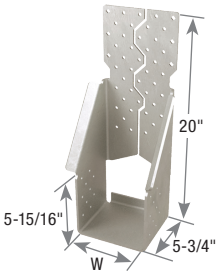


GTQ318
(GTQM318 similar)

MiTek Stock No.	Ref. No.	W (in)	Install Type	Min. Vert. Web Size	Fastener Schedule: Supporting Truss Qty	Supporting Truss Wood Screw[2,3,4]	Supporting Truss Min # of Plies	Supported Member Qty	Supported Member Wood Screw[2,4]	Supported Member # of Plies	Unit	D Fir-L Factored Resistance Vertical 100%	D Fir-L Factored Resistance Uplift[1] 115%	S-P-F Factored Resistance Vertical 100%	S-P-F Factored Resistance Uplift[1] 115%
GTQ218	THGQ2-SDS3, THGQH2-SDS3	3-1/4	Min	2x6	18	WS3	2	20	WS3	2	Lbs	11760	7870	10490	7020
											kN	52.31	35.01	46.66	31.23
			Max	2x8	30						Lbs	19595	7870	17190	7020
											kN	87.16	35.01	76.46	31.23
GTQM218 [6]	THGQ3.62-SDS3, THGQH3.62-SDS3	3-5/8	Min	2x6	18						Lbs	11760	7870	10490	7020
											kN	52.31	35.01	46.66	31.23
			Max	2x8	30						Lbs	19595	7870	17190	7020
											kN	87.16	35.01	76.46	31.23
GTQ318	THGQ3-SDS4.5, THGQH3-SDS4.5	4-7/8	Min	2x6	25	WS45	3	20	WS45	3	Lbs	16665	7870	13515	7020
											kN	74.13	35.01	60.12	31.23
			Max	2x8	33						Lbs	21295	8150	17265	7270
											kN	94.72	36.25	76.80	32.34
GTQM318 [6]	THGQ5.50-SDS4.5, THGQH5.50-SDS4.5	5-1/2	Min	2x6	25						Lbs	16665	7870	13515	7020
											kN	74.13	35.01	60.12	31.23
			Max	2x8	33						Lbs	21295	8150	17265	7270
											kN	94.72	36.25	76.80	32.34
GTQ420	THGQH4-SDS6	6-1/2	Min	2x8	41	WS6	4	20	WS6	4	Lbs	20960	8050	16455	6935
											kN	93.23	35.81	73.20	30.85
			Max	2x10	47						Lbs	24025	8050	20440	6935
											kN	106.87	35.81	90.92	30.85
GTQM420 [6]	THGQH7.25-SDS6	7-1/4	Min	2x8	41						Lbs	20960	8050	16455	6935
											kN	93.23	35.81	73.20	30.85
			Max	2x10	47						Lbs	24025	8050	20440	6935
											kN	106.87	35.81	90.92	30.85



Typical GTQ420 installation
(GTQM420 similar)



GTQ420
(GTQM420 similar)

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; no further increase allowed.
2) MiTek's WS3 (1/4" dia. x 3" long), WS45 (1/4" dia. x 4-1/2" long), and WS6 (1/4" dia. x 6" long) structural wood screws are included with GTQ and GTQM hangers.
3) If the length of the screws going into the supporting truss are longer than the thickness of the plies, refer to the backer block installation on page 264.
4) MiTek's WS structural wood screws may be installed through metal truss connector plates as approved by the Truss Designer, provided the requirements of CSA 086:19 Clause 5.3.8. are met. (Pre-drilling required through the plate using a maximum 5/32" bit).
5) Truss plies of the supporting member must be fastened together to transfer the load (through all truss plies) that is not transferred by the hanger screws; fastening schedule is to be specified by the truss designer.
6) Supported member on GTQM hanger shall meet material strengths of D Fir-L. Use S-P-F values for beams of weaker strengths.
7) The span of the supported member shall be shortened by 1/2" at the hanger end to allow space for screw head and back plate (7 ga).

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GT / GTD / GTS Girder Truss Hangers

The GT primarily hangs girder trusses off other girder trusses, although a wide variety of other heavy-duty installations apply.

Materials: Back Plate – 3 gauge; Strap – 7 gauge

Finish: Primer

Options: All models available in LVL sizes, use M in place of T, as in GT2M4B

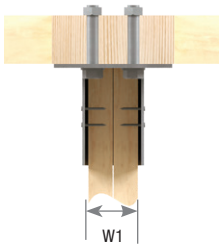
Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:

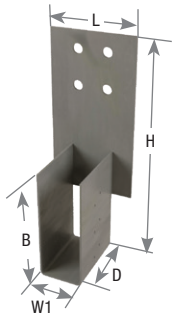
- Use all specified fasteners. See Product Notes, page 16.
- Minimum heel height is 9-1/4" for GT hangers.



Typical GT2T4B installation



GT top view



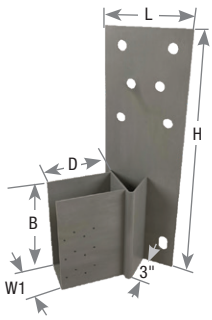
GT2T4B

Supported Member	MiTek Stock No.	Ref. No.	Dimensions (in) W1	L	H	D	B	Fastener Schedule[3,4] Supporting Truss Qty	Supporting Truss Bolt Dia.[2] (in)	Supported Truss Qty	Supported Truss Type	Unit	D Fir-L Factored Resistance[1] Supporting Member 1 Ply 100%	2 Ply 100%	3 Ply 100%	Uplift 115%[1]	S-P-F Factored Resistance[1] Supporting Member 1 Ply 100%	2 Ply 100%	3 Ply 100%	Uplift 115%[1]
2 ply	GT2T2B	--	3-7/16	6	19	4-1/2	9-1/4	2	3/4	12	16d	Lbs	2880	4230	5575	3340	2265	3320	4375	2620
												kN	12.81	18.82	24.80	14.86	10.08	14.77	19.46	11.65
	GT2T2BH	--	3-7/16	6	22-1/4	4-1/2	9-1/4	2	1	12	16d	Lbs	3790	6670	9545	3340	2975	5235	7495	2620
												kN	16.86	29.67	42.46	14.86	13.23	23.29	33.34	11.65
	GT2T3B	--	3-7/16	6	22	4-1/2	9-1/4	3	3/4	12	16d	Lbs	4180	6250	8320	3340	3285	4910	6530	2620
												kN	18.59	27.80	37.01	14.86	14.61	21.84	29.05	11.65
	GT2T4B	THGB2	3-7/16	7	19	5-1/2	9-1/4	4	3/4	12	16d	Lbs	5785	9720	13650	3340	4540	7630	10715	2620
												kN	25.73	43.24	60.72	14.86	20.19	33.94	47.66	11.65
	GT2T6B	--	3-7/16	7-1/4	22	6	9-1/4	6	3/4	12	16d	Lbs	8685	14855	21020	3340	6815	11660	16500	2620
												kN	38.63	66.08	93.50	14.86	30.31	51.87	73.40	11.65
	GT2T6BH	--	3-7/16	7-1/4	26-1/4	6	9-1/4	6	1	12	16d	Lbs	11450	16515	21575	3340	8990	12965	16935	2620
												kN	50.93	73.46	95.97	14.86	39.99	57.67	75.33	11.65
	GT2T8B	THGBH2	3-7/16	7-1/4	25	6	9-1/4	8	3/4	12	16d	Lbs	11580	17530	23475	3340	9090	13760	18430	2620
												kN	51.51	77.98	104.42	14.86	40.43	61.21	81.98	11.65
3 ply	GT3T3B	-- --	5-1/8	6	22	4-1/2	9-1/4	3	3/4	12	16d	Lbs	4180	6250	8320	3340	3285	4910	6530	2620
												kN	18.59	27.80	37.01	14.86	14.61	21.84	29.05	11.65
	GT3T3BH	-- --	5-1/8	6	26-1/4	4-1/2	9-1/4	3	1	12	16d	Lbs	5335	9760	14180	3340	4190	7660	11130	2620
												kN	23.73	43.41	63.08	14.86	18.64	34.07	49.51	11.65
	GT3T4B	THGB3	5-1/8	7	19	5-1/2	9-1/4	4	3/4	12	16d	Lbs	5785	9720	13650	3340	4540	7630	10715	2620
												kN	25.73	43.24	60.72	14.86	20.19	33.94	47.66	11.65
	GT3T4BH	--	5-1/8	7	22-1/4	5-1/2	9-1/4	4	1	12	16d	Lbs	7630	14750	21865	3340	5990	11580	17165	2620
												kN	33.94	65.61	97.26	14.86	26.64	51.51	76.35	11.65
	GT3T6B	--	5-1/8	7-1/4	22	6	9-1/4	6	3/4	12	16d	Lbs	8685	14855	21020	3340	6815	11660	16500	2620
												kN	38.63	66.08	93.50	14.86	30.31	51.87	73.40	11.65
	GT3T6BH	--	5-1/8	7-1/4	26-1/4	6	9-1/4	6	1	12	16d	Lbs	11450	16515	21575	3340	8990	12965	16935	2620
												kN	50.93	73.46	95.97	14.86	39.99	57.67	75.33	11.65
	GT3T8B	THGBH3	5-1/8	7-1/4	25	6	9-1/4	8	3/4	12	16d	Lbs	11580	17530	23475	3340	9090	13760	18430	2620
												kN	51.51	77.98	104.42	14.86	40.43	61.21	81.98	11.65
	GT3T8BH	--	5-1/8	7-1/4	30-1/4	6	9-1/4	8	1	12	16d	Lbs	15270	23485	31695	3340	11985	18435	24885	2620
												kN	67.92	104.47	140.99	14.86	53.31	82.00	110.69	11.65

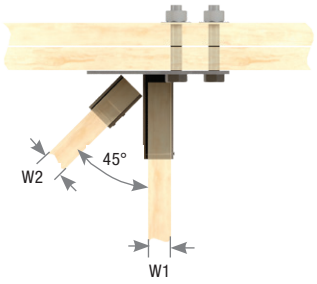
1) Factored uplift resistance has been increased 15% for short-term loads such as wind and earthquake; no further increase allowed.
2) Bolts shall conform to ASTM A 307 Grade A or better.
3) GT series require 2 x 6 vertical member for 2, 3, and 4 bolt hangers and 2 x 8 for 6 and 8 bolt hangers.
4) **NAILS:** 16d nails are 0.162" dia. x 3-1/2" long.

Continued on next page

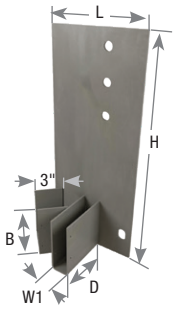
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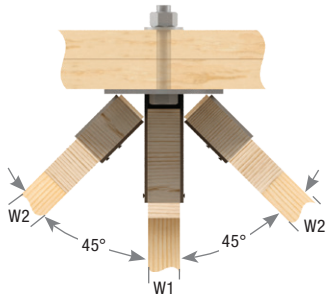
GT skewed



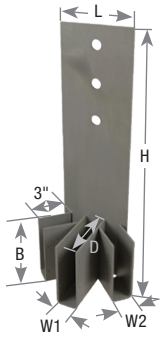
GTS
top view (left shown)



GTS1T2H3BSKL
(left shown)



GTD
top view



GTD1T1H3B

Supported Member	MiTek Stock No.[6]	Ref. No.	Dimensions (in)						Fastener Schedule[4,7]					Unit	D Fir-L Factored Resistance[1]				S-P-F Factored Resistance[1]			
									Supporting Truss		Supported Member				Supporting Member				Supporting Member			
			W1[5]	W2	L	H	D	B	Qty	Bolt Dia.[3] (in)	Truss Qty	Hip Qty	Type		1 Ply 100%	2 Ply 100%	3 Ply 100%	Uplift 115%[2]	1 Ply 100%	2 Ply 100%	3 Ply 100%	Uplift 115%[2]
4 ply	GT4T4B	--	6-1/2	--	7-1/2	19	5-1/2	9-1/4	4	3/4	12	--	16d	Lbs	5785	9720	13650	3340	4540	7630	10715	2620
														kN	25.73	43.24	60.72	14.86	20.19	33.94	47.66	11.65
	GT4T4BH	--	6-1/2	--	7-1/2	22-1/4	5-1/2	9-1/4	4	1	12	--	16d	Lbs	7630	14750	21865	3340	5990	11580	17165	2620
														kN	33.94	65.61	97.26	14.86	26.64	51.51	76.35	11.65
	GT4T6B	--	6-1/2	--	7-1/2	22	6	9-1/4	6	3/4	12	--	16d	Lbs	8685	14855	21020	3340	6815	11660	16500	2620
														kN	38.63	66.08	93.50	14.86	30.31	51.87	73.40	11.65
	GT4T6BH	--	6-1/2	--	7-1/2	26-1/4	6	9-1/4	6	1	12	--	16d	Lbs	11440	16510	21575	3340	8980	12960	16935	2620
														kN	50.89	73.44	95.97	14.86	39.95	57.65	75.33	11.65
	GT4T8B	THGBH4	6-1/2	--	7-1/2	25	6	9-1/4	8	3/4	12	--	16d	Lbs	11570	17525	23475	3340	9085	13760	18430	2620
														kN	51.47	77.96	104.42	14.86	40.41	61.21	81.98	11.65
5 ply	GT5T8BH	--	8-1/8	--	9-1/4	30-1/4	6	9-1/4	8	1	12	--	16d	Lbs	15230	23465	31695	3340	11955	18420	24885	2620
														kN	67.75	104.38	140.99	14.86	53.18	81.94	110.69	11.65
2 ply skewed 45°	*GT2T2BSKL/R	--	3-7/16	--	6	19	4-1/2	9-1/4	3	3/4	12	--	16d	Lbs	2880	4230	5575	3340	2265	3320	4375	2620
														kN	12.81	18.82	24.80	14.86	10.08	14.77	19.46	11.65
	*GT2T4BSKL/R	--	3-7/16	--	7-1/4	19	4-1/2	9-1/4	5	3/4	12	--	16d	Lbs	5785	9720	13650	3340	4540	7630	10715	2620
														kN	25.73	43.24	60.72	14.86	20.19	33.94	47.66	11.65
1 ply hip & jack	*GTS1T1H3BSKL/R	--	1-5/8	1-5/8	9-1/4	22	4-1/2	5-1/2	4	3/4	4	4	10d x 1-1/2	Lbs	4180	6250	8320	--	3285	4910	6530	--
														kN	18.59	27.80	37.01	--	14.61	21.84	29.05	--
	*GTS1T1H4BSKL/R	--	1-5/8	1-5/8	9-1/4	19	4-1/2	5-1/2	5	3/4	4	4	10d x 1-1/2	Lbs	5785	9720	13650	--	4540	7630	10715	--
														kN	25.73	43.24	60.72	--	20.19	33.94	47.66	--
2 ply hip & 1 ply jack	*GTS1T2H3BSKL/R	--	1-5/8	3-7/16	9-1/4	22	5-1/2	5-1/2	4	3/4	4	4	10d x 1-1/2	Lbs	4180	6250	8320	--	3285	4910	6530	--
														kN	18.59	27.80	37.01	--	14.61	21.84	29.05	--
1 ply terminal hip	GTD1T1H2B	--	1-5/8	1-5/8	6	19	4-1/2	5-1/2	2	3/4	4	4	10d x 1-1/2	Lbs	2880	6795	6795	--	2265	5335	5335	--
														kN	12.81	30.23	30.23	--	10.08	23.73	23.73	--
1 ply terminal hip	GTD1T1H3B	--	1-5/8	1-5/8	6	22	4-1/2	5-1/2	3	3/4	4	4	10d x 1-1/2	Lbs	4180	6250	8320	--	3285	4910	6530	--
														kN	18.59	27.80	37.01	--	14.61	21.84	29.05	--
2 ply terminal hip	GTD1T2H3B	--	1-5/8	3-7/16	8	22	5-1/2	5-1/2	3	3/4	4	4	10d x 1-1/2	Lbs	4180	6250	8320	--	3285	4910	6530	--
														kN	18.59	27.80	37.01	--	14.61	21.84	29.05	--

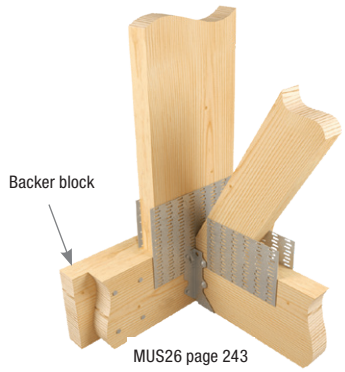
1) Factored resistance for GTS and GTD is the total of hip and jack connection.
2) Factored uplift resistance has been increased 15% for short-term loads such as wind and earthquake; no further increase allowed.
3) Bolts shall conform to ASTM A 307 or better.
4) GT series require 2 x 6 vertical member for 2, 3, and 4 bolt hangers and 2 x 8 for 6 and 8 bolt hangers.
5) All side pocket applications assume 45° angle.
6) Must specify right or left for all GTS and GT skewed.
7) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long, 16d nails are 0.162" dia. x 3-1/2" long.

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Backer block installation

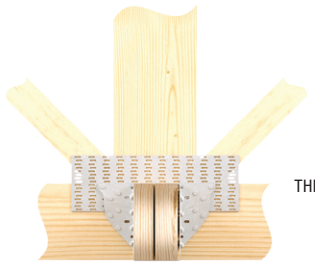
Wood blocking used to achieve full design load value of a face mount hanger attached to a carrying member. **(Blocking to be designed by truss designer or engineer of record)**.

- Wood blocking should be of similar size/grade as the truss member to which it is attached. The blocking should be designed to act as one unit with truss members.
- Truss designer shall approve blocking size/grade, fasteners required, and application.
- All fasteners used to attach wood blocking should be independent of the fasteners in the truss hanger.



Panel joint installation

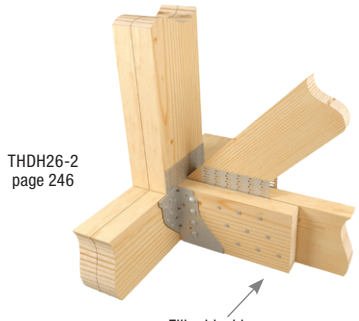
- Connection with face mount hanger attaching to a truss panel point.
- Ensure framing lumber is present behind connector plates. Nails that do not penetrate lumber will be neglected and will not contribute to the connection capacity.



Filler block installation

Wood filler blocking used for supported member of width less than hanger width. **(Blocking and blocking fasteners/quantity to be designed by truss designer or engineer of record)**.

- Wood blocking should be of similar or better grade as the truss member to which it is attached. The blocking should be designed to act as one unit with truss member.





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Truss Brace & Spacer (Stabilizer™)

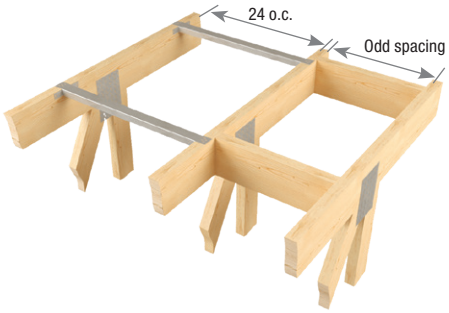
The Stabilizer™ Truss Brace & Spacer provides temporary construction bracing in the roof and ceiling planes, as well as permanent lateral bracing for webs as specified by your truss engineering.

The Stabilizer™ is easily installed by embedding the patented MII 20 teeth on the top flange straight into the edge of the truss member to be braced with a framing hammer. The side tabs are then secured by driving the teeth into the face of the truss member being braced.

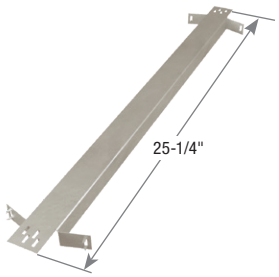
Materials: 20 gauge

Finish: G60 galvanizing

Codes: Load values are derived from data submitted to various North American building code evaluators



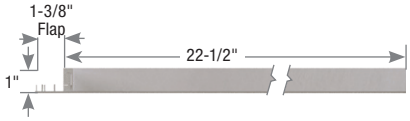
Temporary construction bracing installation



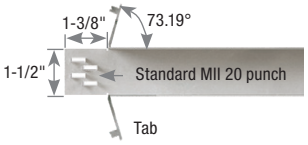
31-24 Stabilizer™

Installation:

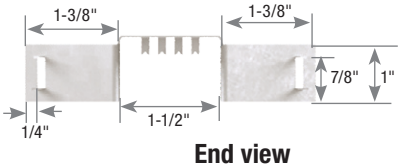
- Use 31-24 for standard 24" o.c. spacing. For odd spacing, cut and insert a solid block between the trusses.
- Typically, The Stabilizer™ is installed at 6'– 8' centers along the roof plane and 10'– 15' along the ceiling plane. (Refer to engineering specifications BCSI 1-03, published by The Truss Plate Institute for specific bracing requirements.)
- The Stabilizer™ must be supplemented with diagonal bracing in the roof and ceiling planes and cross bracing in the web plane at required intervals.
- Web forces are not to exceed 8000 lbs.
- The Stabilizer™ is properly installed when the top flap and side tabs are flush with the member being braced.



Side view

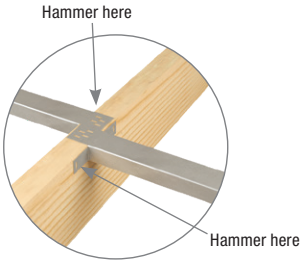


Top view



End view

Important: The erection contractor is responsible for determining and installing the temporary bracing for the structure, including the trusses. It is most important for the installer to provide adequate means for bracing the first truss installed. The performance of the entire bracing system depends on the adequacy of the ground bracing or other means of bracing the first group of trusses installed. The building designer is responsible for the permanent bracing design of the overall structure including the truss. This includes the design of required supplemental diagonal and cross bracing.



Chord attachment detail



Web bracing installation

MiTek Stock No.	Ref. No.	Steel Gauge	O.C. Spacing (in)	Factored Axial Loads (Lbs.)		
				Tension	Tension with Fastener	Compression
31-24	TSBR2-24	20	24	152	222	608

1) 1 pound = 4.448N.
2) Fastener shall be (1) 8d or 10d common wire nail inserted through nail slot.
3) **NAILS:** 8d nails are 0.131" dia. x 2-1/2" long, 10d nails are 0.148" dia. x 3" long.

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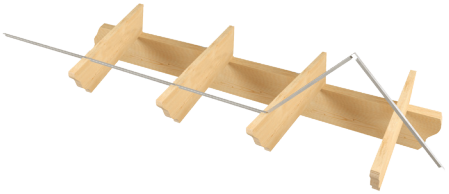
TS / TSX Truss Spacers

Truss spacers give framers fast and accurate spacing for trusses, rafters, or floor joists. The TS and TSX eliminate the need to mark layouts on bearing plates, improve installation speed, and help eliminate spacing errors. These spacers are light weight and compact.

Materials: See chart
Finish: G90 galvanizing

Installation:
- Use (1) 8d nail per end to fasten units to trusses, rafters, or floor joists.

Important: These units provide spacing guides only. Do not rely on the TS or TSX for bracing.



Typical TSX installation



TS single-unit spacer



TSX multi-unit spacer

Joist Width	MiTek Stock No.[1]	Ref. No.	Steel Gauge	O. C. Spacing	Overall Length	Sections Per Piece
1-1/2	TS	--	20	24	2' 1-1/2"	1
	TSX16	TSF2-16	22	16	8'	6
	TSX24	TSF2-24	22	24	10'	5

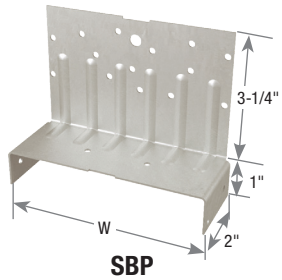
1) TSX spacers are shipped folded.

SBP Supplementary Bearing Plates

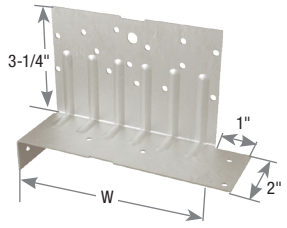
Use the SBP instead of extra truss plies or nail-on scabs to distribute concentrated truss reactions and avoid top plate crushing. The two-piece design accommodates any number of girder plies. A wraparound design gives superior uplift resistance, and reinforcement ribs effectively distribute bearing loads. Works with both single and double 2x4 or 2x6 top plates.

Materials: 16 gauge
Finish: G90 galvanizing
Codes: Factored resistances are derived from data submitted to various North American building code evaluators and are in accordance with CSA 086-09

Installation:
- Use all specified fasteners. See Product Notes, page 16.
- **The SBP shall be installed in pairs.**



SBP



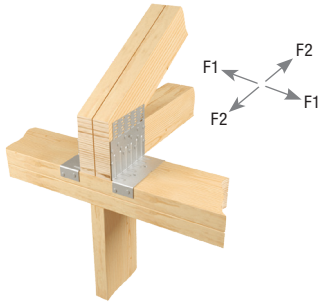
SBP one tab up

Continued on next page

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Wood Species	f_{cp} (psi)	No. of Truss Plies	Factored Resistance (Lbs)			Factored Resistance (kN)		
			SBP's Alone	SBP + Truss Bearing		SBP's Alone	SBP + Truss Bearing	
			100%	100%	EBL (in)	100%	100%	EBL (mm)
SBP4 on 2x4 / 2x6 Top Plate and Alternate Installation								
DF	1015	1	5035	9300	7.63	22.40	41.37	193.88
		2	5035	13565	5.57	22.40	60.33	141.39
		3	5035	17825	4.88	22.40	79.30	123.89
		4	5035	22090	4.53	22.40	98.27	115.14
S-P-F	769	1	3575	6805	7.38	15.90	30.26	187.34
		2	3575	10030	5.44	15.90	44.63	138.12
		3	3575	13260	4.79	15.90	58.99	121.71
		4	3575	16490	4.47	15.90	73.35	113.51
Hem Fir	667	1	3930	6730	8.41	17.48	29.95	213.59
		2	3930	9535	5.95	17.48	42.41	151.24
		3	3930	12335	5.14	17.48	54.88	130.46
		4	3930	15140	4.73	17.48	67.34	120.07
SBP6 on 2x6 / 2x8 Top Plate and Alternate Installation								
DF	1015	1	7315	14015	11.50	32.54	62.35	292.21
		2	7315	20715	8.50	32.54	92.15	215.96
		3	7315	27415	7.50	32.54	121.96	190.54
		4	7315	34115	7.00	32.54	151.77	177.83
S-P-F	769	1	5195	10270	11.13	23.11	45.68	282.75
		2	5195	15340	8.31	23.11	68.24	211.23
		3	5195	20415	7.38	23.11	90.81	187.38
		4	5195	25490	6.91	23.11	113.38	175.46
Hem Fir	667	1	5705	10110	12.63	25.38	44.97	320.70
		2	5705	14510	9.06	25.38	64.55	230.20
		3	5705	18915	7.88	25.38	84.14	200.03
		4	5705	23320	7.28	25.38	103.73	184.95

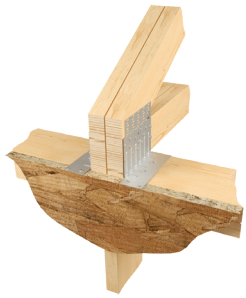
1) Factored resistance is for a pair of SBP devices.
2) Multiple ply trusses shall be fastened together to act as a single unit.
3) EBL denotes effective bearing length and includes the actual bearing length plus the contribution of the SBP device.
4) Assumes full seating of truss on top plate.



Typical SBP standard installation



Typical SBP6 one tab up on a 2x8 top plate installation
(SBP4 similar)



Typical SBP one tab up alternate installation

MiTek Stock No.	Ref. No.	W (in)	Truss/Joist Thickness (in)	Fastener Schedule[2,7]						Application	Factored Resistance[3]											
				Plate			Truss				D Fir-L (Lbs)			D Fir-L (kN)			S-P-F (Lbs)			S-P-F (kN)		
				Top[5] Qty	Sides Qty	Type	Qty	Type		Uplift 115%[1]	F1 115%[1]	F2 115%[1]	Uplift 115%[1]	F1 115%[1]	F2 115%[1]	Uplift 115%[1]	F1 115%[1]	F2 115%[1]	Uplift 115%[1]	F1 115%[1]	F2 115%[1]
SBP4	TBE4	3-1/2	2-7/8 or less	4	8	10d	20	10d x 1-1/2	Standard Installation	2435	2880	3065	10.83	12.81	13.63	1730	2045	2175	7.70	9.10	9.68
			3 or more					10d													
			2-7/8 or less	8	4	10d	20	10d x 1-1/2	One Tab Up (2x6 Top Plate)	1435	2880	2230	6.38	12.81	9.92	805	2045	1965	3.58	9.10	8.74
			3 or more					10d													
			2-7/8 or less	4	4	10d	20	10d x 1-1/2	One Tab Up (Alternate)	1435	1880	1315	6.38	8.36	5.85	805	1120	1125	3.58	4.98	5.00
			3 or more					10d													
SBP6	TBE6	5-1/2	2-7/8 or less	4	8	10d	28	10d x 1-1/2	Standard Installation	2435	2880	3065	10.83	12.81	13.63	1730	2045	2175	7.70	9.10	9.68
			3 or more					10d													
			2-7/8 or less	8	4	10d	28	10d x 1-1/2	One Tab Up (2x8 Top Plate)	1435	2880	2230	6.38	12.81	9.92	805	2045	1965	3.58	9.10	8.74
			3 or more					10d													
			2-7/8 or less	4	4	10d	28	10d x 1-1/2	One Tab Up (Alternate)	1435	1880	1315	6.38	8.36	5.85	805	1120	1125	3.58	4.98	5.00
			3 or more					10d													

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; no further increase is allowed. For standard term loads divide the values by 1.15.
2) Fastener schedule is for a pair of SBP devices.
3) Factored resistances are for a pair of SBP devices,
4) Multiple ply trusses shall be fastened together to act as a single unit.
5) Where truss sits on a single top plate, 10d x 1-1/2 nails may be used on the top side of the top plate.
6) Other connector models are not to be combined with SBP to resist the uplift force or lateral loads. For special considerations, consult MiTek Engineering Services.
7) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long, 10d nails are 0.148" dia. x 3" long.
New products or updated product information are designated in blue font.

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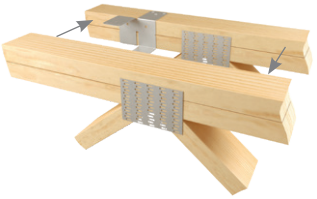
FTC clips slide easily onto the top or bottom chord and provides a guide to help position and support the second truss during assembly.

FTCF clips easily install after the trusses are installed.

Materials: 18 gauge

Finish: G90 galvanizing

Codes: Factored load transfer capacities are derived from data submitted to various North American building code evaluators



Typical FTC installation



Typical FTC 2-ply metal web truss installation

Installation:

- Use all specified fasteners. See Product Notes, page 16.
- The truss designer must determine the number of clips required and the spacing between clips based on loading conditions.

Concentrated Load Condition: (side load attached to 2-ply truss):

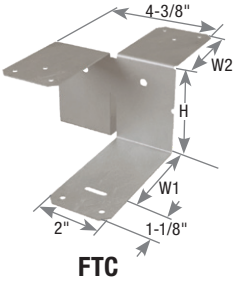
- The FTC clips shall be installed in pairs, or multiples of two, on either side of, and within 12" of a concentrated load.
- Divide half of the concentrated load by the clip load transfer capacity to determine the number of clips required.

Example:

Concentrated (point) load = 3000 lbs, FTC1 capacity (SPF) = 1080 lbs

$$\frac{1/2\ (3000\ \text{lbs})}{1080\ \text{lbs}} = 1.4 = 2\ \text{clips}$$

Install two FTC1 clips, one on each side of, and within 12" of the concentrated load.



FTC

Uniform Load condition (side load attached to 2-ply truss):

- To transfer uniform loads to the second ply, the FTC clips shall be installed at a regular interval along the loaded chord. Spacing between clips is limited to 24" maximum.
- Divide the clip load transfer capacity by half the required load per lineal foot (PLF) to determine the spacing between clips.



Step 1



Step 2

Typical FTC2F retrofit installation

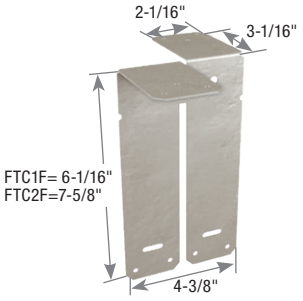
Example:

Uniformly distributed load = 500 PLF

FTC1 capacity (SPF) = 1080 lbs

$$\frac{1080\ \text{lbs}}{1/2\ (500)\ \text{PLF}} = 4.32'\ \text{spacing}$$

Since 4.32' is greater than 24" (MAX), space clips at 24" along the loaded chord



FTC_F

Truss Size	MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in) W1	W2	H	Fastener Schedule[3] Qty	Type	Unit	D Fir-L Factored Maximum Transfer Load[1,2] 100%	S-P-F Factored Maximum Transfer Load[1,2] 100%
3 x 2	FTC32	--	18	2-1/2	2-1/16	1-1/2	10	10d x 1-1/2	Lbs	980	850
									kN	4.36	3.78
4 x 2	FTC1	--	18	3-1/2	3-1/16	1-1/2	10	10d x 1-1/2	Lbs	1245	1080
									kN	5.54	4.80
	FTC1F	--	18	--	--	--	10	10d x 1-1/2	Lbs	1245	1080
									kN	5.54	4.80
(2) 4 x 2	FTC2	--	18	3-1/2	3-1/16	3	10	10d	Lbs	1245	1080
									kN	5.54	4.80
	FTC2F	--	18	--	--	--	10	10d	Lbs	1245	1080
									kN	5.54	4.80

1) Factored transfer resistances are for 100% floor load, and shall not be increased for short term load duration.
2) Truss designer shall determine the number of clips for concentrated loads and the spacing for uniform loads.
3) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long, 10d nails are 0.148" dia. x 3" long.

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VTT Valley Truss Tie

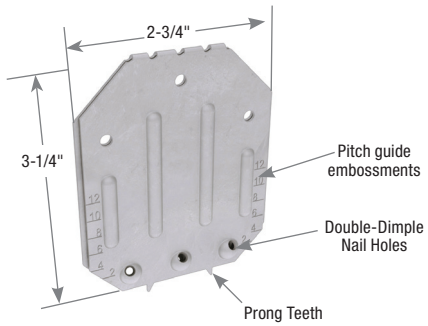
The VTT is a Valley Truss Tie designed to transfer loads from a valley truss into the supporting structure below. It also resists the sliding forces from downward loads when the valley truss is set upon a sloped lower roof. The ability to resist the sliding force eliminates the need for support wedges under the valley truss bottom chord or special order valley roof trusses with a bevel-cut bottom chord.

- Double-dimple nail holes assure the nails are driven in at the correct angle into the supporting member every time.
- Flat design requires no field bending to match the supporting roof pitch.
- 2-Ply steel with stiffening ribs provides a high resistance to sliding forces from downward loads.
- Prong teeth help hold the VTT in place while nailing.
- Accommodates supporting roof pitches from 0/12 to 12/12.
- Pitch guide embossments allow attachment to valley truss on ground.

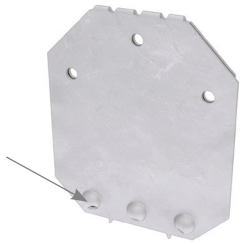
Materials: 18 gauge
Finish: G90 galvanizing

Installation:
- Mark the location of the supporting truss located below the lower roof sheathing.
- Place the VTT flat against the valley truss, centered over the top chord of the truss below. Tap the top edge down with a hammer to engage the prong teeth.
- Nail the VTT to the bottom chord of the valley truss using (3) 10d x 1-1/2" nails.
- Install (3) 10d common nails through the double-dimples and drive them through the sheathing into the top chord of the supporting truss below. One nail will be centered in the top chord below. The other two nails are driven in at preset angles guided by the dimple holes.

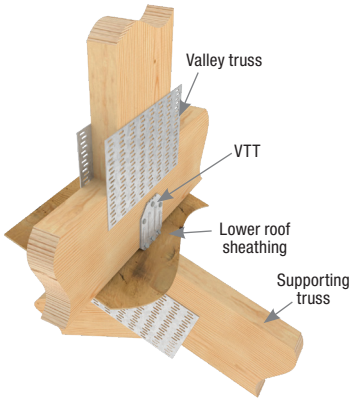
Alternate Installation for Ground/Pre-Placement of VTT
- Mark the location of the supporting truss located below the lower roof sheathing. Center VTT horizontally on that mark.
- Use pitch guide embossments on part to locate the vertical position of VTT. Pitch numbers on connector are the numerator in the pitch slope ratio. (i.e. “6” indicates a 6/12 pitch, “12” indicates a 12/12 pitch, etc.)
- Secure the VTT to valley truss with (3) 10d x 1-1/2" nails.
- When valley truss is hoisted into proper position on roof, install (3) 10d common nails through the double-dimples and drive them through the sheathing into the top chord of the supporting truss below. One nail will be centered in the top chord below. The other two nails are driven in at a preset angles guided by the dimple holes.



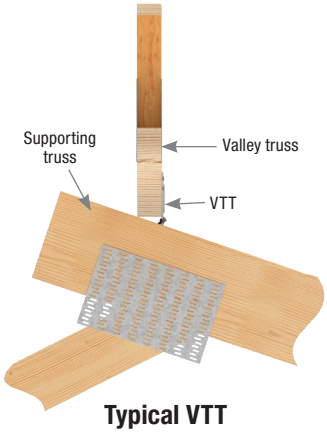
VTT Front View



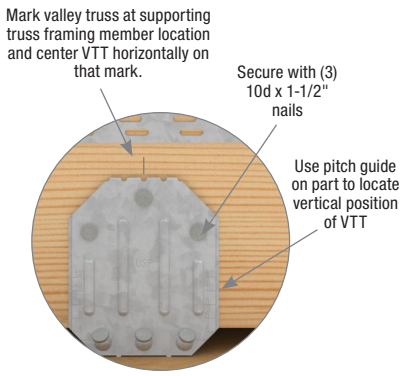
VTT Back View



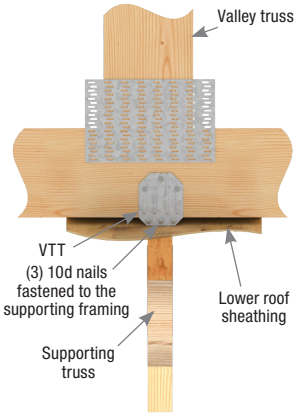
Typical VTT installation



Typical VTT side view installation



Alternate Installation for Ground / Pre-Placement installation



Typical VTT front view installation

MiTek Stock No.	Ref. No.	Ga.	Dimensions (in)		Fastener Schedule[3]				Supporting Roof Pitch	D Fir-L Factored Resistance[2]				S-P-F Factored Resistance[2]			
					Supporting Framing		Valley Truss			Download 100%		Uplift 115%[1]		Download 100%		Uplift 115%[1]	
			W	H	Qty	Type	Qty	Type		Lbs	kN	Lbs	kN	Lbs	kN	Lbs	kN
VTT	VTCR	18	2-3/4	3-1/4	3	10d	3	10d x 1-1/2	< 4/12	995	4.43	235	1.05	870	3.87	180	0.80
									4/12 to < 8/12	995	4.43	290	1.29	870	3.87	225	1.00
									8/12 to 12/12	995	4.43	335	1.49	870	3.87	265	1.18

1) Factored uplift resistances have been increased 15% for short-term loads such as wind and earthquake; no further increase is allowed.
2) Factored resistances are based on installation over 7/16" or 15/32" sheathing.
3) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long, 10d nails are 0.148" dia. x 3" long.

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STC Truss Clips

The STC provides uplift resistance by securing trusses to top plates. Slotted nail holes allow for horizontal movement up to 1-1/4" as scissor trusses deflect.

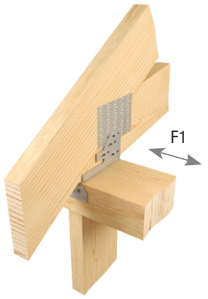
Materials: 12 gauge

Finish: G90 galvanizing

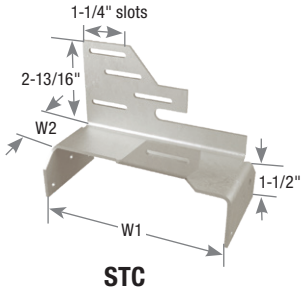
Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:

- Use all specified fasteners. See Product Notes, page 16.
- When installing, do not fully set nails.
- Locate nails into the center of slots to allow for horizontal movement.



Typical STC installation



STC

Top Plate Size	MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in)		Fastener Schedule[3]			Unit	D Fir-L Factored Resistance		S-P-F Factored Resistance	
				W1	W2	Truss Qty	Plate Qty	Type		Uplift 115%[1]	F1 115%[1]	Uplift 115%[1]	F1 115%[1]
2 x 4	STC24	TC24	12	3-9/16	1-5/8	5	6	10d x 1-1/2	Lbs	725	1100	635	850
									kN	3.22	4.89	2.82	3.78
2 x 6	STC26	TC26	12	5-1/2	1-5/8	5	6	10d x 1-1/2	Lbs	725	1100	635	850
									kN	3.22	4.89	2.82	3.78
2 x 8	STC28	TC28	12	7-1/4	1-5/8	5	6	10d x 1-1/2	Lbs	725	1100	635	850
									kN	3.22	4.89	2.82	3.78

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) For STC installed over truss metal plates: STC24 factored uplift resistance = 1110 lb (4.94 kN) for DF and 1010 lb (4.49 kN) for SPF; STC26, STC28 factored uplift resistance = 915 lb (4.07 kN) for DF and 835 lb (3.71 kN) for SPF. Truss metal plates must be flush with the lower edge of truss chord and cover the entire area of the STC flanges. Ensure all truss nails are installed through the truss metal plate into the truss chord.
3) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long.
New products or updated product information are designated in **blue font.**

TR Roof Truss Ties

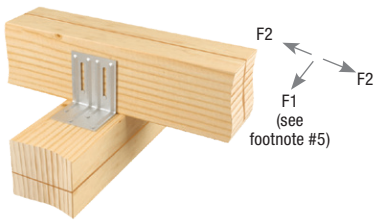
Slotted design allows truss to deflect without imposing load on wall below.

Materials: See chart

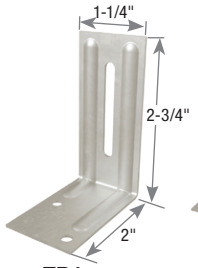
Finish: G90 galvanizing

Installation:

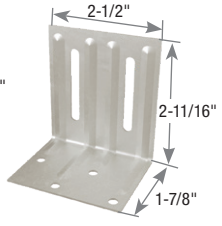
- Use all specified fasteners. See Product Notes, page 16.
- Do not fully set nails.
- Locate nails into the center of slots.
- **Due to the potential for squeaks, the TR series products are not recommended for floor applications.**



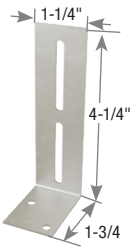
Typical TR2 installation



TR1



TR2



TR1T

Description	MiTek Stock No.	Ref. No.	Steel Gauge	Fastener Schedule[6]			Unit	D Fir-L Factored Resistance						S-P-F Factored Resistance					
								Without Gap[2]		With 1/4" Gap[3]		With 1/2" Gap[4]		Without Gap[2]		With 1/4" Gap[3]		With 1/2" Gap[4]	
				Truss Qty	Plate Qty	Type		F1[5] 115%	F2 115%	F1[5] 115%	F2 115%	F1[5] 115%	F2 115%	F1[5] 115%	F2 115%	F1[5] 115%	F2 115%	F1[5] 115%	F2 115%
Single slot	TR1	STC	18	1	2	8d	Lbs	105	60	45	45	--	--	90	50	35	35	--	--
							kN	0.47	0.27	0.20	0.20	--	--	0.40	0.22	0.16	0.16	--	--
	TR1T	STCT	16	1	2	8d	Lbs	375	--	205	--	125	--	320	--	175	--	110	--
							kN	1.67	--	0.91	--	0.56	--	1.42	--	0.78	--	0.49	--
Double slot	TR2	DTC	18	2	4	8d	Lbs	155	260	105	170	--	--	130	220	90	140	--	--
							kN	0.69	1.16	0.47	0.76	--	--	0.58	0.98	0.40	0.62	--	--

1) Factored resistances have been increased for short-term loading; no further increase is allowed.
2) Truss must be bearing on top plate to achieve the factored resistances under "Without Gap".
3) Installed with maximum 1/4" space between rafter or truss and top plate under "With 1/4" Gap". Space is not limited to 1/4", where resistances are not required.
4) Installed with maximum 1/2" space between rafter or truss and top plate under "With 1/2" Gap". Space is not limited to 1/2", where resistances are not required.
5) To achieve F1 loads in both directions, clips must be installed on both sides of the trussand staggered to avoid nail interference.
6) **NAILS:** 8d nails are 0.131" dia. x 2-1/2" long.

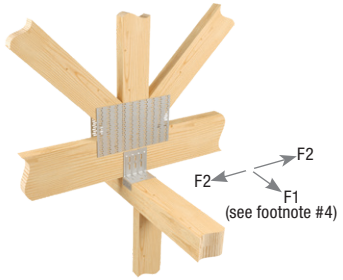
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HTC Heavy Truss Deflection Clip

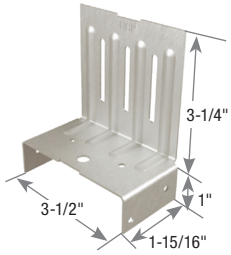
Slotted design allows truss to deflect without imposing load on wall below.

Materials: 16 gauge
Finish: G90 galvanizing
Codes: Load values are derived from data submitted to various North American building code evaluators

Installation:
- Use all specified fasteners. See Product Notes, page 16.
- Do not fully set nails.



Typical HTC4 installation



HTC4

MiTek Stock No.	Ref. No.	Steel Gauge	Fastener Schedule[5]				Unit	D Fir-L Factored Resistance[1]				S-P-F Factored Resistance[1]			
			Plate		Truss/ Rafter Qty	Type		Without Gap[2]		With 1-1/4" Gap[3]		Without Gap[2]		With 1-1/4" Gap[3]	
			Top Qty	Side Qty				F1 115%[4]	F2 115%	F1 115%[4]	F2 115%	F1 115%[4]	F2 115%	F1 115%[4]	F2 115%
HTC4	HTC4	16	2	4	3	10d x 1-1/2	Lbs	265	545	55	305	230	470	45	260
							kN	1.18	2.42	0.24	1.36	1.02	2.09	0.20	1.16

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) Truss/Rafter must be bearing on top plate to achieve the allowable loads under "Without Gap".
3) When installed with maximum 1-1/4" space between truss/rafter and top plate, use loads under "With 1-1/4" Gap".
4) To achieve F1 loads in both directions, clips must be installed on both sides of the truss and nails staggered to avoid nail interference.
5) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long.

ZC Blocking Supports

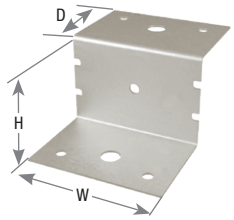
ZC clips secure blocking between joists or trusses which provides support for drywall or sheathing.

Materials: See chart
Finish: G90 galvanizing

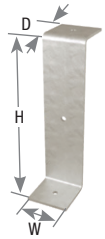
Installation:
- Use all specified fasteners. See Product Notes, page 16.



Typical ZC installation



ZC2



ZC4

MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in)			Fastener Schedule[2]				Unit	D Fir-L Factored Resistance[1]	S-P-F Factored Resistance[1]
						Header		Blocking				
			W	H	D	Qty	Type	Qty	Type		Vertical 100%	Vertical 100%
ZC2	Z2	20	2-1/4	1-9/16	1-1/2	2	10d x 1-1/2	2	10d x 1-1/2	Lbs	670	475
										kN	2.98	2.11
ZC4	Z4	12	1-1/2	3-9/16	1-3/8	2	10d x 1-1/2	1	10d x 1-1/2	Lbs	460	385
										kN	2.05	1.71
ZC24	Z28	28	2-9/32	1-9/16	1-3/8	10d x 1-1/2		10d x 1-1/2		Lbs	--	--
										kN		
ZC34	Z38	28	2-9/32	2-9/16	1-5/16	10d x 1-1/2		10d x 1-1/2		Lbs	--	--
										kN		

1) Factored resistance shall not be increased for other load duration factors.
2) **NAILS**: 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long.

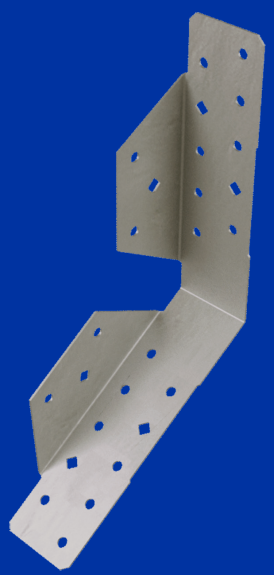
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DECK & FENCES



MiTek®

DECK & FENCES	272-281
Angles	277
Deck Connectors	274-275
Fence Hardware	278-281
Stair Angles	276



ADTT-TZ Adjustable Deck Tension Tie

Deck collapses are often caused by failure of the connection where the deck is attached to the main structure due to little or no lateral capacity. ADTT-TZ is an Adjustable Deck Tension Tie designed to effectively transfer the out of plane lateral loads of the deck to the house structure.

Features:

- Adjustable design allows lag screw installation at variable distance below deck joist
- 2-hole break-out washer (BO-W) will work with multiple screw sizes
- Blocking extensions not required

Materials: 14 gauge

Finish: G-185 galvanizing

Installation:

- Install with MiTek's WS8-EXT structural wood screw or 3/8" HDG lag screw. WS8-EXT or 3/8" HDG lag screws may be installed adjacent or up to 4-3/8" below deck joist (see Figure A).
- Drive screw horizontally and aligned vertically with the deck joist into the wall top plate of the main (house) structure.
- Install four (4) of the specified joist fasteners into vertical legs. (Two (2) on each side of deck joist).
- Secure front brace with six (6) specified joist fasteners.
- Re-tighten the WS8-EXT or 3/8" HDG lag screw as needed to fully engage with the ADTT-TZ. **DO NOT OVERDRIVE.** Note: Minimum 3" thread penetration required for proper installation of WS8-EXT or lag screw.
- **For detailed installation instructions refer to www.MiTek.ca.**

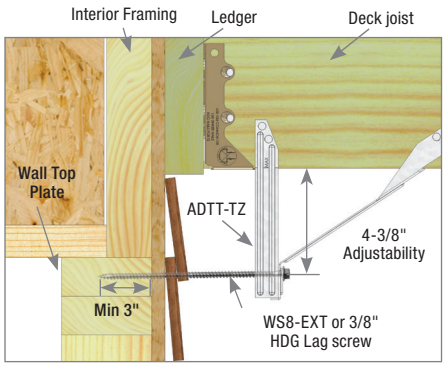


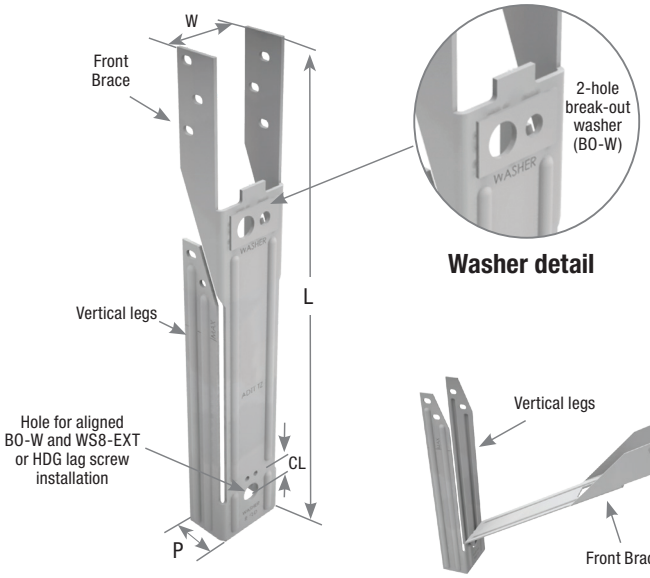
Figure A



Typical ADTT-TZ full extension installation



Typical ADTT-TZ flush installation



Washer detail

ADTT-TZ out of box

ADTT-TZ ready for installation

MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in) W	L	P	CL	Fastener Schedule Wall Qty	Wall Type[2,3,4]	Joist Qty	Joist Type[5,7]	D Fir-L Factored Resistance Lbs 100%	Lbs 115%[1]	kN 100%	kN 115%[1]	S-P-F Factored Resistance Lbs 100%	Lbs 115%[1]	kN 100%	kN 115%[1]	Corrosion Finish
ADTT-TZ	DTT1Z	14	1-9/16	10-1/2	15/16	3/8	1	3/8" HDG Lag Screw	10	10d x 1-1/2 HDG	1285	1285	5.72	5.72	1085	1090	4.83	4.85	
							1	WS8-EXT			1305	1305	5.80	5.80		1105		4.92	
							1	3/8" HDG Lag Screw	10	LL915	1285	1285	5.72	5.72	1085	1090	4.83	4.85	
							1	WS8-EXT			1305	1305	5.80	5.80		1105		4.92	
ADTT-TZKT[6]	DTT1Z-KT	14	1-9/16	10-1/2	15/16	3/8	1	WS8-EXT	10	LL915	1305	1305	5.80	5.80	1085	1105	4.83	4.92	

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; no further increase allowed.
2) MiTek's WS8-EXT structural wood screw is 1/4" dia. x 8" long double barrier coated screw and must be ordered seperately.
3) 3/8" HDG Lag is an ASTM A307 Grade A lag screw with a thread diameter of 3/8-inch and is hot-dip galvanized to ASTM A153 standards. Lag screws are available at your local hardware store and must be purchased seperately.
4) Check with your siding manufacturer for recommendations for fastening through your siding material.
5) LL915 denotes a MiTek LumberLok Screw, #9 x 1-3/8" long, and must be ordered seperately if not purchasing the kit.
6) ADTT-TZKT is a kit with (4) ADTT-TZ packaged with WS8-EXT screws and LL915 LumberLok screws.
7) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long.

Corrosion Finish Key
Stainless Steel
HDG Triple Zinc

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Deck Tie Back reinforces the connection of rail posts to a deck. Also provides lateral strength of deck-to-ledger attachment by securing deck to house framing.

Materials: 14 gauge

Finish: G-185 galvanizing

Options: See chart for Corrosion Finish Options

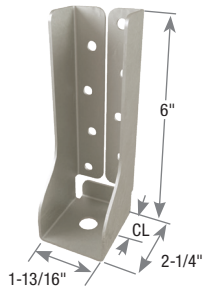
Codes: Load values are derived from data submitted to various North American building code evaluators



Typical DTB-TZ rail post installation



Typical DTB-TZ deck to ledger installation



DTB-TZ

Installation:

- Use all specified fasteners. See Product Notes, page 16.
- Install with MiTek's THR 1/2" threaded rod or equivalent.
- Drive MiTek's WS15-EXT structural wood screws into joist.
- Re-install threaded rod or anchor bolt. Secure with washer and nut.
- Tighten anchor bolt nuts finger tight to base plus 1/3 to 1/2 additional turns with wrench.

MiTek Stock No.	Ref. No.	Steel Gauge	Rod / Bolt Anchor Dia. (in)	CL (in)	Fastener Schedule[2]		D Fir-L Factored Resistance				S-P-F Factored Resistance				Corrosion Finish
							Lbs		kN		Lbs		kN		
					Qty	Wood Screws	100%	115%[1]	100%	115%[1]	100%	115%[1]	100%	115%[1]	
DTB-TZ	DTT2Z, FSC	14	1/2	1-1/8	8	WS15-EXT	2640	2640	11.74	11.74	2220	2220	9.88	9.88	

Corrosion Finish Key
Stainless Steel
HDG
Triple Zinc

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) MiTek's WS15-EXT structural wood screws are 1/4" dia. x 1-1/2" long and are included with DTB-TZ Deck Tie-Backs.

CSH Concealed Stringer Hanger

The CSH-TZ concealed stringer hanger provides a method of connecting a stair stringer with a hidden hanger. The seat of the hanger is adjustable to match the slope of the stair stringer.

The reversible design allows the connector to be used on the left, right, or interior stringers. The CSH-TZ may be used with MiTek's SCA Stair Angles for a complete, easy-to-use stair framing solution.

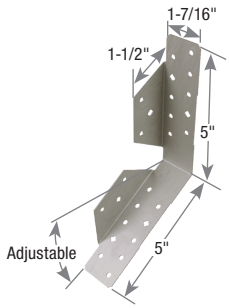
Materials: 18 gauge

Finish: G-185 galvanizing

Codes: Load values are derived from data submitted to various North American building code evaluators



Typical CSH-TZ installation



CSH-TZ

Installation:

- Use all specified fasteners. See Product Notes, page 16.
- **Bend angle only once.**

Steps:

1. Attach CSH-TZ to header with tabs positioned towards the inside of the stringer member.
2. Adjust the seat of the CSH-TZ to match the slope of the stringer member. Diamond shaped holes in the connector allow temporary installation of wood screws to aid in installation of the CSH-TZ.
3. Install 10d x 1-1/2" HDG nails into the stringer and rim/band joist.

MiTek Stock No.	Ref. No.	Steel Gauge	Fastener Schedule[2]					D Fir-L Factored Resistance				S-P-F Factored Resistance				Corrosion Finish
			Rim/Band Joist		Stringer			Lbs		kN		Lbs		kN		
			Qty	Type	Wide Face Qty	Narrow Face Qty	Type	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%	
CSH-TZ	LSCZ	18	8	10d x 1-1/2 HDG	4	1	10d x 1-1/2 HDG	1455	545	6.47	2.42	1030	385	4.58	1.71	

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; no further increase is allowed.
2) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long.
New products or updated product information are designated in blue font.

Corrosion Finish Key
Stainless Steel
HDG
Triple Zinc

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Stair angles simplify stair construction. There is no need to calculate and notch stair stringers. Stronger and safer than wood blocking, and the angle and fasteners are hidden from view.

Materials: 12 gauge

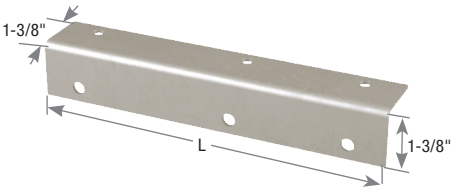
Finish: G-185 galvanizing

Installation:

- Use all specified fasteners. See Product Notes, page 16.
- MiTek's WS15-EXT (1/4" dia x 1-1/2" long) structural wood screws
  are not supplied with SCA angles.
- Use the SCA9-TZ for single 2x10 stair treads. Use the SCA10-TZ for double 2 x 6 stair treads.
- To calculate stair construction do the following:
  1. Find the number of steps needed by dividing vertical drop in inches from the deck surface to grade. Round off to the nearest whole number. (Ex: Vertical drop of 39" divided by 7" equals 5.57 rounded off is 6)
  2. Find the step rise by dividing the vertical drop by the number of steps (39" divided by 6 = 6.5")
  3. Find the step run by measuring the depth of your tread board (Ex: (2) 2x6s with 1/4" gap will have a run of 11-1/4")
  4. Find the stairway span by multiplying the run by the number of treads minus one (Ex: 11-1/4" x 5 = 56-1/4")
- Using the above calculations, mark stair angle locations on each stringer. Attach a stair angle to the inside of each stringer at the marked locations. Attach stringers to deck rim joist and railing posts. Position treadboards on angles and fasten from below.



Typical SCA9-TZ installation



SCA9-TZ

AVAILABLE IN GOLD COAT



Typical SCA10-TZ installation

MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in)		Fastener Schedule[2,3]		D Fir-L Factored Resistance		S-P-F Factored Resistance		Corrosion Finish
							Down 100%[1]		Down 100%[1]		
			w	L	Qty	Type	Lbs	kN	Lbs	kN	
SCA9-TZ	TA9Z	12	1-3/8	9	6	WS15-EXT	1925	8.56	1365	6.07	
SCA10-TZ	TA10Z	12	1-3/8	10	8	WS15-EXT	1925	8.56	1365	6.07	

1) Loads assume rise over run of 7/11.
2) MiTek's WS15-EXT structural wood screws are 1/4" dia. x 1-1/2" long and are not included with SCA angles.
3) HDG lag screws may be substituted for specified MiTek WS15-EXT structural wood screws with no load reduction.

Corrosion Finish Key Stainless Steel HDG Triple Zinc

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ML Angles

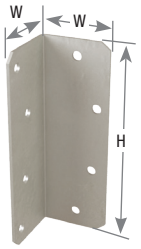
ML angles are multi-purpose angles that install easily with WS15 wood screws. The staggered fastener pattern allows for back-to-back installations.

Materials: 12 gauge
Finish: G-185 galvanizing

Installation:
- Use all specified fasteners. See Product Notes, page 16.
- MiTek's WS15 (1/4" dia. x 1-1/2" long) structural wood screws are not supplied with ML angles.



Typical ML26-TZ installation
(ML24-TZ similar)



ML26-TZ
(ML24-TZ similar)

MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in)		Fastener Schedule[2,3]				Unit	D Fir-L Factored Resistance[1]		S-P-F Factored Resistance[1]		Corrosion Finish
					Header		Joist							
			W	H	Qty	Type	Qty	Type		100%	115%	100%	115%	
ML24-TZ	ML24Z	12	2	4	3	WS15	3	WS15	Lbs	1100	1265	780	900	
									kN	4.89	5.63	3.47	4.00	
ML26-TZ	ML26Z	12	2	6	4	WS15	4	WS15	Lbs	1890	2175	1340	1545	
									kN	8.41	9.68	5.96	6.87	

1) Factored resistances have been increased 15% for short-term, duration loading; no further increase allowed.
2) MiTek's WS15 structural wood screws are 1/4" dia. x 1-1/2" long and are not included with angles.
3) For exterior applications use MiTek's WS15-EXT structural wood screws with exterior coat finish.

Corrosion Finish Key Stainless Steel HDG Triple Zinc

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PRT15-TZ – is for 1-5/8" vertical pipe posts (1-7/8" outside pipe diameter). Can be field bent 90° for outside corner installations

PRT2H-TZ – is for 2" vertical pipe posts (2-3/8" outside pipe diameter). Can be field bent 90° for outside corner installations

PRTIC2-TZ – is for inside corner installations. For 2" vertical pipe posts (2-3/8" outside pipe diameter)

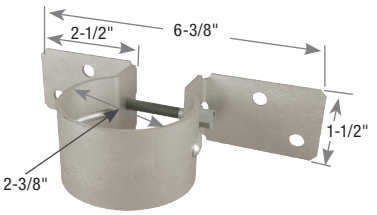
Materials: See chart
Finish: G-185 galvanizing

Installation:

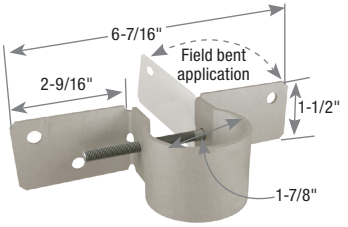
- Use all specified fasteners. See Product Notes, page 16.
- PRT15-TZ, PRT2H-TZ and PRTIC2-TZ - 1/4" Self Tapping Bolts are supplied with PRT models.
- Install self tapping bolts with 3/8" socket in pre-drilled holes.
- Install 3 to 4 PRT's per pipe.
- PRT15-TZ and PRT2H-TZ may be bent once to fit corner and angled conditions.



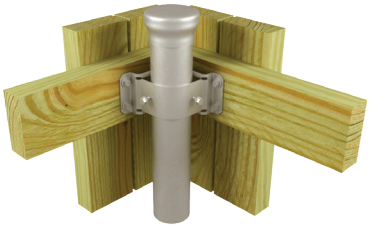
Typical PRT2H-TZ installation
PRT15-TZ & PRT2-TZ similar



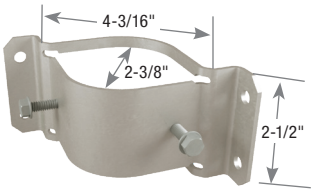
PRT2H-TZ



PRT15-TZ



Typical PRTIC2-TZ installation



PRTIC2-TZ

MiTek Stock No.	Ref. No.	Steel Gauge	Fastener Schedule[1]				Corrosion Finish	
			Pipe		Rail			
			Qty	Type	Qty	Type		
PRT15-TZ	PGT1.5Z-R	12	1	1/4" Self Tapping Bolt	4	1/4" HDG Lag Bolt		
PRT2H-TZ	PGT2Z-R, PGT2A	12	1	1/4" Self Tapping Bolt	4	1/4" HDG Lag Bolt		
PRTIC2-TZ	PGTIC2Z-R	12	2	1/4" Self Tapping Bolt	4	1/4" HDG Lag Bolt		

1) MiTek's WS15-EXT structural wood screws can be substituted for specified HDG lag bolts.
2) Install self tapping bolts (included) with 3/8" socket in predrilled holes.
3) Install 3 to 4 PRT's per pipe.
4) PRT15 and PRT2H Pipe Rail Ties may be bent once to fit corner and angled conditions.

Corrosion Finish Key Stainless Steel HDG Triple Zinc

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ERB24 – Designed to mount prefabricated fence sections and works with 2x4 horizontal section rails

FB26 – Secures 2x6 rails to wood posts

FRB24 – Secures continuous 2x4 rails to wood posts. Pre-punched holes allow installers to splice 2x4 rail ends within the bracket

Materials: See chart

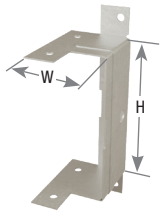
Finish: G-185 galvanizing

Installation:

- Use all specified fasteners. See Product Notes, page 16.



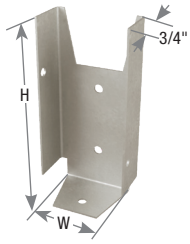
Typical ERB24-TZ installation



ERB24-TZ



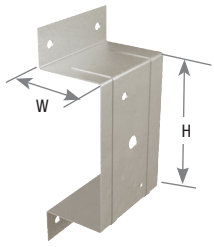
Typical FB24-TZ installation



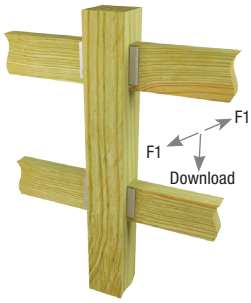
FB24-TZ



Typical FRB24-TZ installation



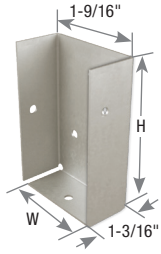
FRB24-TZ



Typical FB26-TZ installation



FB26-TZ



FB23-TZ



FB14-TZ

Rail Size	MiTek Stock No.	Ref. No	Steel Gauge	Dimensions (in)		Fastener Schedule[2]				Unit	D Fir-L Factored Resistance[1]		S-P-F Factored Resistance[1]		Corrosion Finish
				W	H	Qty	Rail	Qty	Post		Down	F1	Down	F1	
1 x 4	FB14-TZ	--	20	3/4	3-1/2	3	14 ga. x 3/4 HDG	2	8d x 1-1/2 HDG	--	--	--	--	--	
2 x 3	FB23-TZ	--	20	1-9/16	2-3/8	3	8d x 1-1/2 HDG	4	8d x 1-1/2 HDG	--	--	--	--	--	
2 x 4	ERB24-TZ	--	18	1-1/2	3-9/16	4	8d x 1-1/2 HDG	3	8d HDG	--	--	--	--	--	
	FB24-TZ	FB24Z, FBR24, FBR24Z	20	1-9/16	3-3/8	3	8d x 1-1/2 HDG	2	8d HDG	--	--	--	--	--	
	FRB24-TZ	--	18	1-9/16	3-9/16	2	10d x 1-1/2 HDG	4	10d HDG	--	--	--	--	--	
2 x 6	FB26-TZ	FB26	18	1-9/16	5	4	10d x 1-1/2 HDG	4	10d x 1-1/2 HDG	Lbs	550	700	390	495	
										kN	2.45	3.11	1.73	2.20	
						4	LL915	4	LL915	Lbs	780	715	550	505	
										kN	3.47	3.18	2.45	2.25	

1) Factored resistances have been increased 15% for short-term loading such as wind and earthquake; no further increase is permitted.

2) **NAILS:** 8d x 1-1/2 nails are 0.131" dia. x 1-1/2" long, 8d nails are 0.131" dia. x 2-1/2" long, 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long, 10d nails are 0.148" dia. x 3" long, LL915 denotes a LumberLok Screw, #9 x 1-3/8" long.

Corrosion Finish Key Stainless Steel HDG Triple Zinc

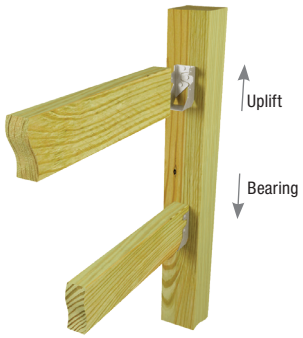
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FPH Fence Rail Hanger

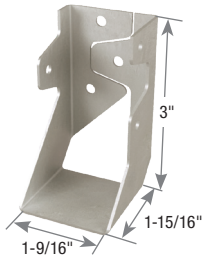
The FPH24-TZ attaches 2x4 fence rails to wood posts. The Triple Zinc (G-185) galvanized finish offers superior corrosion resistance in outdoor applications and/or with treated wood.

Materials: 18 gauge
Finish: G-185 galvanizing

Installation:
- Use all specified fasteners. See Product Notes, page 16.
- Fasteners need to be Hot-Dip Galvanized for outdoor applications and for use with preservative treated wood.



Typical FPH24-TZ installation



FPH24-TZ

Joist Size	MiTek Stock No.	Ref. No.	Steel Gauge	Fastener Schedule[2]			D Fir-L Factored Resistance				S-P-F Factored Resistance				Corrosion Finish
							Lbs		kN		Lbs		kN		
				Header Qty	Joist Qty	Type	Bearing 100%	Uplift[1] 115%	Bearing 100%	Uplift[1] 115%	Bearing 100%	Uplift[1] 115%	Bearing 100%	Uplift[1] 115%	
2 x 4	FPH24-TZ	--	18	3	3	8d x 1-1/2 HDG	410	545	1.82	2.42	350	465	1.56	2.07	
						10d x 1-1/2 HDG	485	560	2.16	2.49	420	485	1.87	2.16	

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.
2) **NAILS:** 8d x 1-1/2 nails are 0.131" dia. x 1-1/2" long, 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long.

Corrosion Finish Key Stainless Steel HDG Triple Zinc

PCP Plastic Post Caps

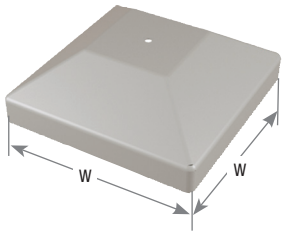
These seamless caps keep water off post tops, protecting wood from moisture damage. The PCP's plastic construction is corrosion-proof and paintable. Not available in rough or full lumber sizes.

Materials: Hi-impact plastic
Finish: Gray

Installation:
- Fasten cap to post top with (1) 8d HDG or 10d HDG nail.



Typical PCP44 installation



PCP66

Post/Column Size[1]	MiTek Stock No.	Ref. No.	Dimension (in) W	Color
4 x 4	PCP44	DPPC4BK	3-5/8	Gray
6 x 6	PCP66	DPPC6BK	5-5/8	Gray

1) Not available in rough or full lumber sizes.

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SFP / SMP Fence Post Connectors

Take the work out of fence post installation and repair with the Speedpost, SFP30, and Speedmender, SMP. The Speedpost is used to install 4x4 fence posts without digging post holes or pouring concrete. The Speedmender plates act as reinforcement brackets for rotted or damaged 4x4 fence posts.

SFP30 – For 6' nominally-sized 4x4 fence posts

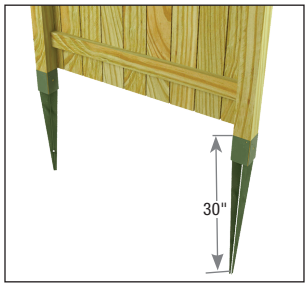
SMP – For nominally-sized 4x4 posts

Materials: 13 gauge
Finish: Paint

Installation:
- Step-by-step installation instructions are labeled onto each product.

Post Size	MiTek Stock No.	Ref. No.	Steel Gauge	Fastener Schedule[1,2]	
				Qty	Type
4 x 4	SFP30	FPBS44	13	3	1/4" HDG Lag Bolts
	SMP	FPBM44	13	20	10d HDG

1) Fastener schedule is per pair of SMPs.
2) **NAILS:** 10d nails are 0.148" dia. x 3" long.



Typical SFP30 installation



SFP30



Typical SMP installation



SMP

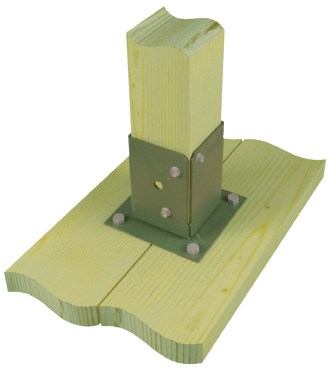
BD Bolt Down

Anchors 4x4 post to wood or concrete surfaces.

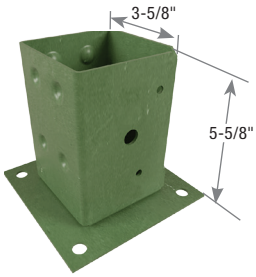
Materials: 13 gauge
Finish: Paint

Installation:
- Use all specified fasteners. See Product Notes, page 16.
- **Not rated for overturning resistance. Not recommended for unrestrained posts.**

Post Size	MiTek Stock No.	Ref. No.	Steel Gauge	Fastener Schedule	
				Qty	Lag Bolts
4 x 4	BD	FPBB44	13	3	1/4" x 1-1/2" HDG



Typical BD installation



BD

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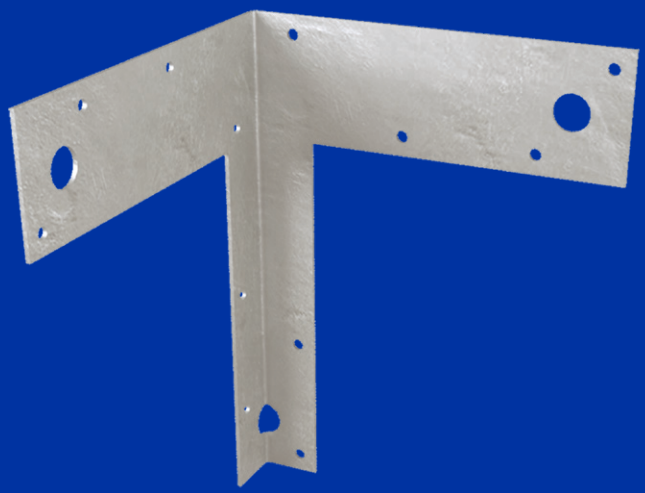
GENERAL HARDWARE



MiTek®

GENERAL HARDWARE 282-291

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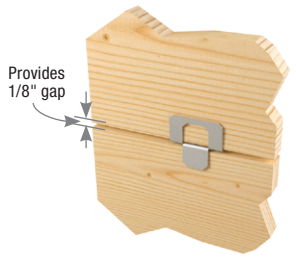


PC / RC Plywood Clips

Steel plywood clips. All models feature embossed dimples to provide 1/8" gap.

Materials: PC – 20 gauge; RC – 18 gauge
Finish: G90 galvanizing

Plywood Thickness (in)	MiTek Stock No.	Ref. No.	Steel Gauge
3/8	RC38	PSCL3/8	18
7/16	PC716	PSCL7/16, PSCA7/16	20
	RC716	--	18
15/32	PC1532	PSCL15/32, PSCA15/32	20
	RC1532	--	18
1/2	PC12	PSCL1/2, PSCA1/2	20
	RC12	--	18
19/32	PC1932	PSCL19/32	20
5/8	PC58	PSCL5/8, PSCA5/8	20
	RC58	--	18
3/4	PC34	PSCL3/4	20



Typical PC installation


Typical RC installation


PC


RC

DC Drywall Clip

Drywall clips or “stops” help support drywall or wood paneling and reduce wood blocking on top plates, end walls, and corners.

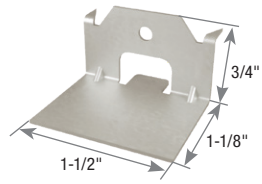
Materials: 20 gauge
Finish: G90 galvanizing

Installation:
- Use 8d nails to install DC1, 16" on-center or less.

MiTek Stock No.	Ref. No.	Steel Gauge	Fastener Schedule[1]	
			Qty	Type
DC1	DS	20	1	8d

1) **NAILS:** 8d nails are 0.131" dia. x 2-1/2" long.


Typical DC1 installation



DC1

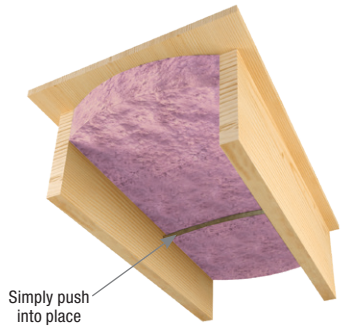
IS Insulation Supports

Insulation supports secure batt-type insulation in place between joists. Chisel-cut ends dig into joists for permanent holding. Easy to install in hard-to-reach crawl spaces.

Materials: 13 gauge carbon steel wire
Finish: None

Installation:
- Use IS16 for joist spaced 16" O.C. and IS24 for 24" O.C. spacing.
- Position insulation batt in place between joists. Hold IS unit at the center and push into place.
- Wear gloves and safety glasses during installation.

MiTek Stock No.	Ref. No.	Steel Gauge	Joist Spacing (in)	Dimensions (in)
				Overall Length
IS16	IS16-R100	13	16" O.C.	15-1/2
IS24	IS24-R100	13	24" O.C.	23-1/2



Typical IS installation

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Connectors for home owner / D.I.Y. projects.

TTA12-TZ - an angle connects two 1x wood members at 90º angles

TTA2-TZ - an angle connects two 2x wood members at 90º angles

TTC42-TZ - a corner tie connects 2x wood members at 90º to the corner of a 4x4 post

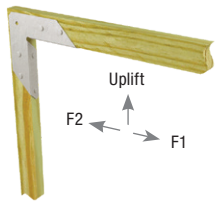
TTF22-TZ - a bracket connects 2x wood members to opposite sides of a 2x4 or 4x4 post

TTR-TZ - a clip connects a 2x wood member to the face of another wood member

TTU2-TZ - a U-clip connects 2x wood members crossing at 90º

Materials: See chart

Finish: G-185 galvanizing



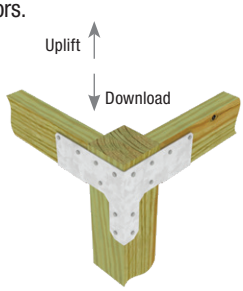
Typical TTA12-TZ installation



TTA12-TZ
(TTA2-TZ Similar)

Installation:

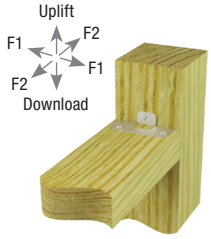
- Use all specified fasteners. See Product Notes, page 16.
- MiTek's LumberLok LL915 (#9 x 1-3/8" long) structural wood screws are not supplied with connectors.



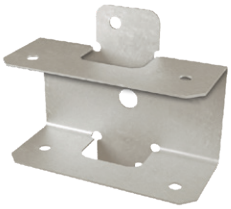
Typical TTC42-TZ installation



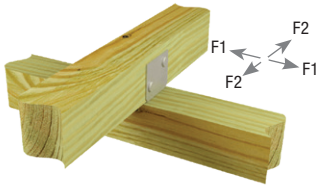
TTC42-TZ



Typical TTR-TZ installation



TTR-TZ



Typical TTU2-TZ installation



TTU2-TZ



Typical TTF22-TZ installation



TTF22-TZ

MiTek Stock No.	Ref. No.	Steel Gauge	Post Size	Joist Size	Fastener Schedule[1] Post Qty	Post Type	Joist (Total) Qty	Joist (Total) Type	Unit	D Fir-L Factored Resistance[2,3,4] Download	Uplift	F1	F2	S-P-F Factored Resistance[2,3,4] Download	Uplift	F1	F2	Corrosion Finish
TTA12-TZ	RTA12	18	1x	1x	4	LL915	4	LL915	Lbs	--	355	330	355	--	255	235	255	
									kN	--	1.58	1.47	1.58	--	1.13	1.05	1.13	
TTA2-TZ	RTA2Z	16	2x	2x	4	LL915	4	LL915	Lbs	--	315	440	315	--	225	315	225	
									kN	--	1.40	1.96	1.40	--	1.00	1.40	1.00	
TTF22-TZ	RTF2Z	18	2 x 4	2x	4	LL915	8	LL915	Lbs	1075	430	--	--	765	305	--	--	
									kN	4.78	1.91	--	--	3.40	1.36	--	--	
TTC42-TZ	RTC42, RTC42Z	18	4 x 4	2x	14	LL915	8	LL915	Lbs	1400	750	--	--	995	530	--	--	
									kN	6.23	3.34	--	--	4.43	2.36	--	--	
TTR-TZ	RTR	20	2x	2x	2	LL915	4	LL915	Lbs	545	545	490	235	390	390	350	170	
									kN	2.42	2.42	2.18	1.05	1.73	1.73	1.56	0.76	
TTU2-TZ	RTU2	18	2x	2x	2	LL915	4	LL915	Lbs	--	--	550	565	--	--	390	400	
									kN	--	--	2.45	2.51	--	--	1.73	1.78	

1) LL915 denotes a LumberLok Screw, #9 x 1-3/8" long.
2) Factored resistances are for a standard term load duration Kd = 1.00
3) TTF22-TZ: Factored resistances must be equally distributed on both joists.
4) TTC42-TZ: Factored resistances listed in this table are for each joist being carried by the post.

Corrosion Finish Key Stainless Steel HDG Triple Zinc

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ICPL / KNS / PL Protection Plates

Easy-to-install plates protect plumbing and power/communication wiring from nail or screw penetration.

ICPL58 – Installs with nails

KNS1 / PL4 – Prongs allow for quick installation

Materials: 16 gauge

Finish: ICPL516-TZ – G-185 galvanizing;
All others – G90 galvanizing

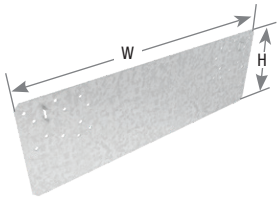
Options: See chart for Corrosion Finish Options

Installation:

- Use all specified fasteners. See Product Notes, page 16.



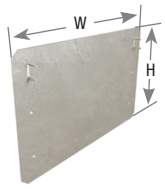
Typical ICPL516-TZ installation



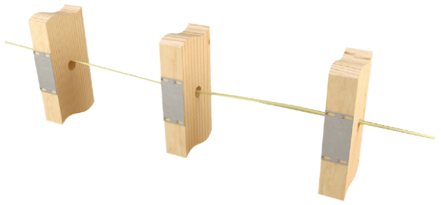
ICPL516-TZ



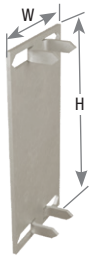
Typical ICPL58 installation



ICPL58



Typical KNS1 & PL4 installation



KNS1



PL4

MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in)		Fastener Schedule[2]		Installation Type	D Fir-L Factored Resistance		S-P-F Factored Resistance		Corrosion Finish
								Uplift 115%[1]		Uplift 115%[1]		
			W	H	Qty	Type		Lbs	kN	Lbs	kN	
KNS1	NS1	16	1-1/2	3	--	prongs	--	--	--	--	--	
PL4	NS2	16	2	5	--	prongs	--	--	--	--	--	
ICPL58	--	16	8-1/16	5	4	8d or prongs	--	--	--	--	--	
ICPL516-TZ	PSPN516Z	16	16-1/4	5	12	16d HDG + prongs	Sill Plate	1405	6.25	1205	5.36	
					16	16d HDG + prongs	Double Top Plate	1870	8.32	1600	7.12	

1) Factored uplift resistances have been increased 15% for short-term loads such as wind and earthquake; no further increase allowed.
2) **NAILS:** 8d nails are 0.131" dia. x 2-1/2" long, 16d nails are 0.162" dia. x 3-1/2" long.

Corrosion Finish Key Stainless Steel HDG Triple Zinc

STS Stud Shoes

Stud shoes reinforce joists, plates, studs, or rafters which have been drilled or notched during construction.

Materials: 18 gauge

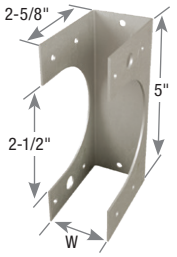
Finish: G90 galvanizing

Installation:

- Use all specified fasteners. See Product Notes, page 16.
- **STS units are not structurally rated and should not be used as a total member replacement in structural applications.**
- For use with 2" O.D. pipe.



Typical STS1 installation



STS

MiTek Stock No.	Ref. No.	Steel Gauge	Description	Dimension (in)	Fastener Schedule[1,2]	
				W	Qty	Type
STS1	--	18	Single Stud	1-9/16	10	10d x 1-1/2
STS2	--	18	Double Stud	3-1/16	12	10d
STS3	--	18	Triple Stud	4-9/16	14	10d

1) Maximum hole size = 2".
2) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long, 10d nails are 0.148" dia. x 3" long.

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O / N Bridging

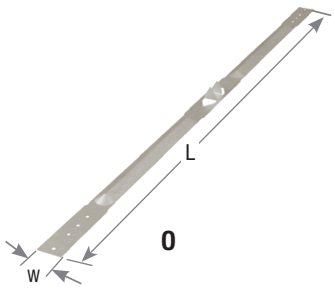
O – The O series spans three joists in under/over installation. Prong teeth in the center help reduce nailing. For 1-1/2" wide dimensional lumber only

N – The N series spans two joists per unit. Can be used for bridging or bracing. See chart

Materials: See chart
Finish: G90 galvanizing



Typical O installation





Typical N installation

Installation:

- Use specified fasteners in models with fastener requirements.
- Install prior to subfloor sheathing. Use (2) 8d x 1-1/2" nails at each end. Fully seat nails to avoid any movement against the bridging and subsequent floor noise.
- Must be installed in cross pairs. Avoid bridging overlap, it may cause squeaks.

MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in)		Fastener Schedule[1]	
			W	L	Qty	Type
N16	LTB20, TB20	22	3/4	19-3/4	4	8d x 1-1/2
040	LTB40	22	3/4	39-3/4	4	8d x 1-1/2
N27	TB27	20	3/4	26-13/16	4	8d x 1-1/2
N30	TB30	20	3/4	29-13/16	4	8d x 1-1/2
N36	TB36	20	3/4	35-13/16	4	8d x 1-1/2
N42	TB42	20	3/4	42	4	8d x 1-1/2
N48	TB48	20	3/4	48	4	8d x 1-1/2
N54	TB54	20	3/4	54	4	8d x 1-1/2
N56	TB56	20	1	56	4	8d x 1-1/2
N60	TB60	20	1	60	4	8d x 1-1/2

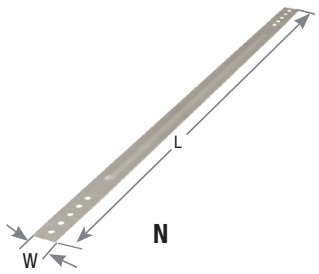
1) **NAILS:** 8d x 1-1/2 nails are 0.131" dia. x 1-1/2" long.

Joist Installations

Joist Type	Joist Height (in)	Joist Spacing[1]								
		12"	16"	19.2"	24"	30"	32"	36"	42"	48"
2x Dimensional Lumber	7-1/4	--	040/N16	N27	N27/N30	N36	N36	N42	N48	N54/N56
	9-1/4	N16	040/N16	N27	N30	N36	N36	N42	N48	N54/N56
	11-1/4	040/N16	040	N27	N30	N36	N36	N42	N48	N54/N56
1-3/4" SCL	9-1/2	N16	N16	N27	N30	N36	N36	N42	N48	N54/N56
	11-7/8	N16	N16	N27	N30	N36	N36	N42	N48	N54/N56
	14	N16	N27	N27/N30	N30	N36	N36	N42	N48	N54/N56
	16	N27	N27	N27/N30	N30	N36	N42	N42	N48	N54/N56
I-Joists: 2-1/2" & 3-1/2" wide	9-1/2	N16	N16	N16	N27/N30	N36	N36	N36	N42	N56
	11-7/8	N16	N16	N27	N30	N36	N36	N42	N48	N56
	14	N16	N16	N27	N30	N36	N36	N42	N48	N54/N56
	16	N16	N27	N27/N30	N30	N36	N36	N42	N48	N54/N56
	18	N27	N27	N30	N30	N36	N36	N42	N48	N54/N56
	20	N27	N30	N30	N36	N36	N42	N42	N48	N54/N56
	22	N30	N30	N30	N36	N42	N42	N42	N48	N54/N56/N60
	24	N30	N30	N36	N36	N42	N42	N48	N56	N56/N60

1) Grey shaded cells represent bridging installed on the face of the joist; web stiffeners required for I-Joists.

2) All bridging products require (2) 8d x 1-1/2 nails at each end, which are 0.131" dia. x 1-1/2" long.



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MB / MBG Bridging

MBG – Grip tooth bridging. Features special teeth which grip joists and provide easy single-nail installation. Can be installed after subfloor is in place

MB16 – Snap-on, no-nail bridging can be placed in existing floor systems where joist movement is suspected. Two-piece construction creates a solid diagonal brace against joist movement

Materials: See chart

Finish: G90 galvanizing

Installation:

- Use specified fasteners in models with fastener requirements.
- **MBG** – May be installed before or after sheathing. Position the unbent end of the bridging unit near the top of the joist and drive prongs into wood with a hammer blow to the heel of the bent end. Wedge bent end near the lower edge of the opposite joist, set teeth into wood with hammer blow. Nail holes are provided at the bent end if prongs are damaged during installation. Fully seat nails to avoid any movement against the bridging and subsequent floor noise.
- **MB16** – Two-piece unit is shipped as one piece. Bend unit in center up and down to break into two pieces. Slide narrower piece inside wider piece, setting the end tab into slot appropriate for joist spacing. Setting one prong end near the top of one joist and the opposite prong end near the bottom of the opposite joist, pull down on the center of the bridging until the wider piece snaps into place over the narrow piece and creates a rigid, one-piece bridging unit. Wear gloves during installation.





MB16



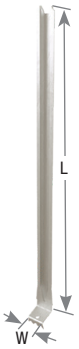
Typical MB16 installation



Typical MBG installation

Joist Size	Joist Spacing O.C. (in)[1]	MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in)		Fastener Schedule[2]	
					W	L	Qty	Type
2 x 8	12	MBG812	NCA2X8-12	22	15/16	11-3/4	1	8d x 1-1/2
2 x 10	12	MBG1012	NCA2X10-12	22	15/16	12-3/4	1	8d x 1-1/2
2 x 12	12	MBG1212	NCA2X12-12	22	15/16	14	1	8d x 1-1/2
2 x 14	12	MBG1412	--	22	15/16	16	1	8d x 1-1/2
2 x 16	12	MBG1612	--	22	15/16	17	1	8d x 1-1/2
2 x 8-12	16	MB16	--	22	11/16	--	--	--
2 x 8	16	MBG816	NCA2X8-16	22	15/16	15-9/16	1	8d x 1-1/2
2 x 10	16	MBG1016	NCA2X10-16	22	15/16	16-5/16	1	8d x 1-1/2
2 x 12	16	MBG1216	NCA2X12-16	22	15/16	17-1/4	1	8d x 1-1/2
2 x 14	16	MBG1416	--	22	15/16	18-7/16	1	8d x 1-1/2
2 x 16	16	MBG1616	--	22	15/16	19-5/8	1	8d x 1-1/2
2 x 8	24	MBG824	--	22	1-5/16	23-1/2	1	8d x 1-1/2
2 x 10	24	MBG1024	--	22	1-5/16	24	1	8d x 1-1/2
2 x 12	24	MBG1224	--	22	1-5/16	24-3/4	1	8d x 1-1/2
2 x 14	24	MBG1424	--	22	1-5/16	25-5/8	1	8d x 1-1/2
2 x 16	24	MBG1624	--	22	15/16	26-5/8	1	8d x 1-1/2

1) Joist spacing is based on a 1-1/2" joist, consult MiTek regarding wider joist applications.
2) **NAILS:** 8d x 1-1/2 nails are 0.131" dia. x 1-1/2" long.



MBG

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Wall bracing products are engineered to meet the prescriptive 1x4 let-in brace code requirements.

RWB – Flat bracing conveniently packaged in a handy roll out dispenser. Perfect for unexpected job site shortages. The 35-pound dispenser pack fits easily into a truck bed for transport. Pre-embossed snap-off points can be broken off by hand (wear gloves for safety)

WB – A flat style bracing engineered to easily nail to studs. No cutting or fitting needed

WBC – L-shaped design for additional strength and rigidity

WBT – Rolled edges and T-style design gives the WBT strength, rigidity, and eliminates sharp, sheared edges

Materials: See chart

Finish: G90 galvanizing

Installation:

- Use all specified fasteners. See Product Notes, page 16.
- Bracing is a framing aid, not a substitute for structural shearwall components.
- **RWB / WB** – Use with 16" or 24" o.c. studs. Install in pairs forming an "X" or opposing "V" at each end of a maximum 25-foot long wall panel.

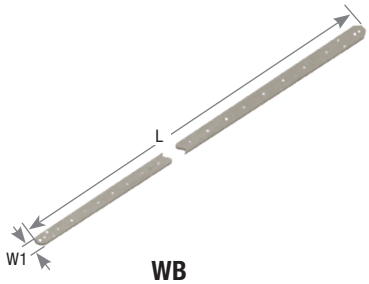
  Steps: Square the panel. Straighten any kinks in bracing caused by handling. Lay bracing on the panel flush to the top of top plate and flush to the bottom of the bottom plate. Secure bracing to the top plate and bottom plate using 16d nails (WB) or 8d nails (RWB). Position second bracing at an angle opposite to the first brace to form an "X" and secure to top and bottom plate as with the first bracing. Using 8d nails, secure bracing to all intersecting studs.
- **WBC / WBT** – Use with 16" or 12" o.c. studs. Install one brace at each end of wall section, not exceeding 25 feet, in an opposing "V" pattern. Use the web portion of a length of bracing as a straight edge to mark studs. Cut a saw kerf 5⁄8" deep (1" deep for WBC). Insert the bracing web into the saw kerf, and drive one nail into the top plate. Raise the wall section into place and plumb. Finish fastening according to the nail schedule.



RWB pre-embossed snap-off points



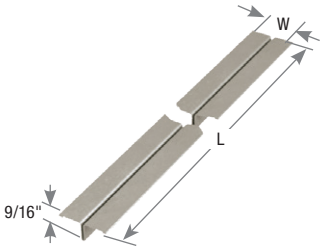
Typical RWB/WB installation



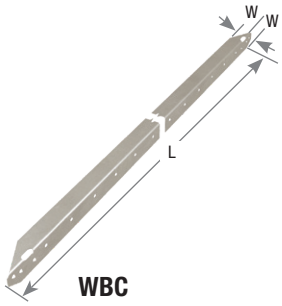
WB



Typical WBC/WBT installation



WBT



WBC

MiTek Stock No.[1]	Ref. No.	Steel Gauge	Dimensions (in) W	Dimensions (in) L (ft - in)	Pieces Per Roll	Wall Height	Install Angle	Fastener Schedule[2,3] Each Plate Qty	Each Plate Type	Each Stud Qty	Each Stud Type
RWB96	WB106C	16	1-1/4	9' 6"	15	8'	60°	4	8d	1	8d
RWB114	WB126C	16	1-1/4	11' 4-3/8"	12	8'	45°	4	8d	1	8d
RWB143	WB143C	16	1-1/4	14' 3"	10	10'	45°	4	8d	1	8d
WBC10	RCWB10	18	15/16	9' 5-5/8"	--	8'	60°	2	16d	1	8d
WBC12	RCWB12	18	15/16	11' 4-3/8"	--	8'	45°	2	16d	1	8d
WBT10	TWB10	22	1-3/8	9' 3"	--	8'	60°	4	8d	1	8d
WBT12	TWB12	22	1-3/8	11' 4"	--	8'	45°	4	8d	1	8d
WBT14	RCWB14, TWB14	22	1-3/8	14' 2"	--	10'	45°	4	8d	1	8d
WB106	WB106	16	1-1/4	9' 5-1/2"	--	8'	60°	3	16d	1	8d
WB126	WB126	16	1-1/4	11' 4-1/4"	--	8'	45°	3	16d	1	8d

1) These products substitute for code prescribed 1 x 4 let-in bracing.
2) **NAILS:** 8d nails are 0.131" dia. x 2-1/2" long, 16d nails are 0.162" dia. x 3-1/2" long.

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SF Step Flashing

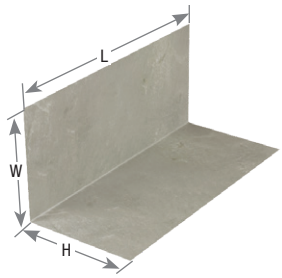
Pre-sized, ready to install, versatile flashing unit. Ideal for roof applications.

Materials: 28 gauge
Finish: G90 galvanizing

MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in)		
			W	H	L
SF8	--	28	3-1/2	3-1/2	8



Typical SF8 installation



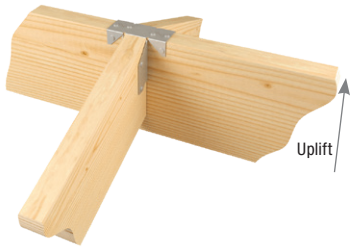
SF8

RR Ridge Rafter Hanger

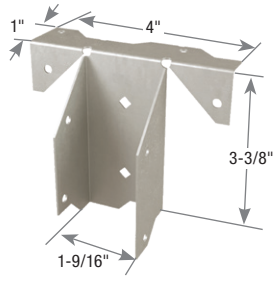
The RR Ridge Rafter supports rafter pitches up to 7:12 (30°). Nesting top flange for installation on 2x support beams.

Materials: 18 gauge
Finish: G90 galvanizing

Installation:
- Use all specified fasteners. See Product Notes, page 16.
- The rafter end at the ridge must be plumb cut to achieve published loads.
- Optional diamond nail holes can be used to fasten RR to end of rafter before setting rafter into place.



Typical RR installation



RR

MiTek Stock No.	Ref. No.	Steel Gauge	Min Rafter Size	Fastener Schedule[2]				Unit	D Fir-L Factored Resistance[1]		S-P-F Factored Resistance[1]	
				Header		Rafter			Download 100%	Uplift 115%	Download 100%	Uplift 115%
				Qty	Type	Qty	Type					
RR	RR	18	2 x 6	4	10d x 1-1/2	4	10d x 1-1/2	Lbs	590	380	465	300
								kN	2.67	1.80	1.89	1.29
				4	LL915	4	LL915	Lbs	705	345	500	245
								kN	3.14	1.53	2.22	1.09

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; no further increase allowed.
2) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long, LL915 denotes a LumberLok Screw, #9 x 1-3/8" long.

KSCT Corner Tie

The Corner Tie secures three-way wood-to-wood connections. Handy for building workbenches, utility tables, or shelving using 2x4 lumber.

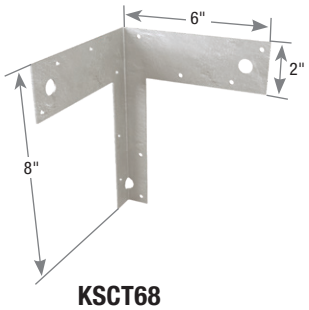
Materials: 14 gauge
Finish: G90 galvanizing

Installation:
- Use (12) #10 panhead screws to fasten the KSCT68 to wood framing.

MiTek Stock No.	Ref. No.	Steel Gauge	Fastener Schedule	
			Qty	Screws
KSCT68	--	14	12	#10 panhead



Typical KSCT68 installation



KSCT68

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NP Nail Plates

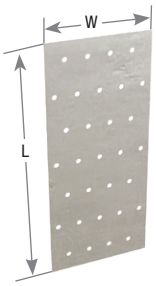
NP Nail Plates are an ideal economical solution for attaching wooden members together in a non-structural connection.

Materials: 20 gauge
Finish: G90 galvanizing

Installation:
- Use nails appropriate for intended use. Holes are sized for 8d common (0.131" dia. x 2-1/2" long) or 8d (0.131" dia.) x 1-1/2" nails.
- The designer shall determine appropriate load values.



Typical nail plate installation



NP

MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in)		Number of Nail Holes
			W	L	
NP15	TP15	20	1-13/16	5	12
NP35	TP35	20	3-1/8	5	22
NP37	TP37	20	3-1/8	7	31
NP39	TP39	20	3-1/8	9	40
NP311	TP311	20	3-1/8	11	49
NP45	TP45	20	4-1/8	5	30
NP47	TP47	20	4-1/8	7	42
NP49	TP49	20	4-1/8	9	54
NP411	TP411	20	4-1/8	11	66
NP57	TP57	20	5-3/4	7	59

JNP / TPP Mending Plates

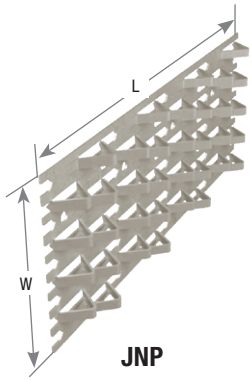
TPP – Prong plates with straight prongs
JNP – Prong plates with angled, hammer-in prongs

Materials: See chart
Finish: G90 galvanizing

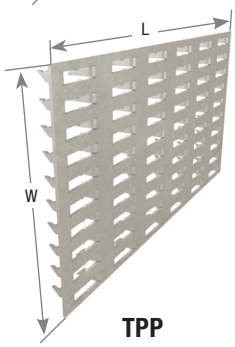
Installation:
- **These products are not intended for structural use. No load ratings are assigned. These plates are not intended for use in truss assembly.**



Typical mending plate installation



JNP

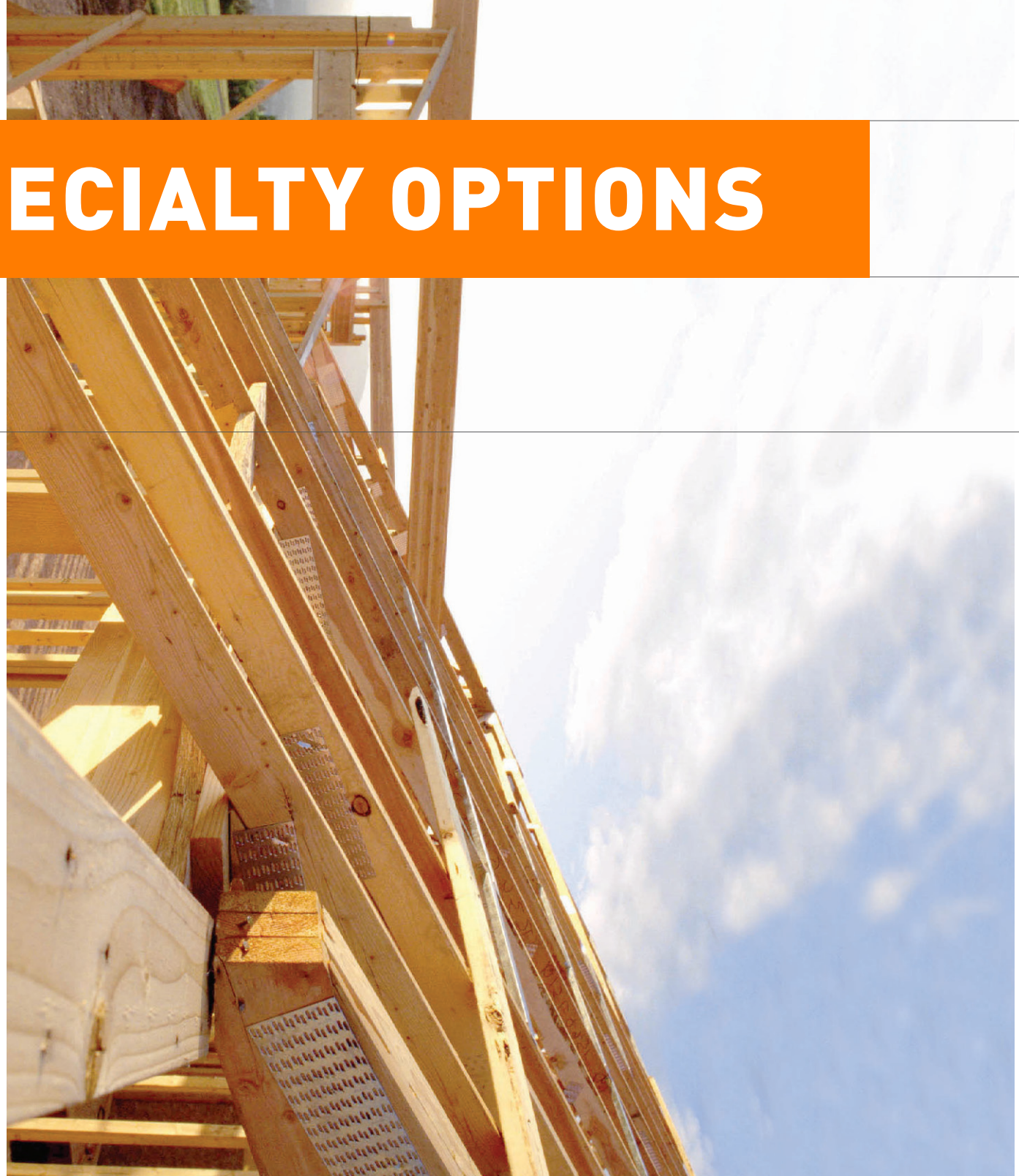


TPP

MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in)	
			W	L
JNP24	--	18	1-1/2	4
JNP26	--	18	1-1/2	6
JNP46	--	18	3-3/16	6
JNP48	--	18	3-3/16	8
TPP14	MP14	22	13/16	3-1/2
TPP24	MP24	22	1-11/16	3-1/2
TPP36	MP36	22	2-3/4	5-1/4
TPP58	--	22	4-3/16	7-13/16

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SPECIALTY OPTIONS



MiTek®

SPECIALTY OPTIONS 292-299

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Specialty Options & General Notes

The information listed only applies to hangers manufactured by MiTek® and installed according to the instructions listed in this catalog. Some of the options listed may not have been evaluated on a single hanger. The designer must always evaluate each connection, including the joist and header capacities, before specifying a specialty connector. MiTek sloped hangers are manufactured with the plumb cut of the joist already calculated. If a hanger with a different height is needed, it must be specified at the time of ordering.

Materials: Steel gauge may vary from that specified depending on the specialty option and manufacturing process used. Some formed hangers may be welded when modifying the hanger. Hanger configurations, fastener schedules, and height may vary from the tables depending on the joist size, skew, and slope.

Finish: See specific hanger option tables. Welded hangers are painted with gray primer. Non-catalogue hangers available in Hot-dip galvanized, use HDG after product number.

Factored Resistance: For multiple options for the same connector, use the most conservative reduction to give the lowest design load. See specific hanger option tables for applicable load reductions and maximum tolerances. Reference Specialty Options Summary Table for MiTek series catalog references.

Installation:

- Fill all nail holes with fasteners specified in the tables.
- Fastener quantities may increase from the amount listed in the tables depending on hanger option.
- NA16D-RS and NA20D nails are supplied with hangers.
- For type A skewed hangers, the end of joist must be bevel cut; for type B skewed hangers, the end of joist must be square cut.

MiTek Series	Width	Skewed (Maximum)	Sloped Seat (Maximum)	Sloped / Skewed	Sloped Top Flange (Maximum)	Top Flange Offset	Saddle Hanger	Ridge Hanger (Maximum)	Inverted Flange	Uplift	Weldability	MiTek Series Catalog Page Reference
BPH	all	50º	45º	•	45º					•	•	191
FWH	all	70º								•	•	168
GHF	all	50º	45º	•					• width > 4-1/2"	•		214
HBPH	all	50º	45º	•	45º					•	•	191
HD[1]	1-3/4" or less	67-1/2º	45º	•					• width > 2-1/4"	•		135
	> 1-3/4"	50º										
HDO	1-3/4" or less	67-1/2º	45º	•					• width > 3-1/8"	•		148
	> 1-3/4"	50º										
HDQIF	all								•			135
HGU	all	45º							• one flange width > 5-1/4"	•		208
HGUM	all								• one flange	•		162
HJC	all	60º								•		258
HLBH	all	50º	45º	•	45º	•	•	45º		•	•	192
HUS	all								• width > 2-1/4"	•		134
HWUH	all	45º	45º	•		•	•			•		166
IHFL/IHF	1-3/4" or less	67-1/2º	45º	•					• width > 2-1/4"	•		180
	> 1-3/4"	50º										
KB	all									•	•	147
KEG	all	45º	45º			•				•		220
KGB	all									•	•	217
KGH	all	45º					•					53
KGLS	all	50º	45º	•	30º	•	•			•	•	222
KGLST	all						•			•	•	222
KGLT	all	50º	45º	•	45º	•	•			•	•	218
KHGB	all									•	•	217
KHGLS	all	50º	45º		30º	•	•			•	•	222
KHGLST	all						•			•	•	222
KHGLT	all	50º	45º	•	45º	•	•			•	•	218
KHHB	all									•	•	217
KHW	all	84º	45º	•	35º	•	•	45º			•	149
KLB	all										•	147
KLEG	all	45º	45º			•				•		220
KMEG	all	45º	45º			•				•		220
LGU	all	45º							• one flange width > 3-5/8"	•		208
LGUM	all								• one flange	•		162
LSSH	all	45º	45º	•						•		155
MGU	all	45º							• one flange width > 5-1/4"	•		208
MPH[1]	all	60º	45º	•		•						164
MSHA	all	75º								•		254
MSHL/R	all	45º								•		252
PHM[1]	all	84º	45º	•	35º	•	•	45º			•	193
PHXU[1]	all	60º	45º	•	35º	•	•			•	•	193
SKH	all	45º								•		156
SKHH	all	45º								•		156
SUH	1-3/4" or less	67-1/2º	45º	•						•		133
	> 1-3/4"	50º										
SW[1]	all	84º	45º	•	35º	•	•	45º			•	149
SWH[1]	all	84º	45º	•	35º	•	•	45º			•	149
THD	all	45º	45º	•					• one flange width > 3"	•		244
THDH	all	45º	45º	•						•		246
THF	> 1-3/4"	50º	45º	•					• width > 2-1/4"	•		181

1) Skews greater than 45° will have square cut joist with back plate.
Refer to Typical HLBH hanger skewed, left shown, squre cut illustration on page 297.
2) HD hanger widths less than 2-1/4" may have flanges inverted as a Custom, contact MiTek.
New products or updated product information are designated in blue font.

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Face Mount Hanger Specialty Details

See the Specialty Options Chart for each hanger series for load reductions and hanger maximum range of skew, slope, etc.

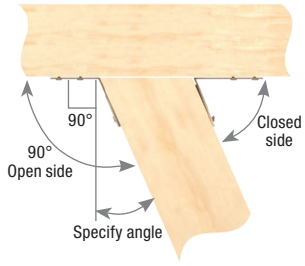
Skewed Hanger:
- Consider SKH or SKHH hangers for 45° skews.
- Joist nails on the closed side may be relocated to the open side by MiTek designer to ensure proper nailing.
- Specify skew angle, type (square cut or bevel cut), and direction when ordering.

Sloped Seat Hanger:
- Consider LSSH series for sloped applications.
- Additional nail holes may be added to joist flanges by MiTek designer.
- Specify slope angle and direction when ordering.

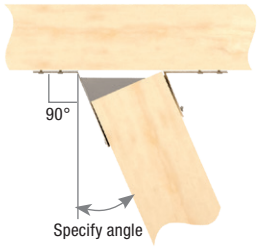
Sloped/Skewed Hanger:
- See nailing notes above for both Skewed Hanger and Sloped Seat Hanger.
- Specify skew and slope angles as well as skew/slope directions and skew type (square cut or bevel cut) when ordering.

Inverted Flange Hanger:
- When fastening into the carrying member's end grain, the allowable load is 0.65 of the table load.
- Hangers with one flange inverted achieve 100% of listed table load.
- Specify right or left flange when inverting only one flange.

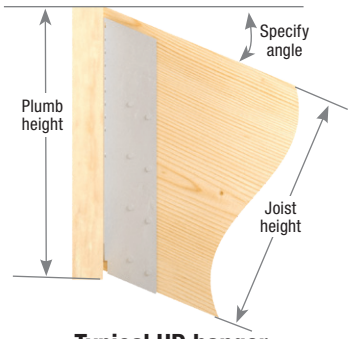
Refer to GHF, HD, SUH, THD, THDH, THF series Special Order Worksheet for ordering instructions at MiTek.ca.



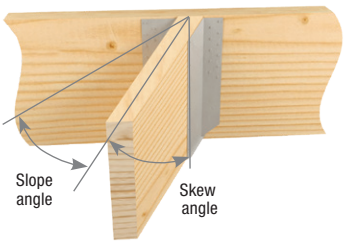
Typical SUH hanger skewed, right shown
(bevel cut)



Typical SUH formed hanger skewed, right shown
(square cut)



Typical HD hanger sloped seat, down shown



Typical HD hanger sloped down, skewed left shown



Typical GHF hanger one flange inverted, left shown



Typical HD hanger inverted flange

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Open Top Flange Hanger Specialty Details

See Specialty Options Chart for each hanger series for load reductions and hanger maximum range of skew, slope, etc.

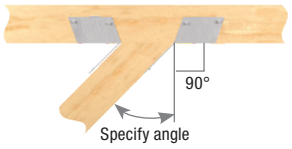
Skewed Hanger:
- Joist nails may be located on obtuse angle side by MiTek designer to ensure proper nailing.
- Specify skew angle, type (square cut or bevel cut), and direction when ordering.

Sloped Seat Hanger:
- Additional nail holes may be added to joist flanges by MiTek designer. All fastener holes must be filled.
- Specify slope angle, direction, and joist height when ordering.

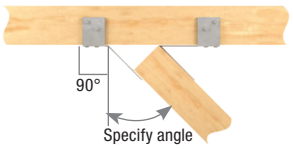
Sloped/Skewed Hanger:
- See nailing notes above for both Skewed Hanger and Sloped Seat Hanger.
- Specify skew and slope angles as well as skew/slope directions, and skew type (square cut or bevel cut) when ordering.
- Similar to face mount skewed/sloped hanger, refer to illustration on page 295: Typical HD hanger sloped down, skewed left shown.
- Specify if hanger is to be high side flush, low side flush, or center flush.

Sloped/Skewed/Sloped Top Flange Hanger:
- See nailing notes for both skewed and sloped hangers.
- Specify skew, slope, and top flange slope angles as well as skew/slope and top flange slope directions when ordering.
- Hangers may be galvanized or painted.
- Hangers may be made with solid top plate.

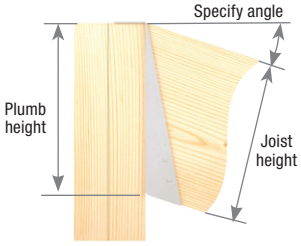
Refer to BPH series Special Order Worksheet for ordering instructions at MiTek.ca.



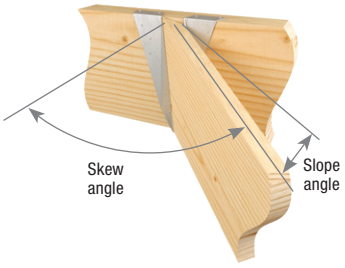
Typical BPH hanger skewed, left shown
(bevel cut)



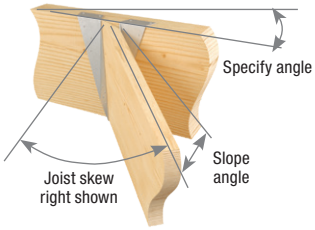
Typical HDO hanger skewed, right shown
(square cut)



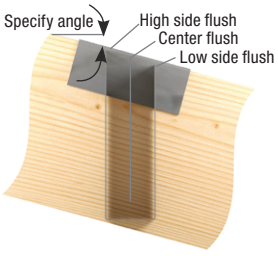
Typical BPH hanger sloped seat, down shown



Typical BPH hanger sloped down, skewed right, high side flush shown



Typical BPH hanger skewed right, sloped down, top flange sloped



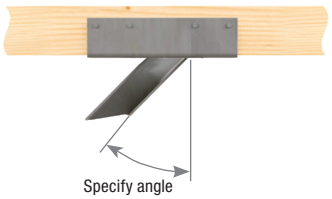
Typical BPH hanger sloped down top flange right shown
(this configuration will not be open back)

Solid Top Flange Hanger Specialty Details

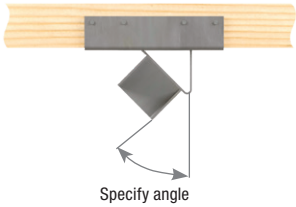
See Specialty Options Chart for each hanger series for load reductions and hanger maximum range of skew, slope, etc.

Skewed Hanger:
- Joist nails may be located on obtuse angle side by MiTek designer to ensure proper nailing.
- Specify skew angle, type (square cut or bevel cut), and direction when ordering.

Sloped Seat Hanger:
- Additional nail holes may be added to joist flanges by MiTek designer.
- Specify slope angle, direction, and joist height when ordering.



Typical HLBH hanger skewed, left shown
(bevel cut)



Typical HLBH hanger skewed, left shown
(square cut)

Continued on next page

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Solid Top Flange Hanger Specialty Details

Sloped/Skewed Hanger:
- See nailing notes above for both Skewed Hanger and Sloped Seat Hanger.
- Specify skew and slope angles as well as skew/slope directions, and skew type (square cut or bevel cut) when ordering.
- Specify if hanger is to be high side flush, low side flush, or center flush.

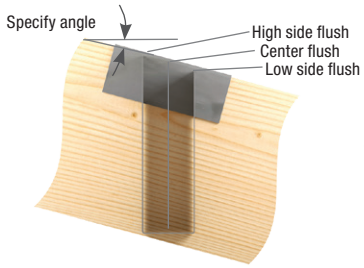
Sloped Top Flange Hanger:
- Additional nail holes may be added to top angle by MiTek designer.
- Specify top flange slope and direction when ordering.
- Specify if hanger is to be high side flush, low side flush, or center flush.

Ridge Hanger:
- Specify flush top of beam at center, right side, or left side.
- Specify angle of slope when ordering.

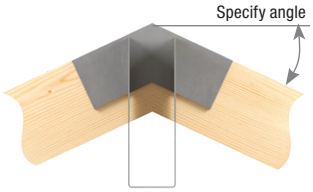
Top Flange Offset Hanger:
- Specify offset, left (L) or right (R), when ordering.

Saddle Hanger:
- Specify saddle width, "SA" when ordering. Allow clearance for saddled member.

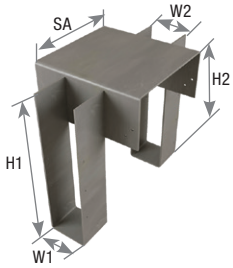
Refer to options for HLBH, KGLS, KGLT, KHGLS, KHGLT series or HWUH, KHW, PHM, PHXU, SW, SWH series Special Order Worksheet for ordering instructions at MiTek.ca.



Typical HLBH hanger sloped down top flange, right shown



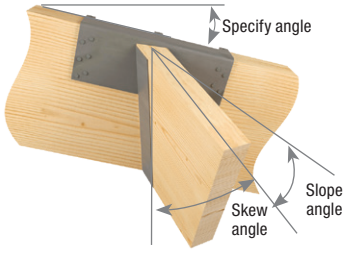
Typical HLBH hanger ridge, top flange slope



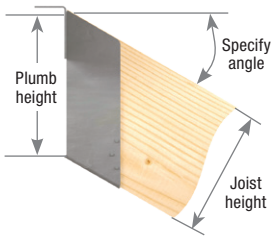
Typical PHXU hanger saddle option



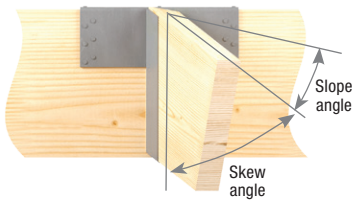
Typical HLBH hanger top flange offset, right shown



Typical HLBH hanger skewed right, sloped down right, top flange sloped



Typical HLBH hanger sloped seat, down shown



Typical HLBH hanger sloped down, skewed right, center flush shown

Top Flange Hanger Nailer Options

MiTek Top Mount Hangers have been tested installed to various nailers. Wood nailers may be installed to the top of steel beams, concrete and masonry walls. The table below represents maximum allowable loads for common top mount hangers installed on 2x, 2-ply 2x, 3x and 4x nailers.

For additional Nailer Installation information see page 177.

MiTek Series	Nailer Size [3]	Fastener Schedule					D Fir-L Factored Resistance [2]				S-P-F Factored Resistance [2]			
		Nailer			Joist		Lbs		kN		Lbs		kN	
		Top Qty	Face Qty	Type [6,7]	Qty	Type [6,7]	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%	Vertical 100%	Uplift[1] 115%
BPH	2x	4	2	10d x 1-1/2	4	10d x 1-1/2	2995	240	13.32	1.07	2575	205	11.45	0.91
	3x	4	4	16d x 2-1/2	4	10d x 1-1/2	3235	555	14.39	2.47	2780	475	12.37	2.11
	(2) 2x	4	4	10d	4	10d x 1-1/2	3235	555	14.39	2.47	2780	475	12.37	2.11
	4x	4	4	16d	4	10d x 1-1/2	3235	555	14.39	2.47	2780	475	12.37	2.11
HBPH	2x	6	2	10d x 1-1/2	10	16d	4165	--	18.53	--	3490	--	15.52	--
	3x	6	6	16d x 2-1/2	10	10d	7370	--	32.78	--	5785	--	25.73	--
	(2) 2x	6	8	10d	10	16d	6785	3035	30.18	13.50	5785	2460	25.73	10.94
	4x	6	10	16d	10	16d	9410	3035	41.86	13.50	7630	2460	33.94	10.94

Continued on next page

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Top Flange Hanger Nailer Options

MiTek Series	Nailer Size [3]	Fastener Schedule: Nailer Top Qty	Nailer Face Qty	Nailer Type [8,9]	Joist Qty	Joist Type [8,9]	D Fir-L Factored Resistance [2,4]: Lbs Vertical 100%	Lbs Uplift [1] 115%	kN Vertical 100%	kN Uplift [1] 115%	S-P-F Factored Resistance [2,4]: Lbs Vertical 100%	Lbs Uplift [1] 115%	kN Vertical 100%	kN Uplift [1] 115%
HLBH	2x	3	4	10d x 1-1/2	6	10d x 1-1/2	6365	--	28.31	--	5275	--	23.46	--
	3x	3	6	16d x 2-1/2	6	10d	11175	--	49.71	--	10120	--	45.02	--
	(2) 2x	3	8	10d	6	10d x 1-1/2	6365	--	28.31	--	5275	--	23.46	--
	4x	3	8	NA16D-RS	6	10d x 1-1/2	13825	1430	61.50	6.36	11615	1235	51.67	5.49
	4x	3	8	NA16D-RS	6	16d	13825	1770	61.50	7.87	11615	1430	51.67	6.36
KGLT	2x	4	--	WS15	8	WS15	7565	--	33.65	--	6220	--	27.67	--
	3x	4	2	WS15	8	WS15	7565	--	33.65	--	6220	--	27.67	--
	(2) 2x	4	4	WS3	8	WS3	9335	--	41.52	--	7935	--	35.30	--
	4x	4	6	WS3	8	WS3	9895	--	44.02	--	8580	--	38.17	--
KHW	3x	4	--	16d x 2-1/2	2	10d	5180	--	23.04	--	3925	--	17.46	--
MSH [5] (18 Gauge)	2x	4	--	10d x 1-1/2	4	10d x 1-1/2	2045	--	9.10	--	1655	--	7.36	--
	3x	4	--	10d x 1-1/2	4	10d x 1-1/2	2045	--	9.10	--	1655	--	7.36	--
	(2) 2x	4	2	10d	4	10d x 1-1/2	3200	--	14.23	--	2635	--	11.72	--
	4x	4	2	10d	4	10d x 1-1/2	3200	--	14.23	--	2635	--	11.72	--
MSH [5] (16 or 14 Gauge)	2x	4	2	10d x 1-1/2	6	10d x 1-1/2	3215	--	14.30	--	2525	--	11.23	--
	3x	4	2	10d x 1-1/2	6	10d x 1-1/2	3215	--	14.30	--	2525	--	11.23	--
	(2) 2x	4	2	16d x 2-1/2	6	10d x 1-1/2	3215	--	14.30	--	2525	--	11.23	--
	4x	4	2	16d x 2-1/2	6	10d x 1-1/2	3215	--	14.30	--	2525	--	11.23	--
PHM	2x	2	--	10d x 1-1/2	2	10d x 1-1/2	4335	--	19.28	--	3730	--	16.59	--
	3x	2	--	16d x 2-1/2	2	10d x 1-1/2	4685	--	20.84	--	4030	--	17.93	--
	(2) 2x	2	--	10d	2	10d x 1-1/2	4685	--	20.84	--	4030	--	17.93	--
	4x	2	--	16d	2	10d x 1-1/2	4685	--	20.84	--	4030	--	17.93	--
PHXU widths < 3-1/2"	2x	4	--	10d x 1-1/2	6	10d x 1-1/2	4240	--	18.86	--	3550	--	15.79	--
	3x	4	2	16d x 2-1/2	6	10d x 1-1/2	6315	--	28.09	--	6005	--	26.71	--
	(2) 2x	4	2	10d	6	10d x 1-1/2	5880	--	26.16	--	4930	--	21.93	--
	4x	4	4	16d	6	10d x 1-1/2	6370	1210	28.34	5.38	4420	920	19.66	4.09
PHXU width ≥ 3-1/2"	2x	4	--	10d x 1-1/2	6	10d	4525	--	20.13	--	3590	--	15.97	--
	3x	4	2	16d x 2-1/2	6	10d	6380	--	28.38	--	5170	--	23.00	--
	(2) 2x	4	2	10d	6	10d	6200	--	27.58	--	5110	--	22.73	--
	4x	4	4	16d	6	10d x 1-1/2	7610	1005	33.85	4.47	5170	865	23.00	3.85
	4x	4	4	16d	6	10d	7610	1290	33.85	5.74	5170	1150	23.00	5.12
SW [6] widths ≥ 2-9/16"	2x	2	--	10d x 1-1/2	2	10d x 1-1/2	2355	--	10.48	--	1605	--	7.14	--
	3x	2	--	16d x 2-1/2	2	10d x 1-1/2	3900	--	17.35	--	3105	--	13.81	--
	(2) 2x	2	--	16d x 2-1/2	2	10d x 1-1/2	2355	--	10.48	--	1605	--	7.14	--
	4x	2	--	16d x 2-1/2	2	10d x 1-1/2	3900	--	17.35	--	3105	--	13.81	--
SWH	2x	2	--	10d x 1-1/2	2	10d	3745	--	16.66	--	2550	--	11.34	--
	3x	2	--	16d x 2-1/2	2	10d	4825	--	21.46	--	3285	--	14.61	--
	(2) 2x	2	--	16d x 2-1/2	2	10d	3745	--	16.66	--	2550	--	11.34	--
	4x	2	--	16d x 2-1/2	2	10d	4825	--	21.46	--	3285	--	14.61	--
TFI	2x	4	2	10d x 1-1/2	2	10d x 1-1/2	2930	--	13.03	--	2355	--	10.48	--
	3x	4	6	16d x 2-1/2	2	10d x 1-1/2	4190	--	18.64	--	3290	--	14.63	--
	(2) 2x	4	6	10d	2	10d x 1-1/2	4190	--	18.64	--	3290	--	14.63	--
	4x	4	2	16d	2	10d x 1-1/2	3685	375	16.39	1.67	3170	325	14.10	1.45
	4x	4	6	16d	2	10d x 1-1/2	4190	375	18.64	1.67	3290	325	14.63	1.45
TFL [7]	2x	4	2	10d x 1-1/2	2	10d x 1-1/2	1830	265	8.14	1.18	1485	230	6.61	1.02
	3x	4	2	16d x 2-1/2	2	10d x 1-1/2	2305	265	10.25	1.18	1960	230	8.72	1.02
	(2) 2x	4	2	10d	2	10d x 1-1/2	1845	265	8.21	1.18	1485	230	6.61	1.02
	4x	4	2	16d	2	10d x 1-1/2	2495	265	11.10	1.18	1960	230	8.72	1.02
THO	2x	4	2	10d x 1-1/2	2	10d x 1-1/2	1595	375	7.09	1.67	1250	325	5.56	1.45
	3x	4	2	16d x 2-1/2	2	10d x 1-1/2	1595	375	7.09	1.67	1250	325	5.56	1.45
	(2) 2x	4	2	16d x 2-1/2	2	10d x 1-1/2	1595	375	7.09	1.67	1250	325	5.56	1.45
	4x	4	2	16d	2	10d x 1-1/2	1595	375	7.09	1.67	1250	325	5.56	1.45
THO (Double)	2x	4	2	10d x 1-1/2	2	10d	2095	375	9.32	1.67	1800	325	8.01	1.45
	3x	4	2	16d x 2-1/2	2	10d	3360	520	14.95	2.31	2890	445	12.86	1.98
	(2) 2x	4	2	10d	2	10d	3415	520	15.19	2.31	2935	445	13.06	1.98
	4x	4	2	16d	2	10d	3840	520	17.08	2.31	3155	445	14.03	1.98

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.

2) Listed loads shall not be increased.

3) The nailer must be sized to fit the supported width and be of sufficient thickness to satisfy specified top flange nailing requirements. A design professional must specify nailer attachment to steel beams.

4) Values in the table apply to standard top mount hangers without slope, skew or any other specialty options.

5) MSH hangers: Refer to load table on pages 250-251 for gauge and joist nail quantity of desired MSH hanger.

6) SW hangers with a width of less than 2-9/16" are limited to 3590 lbs. of download for D Fir-L and 2980 lbs. for S-P-F.

7) For TFL (W = 3-9/16") supported by 3x or 4x nailer: stiffeners are required on the supported I-joist to achieve the listed factored resistance. Where web stiffeners are not installed, use the (2) 2x nailer value.

8) MiTek SCREWS: WS15 structural wood screws are 1/4" dia. x 1-1/2" long and are not included with KGLT hangers. WS3 structural wood screws are 1/4" dia. x 3" long and are included with KGLT hangers.

9) **NAILS:** 10d x 1-1/2 nails are 0.148" x 1-1/2" long, 10d nails are 0.148" dia x 3" long, NA16D-RS nails are 0.148" x 3-1/2" long, 16d x 2-1/2" nails are 0.162" dia. x 2-1/2" long, 16d nails are 0.162" dia. x 3-1/2" long. KGLT hangers.

New products or updated product information are designated in blue font.

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Welded Top Flange

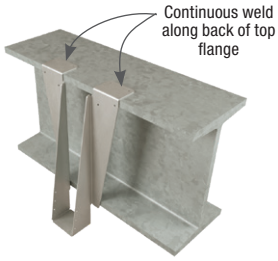
- Weld sizes and lengths shown on chart.
- Weld-on applications produce maximum factored resistance listed. **Uplift loads do not apply to this application.**
- All field welding should be done in accordance with CSA W59 codes. **Caution: Welding galvanized steel may produce harmful fumes and should only be performed in well-ventilated environments.**

Top Angle Weld Length Chart

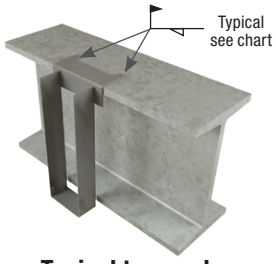
MiTek Welded Hanger Series	Weld Length
SW	3"
BPH, FWH, HBPH, PHM, SWH	4"
FWHBP, FWHFM, KLB, KHW, PHXU	6"
KB, KGB, KHGB, KHHB, KGLS, KGLST, KGLT, KHGLS, KHGLST	8"
HLBH, KHGLT	10"

Weld shall be distributed evenly.

Top Angle Steel Gauge	Weld Size
14 - 10 gauge	1/8"
7 gauge	3/16"
3 gauge	1/4"



Typical top flange welded installation



Typical top angle welded installation

Part Number System

Part Numbers assigned to TFL, THO, IHFL, IHF, THFI and THF I-Joist hangers reveal the I-Joist sizes to be used with the specific hanger. This guide will teach you how to recognize I-Joist dimensions in the part numbers.

1st, 3rd, and sometimes 4th digits are whole numbers
(This example denotes 2 and 11)
4th digit may be part of a decimal –

TFL 23118

2nd and 5th digits are decimals
(see guide below)
(This example denotes .3125 [5/16] and .875 [7/8])
5th digit may be (0) or dropped if height is even

Part Number Guide for Decimals

1 = .125	or	1/8 inch
2 or 25 = .25	or	1/4 inch
3 = .3125	or	5/16 inch
5 = .5	or	1/2 inch
6 = .625	or	5/8 inch
7 = .75	or	3/4 inch
8 = .875	or	7/8 inch

THO35925-2

THO — **Letters** refer to **Hanger Series** ex.: THO

35 — **First (2) Digits** refer to **Member Width** ex.: 3.5"

925 — **Last (2) or (3) Digits** refer to **Member Height** ex.: 9.25"

-2 — **Digits after Dash** refer to **Number of Plys** ex.: 2 ply

Some Examples:

THO15950 ..... 1-1/2" x 9-1/2"

IHF17925 ..... 1-3/4" x 9-1/4"

THO16925-2 ..... double 1-5/8" x 9-1/4"

THF23925-2..... double 2-5/16" x 9-1/4"

Note: MiTek's Product Catalogue lists a range of heights for IHFL/IHF hangers. Face mount hangers can usually accommodate more than one I-Joist height. The hanger height must be tall enough to support the top chord of the I-Joist to eliminate web stiffener requirements for lateral support. The IHFL/IHF hanger must be a minimum of 60% of the joist height.

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MiTek®

MANUFACTURED HOUSING



MANUFACTURED HOUSING **300-301**

Hangers 301



JN / JNE / MTHF Power Nail Hangers

Designed for assembly line installation, these hangers feature a generous flange area to accommodate power nailer maneuvering. Engineered for economical installation and maximum load values.

Materials: 18 or 20 gauge
Finish: G90 galvanizing

Installation:
- Use all specified fasteners using a pneumatic nailer.
- Nailing zones are distinguished by embossed pattern.
- Install fasteners with care not to overdrive fastener causing indentation of connector.
- Fastener quantities shall be installed symmetrically on both sides of connector.
- Installer should reduce risk of injury from rebounding fasteners by using personal eye protection during fastener installation.
- Minimum center-to-center fastener spacing is 1".



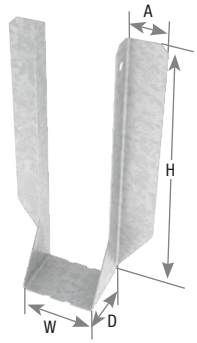
Typical MTHF installed with Engineered I-Joist



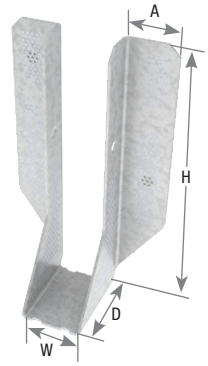
Typical MTHF installed with Floor Truss



Typical JNE installed with Solid Sawn Lumber



MTHF25925
(MTHF25112 similar)



JN28E

MiTek Stock No.	Ref. No.	Steel Gauge	Dimensions (in)				Fastener Schedule[1,2,3]				D Fir-L Factored Resistance		S-P-F Factored Resistance	
							Header		Joist					
			W	H	D	A	Qty	Type	Qty	Type	Download 100%	Uplift 115%[4]	Download 100%	Uplift 115%[4]
MTHF25925	MMLUI39	20	2-9/16	9-1/8	2	1-1/4	10	"P" or "T" nails	4	"P" or "T" nails	1490	645	1170	505
							16	"P" or "T" nails	4	"P" or "T" nails	2260	645	1770	505
MTHF25112	MMLUI311	20	2-9/16	11-1/8	2	1-1/4	10	"P" or "T" nails	4	"P" or "T" nails	1490	645	1170	505
							16	"P" or "T" nails	4	"P" or "T" nails	2260	645	1770	505
JN26E	MMLU26	20	1-9/16	4-13/16	2	1-1/4	10	"P" or "T" nails	4	"P" or "T" nails	1490	645	1170	505
							16	"P" or "T" nails	4	"P" or "T" nails	2260	645	1770	505
JN28E	MMLU28	20	1-9/16	6-11/16	2	1-3/16	10	"P" or "T" nails	4	"P" or "T" nails	1490	645	1170	505
							16	"P" or "T" nails	4	"P" or "T" nails	2260	645	1770	505
							20	"P" or "T" nails	4	"P" or "T" nails	2345	645	1840	505
JN210E	MMLU210	20	1-9/16	7-3/4	2	1-5/16	10	"P" or "T" nails	4	"P" or "T" nails	1490	645	1170	505
							16	"P" or "T" nails	4	"P" or "T" nails	2260	645	1770	505
							20	"P" or "T" nails	4	"P" or "T" nails	2345	645	1840	505
JN26-2	MMLU26-2	18	3-1/8	5-3/8	2	1-1/4	10	"P" or "T" nails	6	"P" or "T" nails	1400	1570	1095	1230
							16	"P" or "T" nails	6	"P" or "T" nails	3100	1570	2430	1230
JN28-2	MMLU28-2	18	3-1/8	7-1/8	2	1-1/4	10	"P" or "T" nails	6	"P" or "T" nails	1400	1570	1095	1230
							16	"P" or "T" nails	6	"P" or "T" nails	3100	1570	2430	1230
							24	"P" or "T" nails	6	"P" or "T" nails	3790	1570	2975	1230

1) "P" and "T" nails denote fasteners designed specifically to be installed with a pneumatic-powered nailer. The fasteners shall be either of a type with round heads, 0.105" diameter and 1-3/8" long; or a "T" shaped head, 0.097" diameter, 1-1/4" long and hardened; or a fastener of similar diameter but longer in length.
2) Fasteners shall be pneumatically driven in such a way as firmly seats the nail head against the hanger steel, without embedding the nail head completely through the plane of the metal surface, or otherwise punching through.
3) The quantity of nails installed shall be equally distributed to both sides of the hanger. The nails shall be located at minimum 1" spacing in a row, with the vertical rows spaced at 3/8"; also no less than 5/16" from a sheared edge and no less than 5/16" from a formed edge.
4) Factored uplift resistances have been increased 15% for short-term loads such as wind and earthquake; no further increase allowed.

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LATERAL SYSTEMS

MiTek®

LATERAL SYSTEMS 302-306

Hardy Frame® Moment Frames	305
Hardy Frame® Shear Walls	304
Z4 Tie-Down Systems	306



Hardy Frame® Code Evaluation

Hardy Frames has been leading the pre-manufactured shear wall industry from its beginning. Hardy Frames were the first to be recognized by ICBO-ES and LA City, first to gain approval for multi-story applications, first Balloon Wall application and first to be recognized to comply with the 2003 and 2006 IBC and IRC Building Codes. Today we are the first and only to offer a 9" Panel width and a Balloon Wall application that is fully assembled in the manufacturing plant and ships as a one piece unit.

All Hardy Frame® Shear Walls are code listed under the 2018 IBC and IRC codes and include installations on concrete, raised floor and upper floor systems.

Hardy Frame® Panels

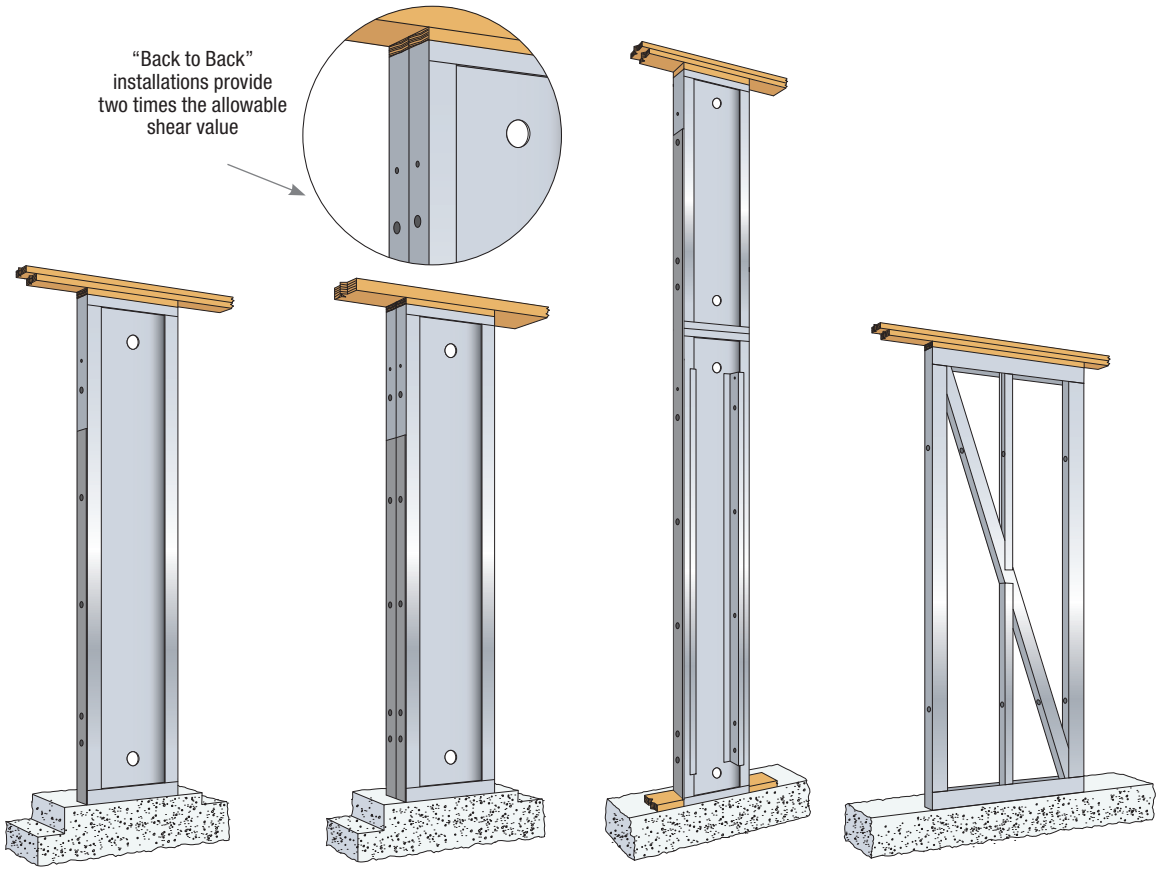
ICC-Evaluation Service ESR-2089

- Panels are available in 9, 12, 15, 18, 21 and 24" widths
- Standard Heights range from 78" for portal applications to 20' for Balloon Walls
- Custom heights are manufactured routinely
- R value for design, Rd = 3.0, Ro = 1.7
- "Back to Back" installations provide two times the allowable shear value without increasing the wall length

Hardy Frame® Brace

ICC-Evaluation Service ESR-2089

- Available in 32 and 44" widths
- Standard Heights range from nominal 8 to 13 feet
- Custom heights are manufactured routinely
- For a given shear load, installing a wider shear wall results in reduced overturning



Hardy Frame® Panel

Hardy Frame® Panel "Back to Back"

Hardy Frame® Balloon Panel

Hardy Frame® Brace

The First and Only Cold Formed Steel (CFS) Moment Frames

MiTek® HARDY FRAME™

The all new MiTek Hardy Frame® CFS Moment Frame and CFS Picture Frame are the industries first standardized, pre-engineered, pre-manufactured cold formed steel moment frames.

Lighter and less cost than structural steel moment frames, our CFS product line provides high capacities, ductility and cost economics that complete a spectrum of MiTek shear wall solutions.

Standard configurations are the Hardy Frame® CFS Moment Frame (portal applications) and the Hardy Frame CFS Picture Frame for stacking in multi-story applications.



Hardy Frame® CFS Moment Frame

Code Report: ER-491

- Similar materials and installation as Hardy Frame Panels the industry leader for 20 years
- Available in standard designs and standard detailing
- Capacities that are equal to four or five Hardy Frame Panels of same width
- Can be installed “Back to Back” to double the capacity



Hardy Frame® CFS Picture Frame

- Sill beam that assembles at the bottom of the Frame distributes compression over wood below to significantly reduce crushing and maintain shear capacity
- Incorporates the MiTek Z4 Continuous Tie-Down System to transfer overturning and uplift forces to the foundation
- Narrow columns (12 through 21") and shallow beam depths (12 and 15") enable large openings and architectural freedom
- Ships as a “knock-down” unit: easy to handle, ship and field assemble

Hardy Frame® Moment Frames

MiTek Hardy Frame® Special Moment Frames are constructed of wide flange columns connected to hollow structural steel (HSS) beams with SidePlate special moment connections.

The SidePlate special moment connection is approved in the AISC 358 Prequalified Moment Connections Standard and the review included testing that confirmed lateral bracing to prevent twist and out-of-plane displacements is not required at the hollow structural section (HSS) beams. Standard configurations are the Hardy Frame® Moment Frame with a pinned base and the Hardy Frame® Picture Frame.



Hardy Frame® Moment Frame

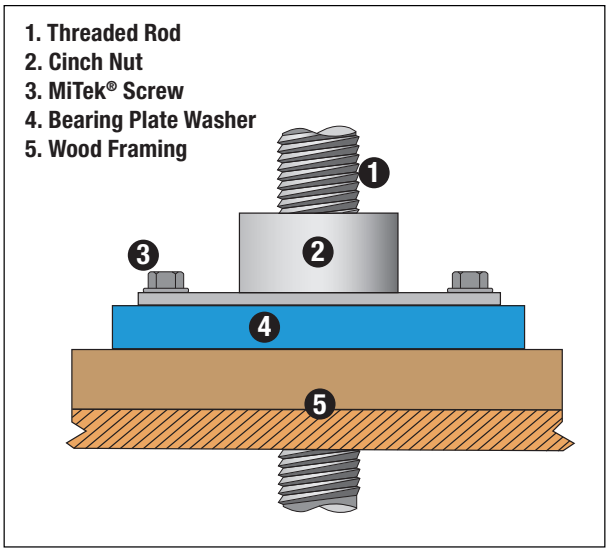
- Standard designs for nominal 6" through 14" column depths with pinned base anchorage are now available
- Delivery options for pre-assembled, bolted column splice or “knock-down”
- All standard designs fit in typical 8" wall framing, 6" column depths fit 6" framing
- New construction and retrofit applications
- Includes wood nailers at top & bottom of HSS beam and at all column flanges



Hardy Frame® Picture Frame

- Constructed with HSS beams at top and bottom of Frame, SidePlate special moment connections at all four corners
- HSS beam at bottom of Frame eliminates the engineering and field construction of costly grade beams
- Significant reductions in installation time result from elimination of field built grade beam
- Standard designs for nominal 6" through 14" column depths that fit into typical wall framing with double the capacity of our pinned base option are now available
- All the same delivery options and wood nailer inclusions as the Hardy Frame® Moment Frame with pinned base

MiTek® Z4 Tie-Down Systems



MiTek® Z4 Tie-Down Systems utilize CNX-Series Cinch Nuts to compensate for wood shrinkage and building settlement that cause connections to loosen over time. The Cinch Nut uses a self-ratcheting action that permits the cinch nut to move (the rod doesn't move) or "travel" perpetually in one direction only down the rod. Available for installation with threaded rods that are 3/8" through 1-1/2" diameter in 1/8" increments, the CNX Cinch Nut has been code evaluated and published in ESR-2190.

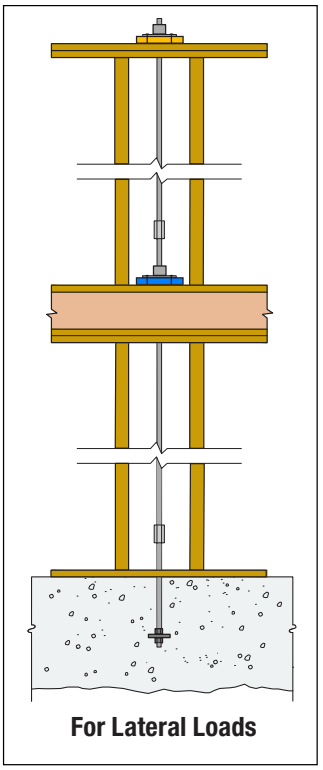
- Place the specified Bearing Plate Washer onto the bottom plate of a wood framed wall.
- With the "wings" oriented downward, place Cinch Nut over the Threaded Rod extending from below and push down until it seats firmly on the Bearing Plate Washer.
- Install 1/4" diameter MiTek® Screws through the wings, penetrating 1-1/2" (minimum) into the wood bottom plate.
- Model numbers BPW5 and BPW6 fit in-between the screws fastening the wings.
- Model numbers BPW7 (3-1/4" x 4-3/8") and larger are provided with two screw holes. Align the wing and the Bearing Plate Washer screw holes to allow installation of 1/4" diameter MiTek® Screws.



BPW5, BPW6 Installation



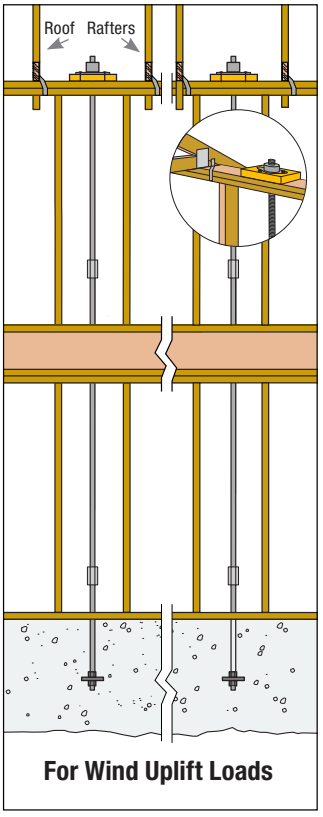
BPW7 and larger Installation



For Lateral Loads

MiTek® Z4 Tie-Down System for Lateral Load

To resist tension loads due to overturning moments in multi-story buildings the CNX Cinch Nut is installed over a Bearing Plate Washer at each level in a fast and easy application. At the upper-most level a Cinch Nut is installed over a Bearing Plate Washer above the top plates. At walls below that bear on wood floor systems, the Cinch Nut and Bearing Plate Washer are installed over the bottom plate. Tension loads are gathered at each level and transferred into the foundation through a continuous system of Cinch Nuts, Bearing Plate Washers, Threaded Rods and Couplers all are available lines of **MiTek®, Inc.**



For Wind Uplift Loads

MiTek® Z4 Tie-Down System for Wind Uplift

For resisting roof uplift loads resulting from wind the Z4 Cinch Nut is installed over a Bearing Plate Washer above the top plates with roof framing above to create a tie-down system. Uplift forces are transferred into a continuous system of Threaded Rods / ATRs and Couplers that form a load path to the foundation.

MiTek®

INTEGRATED BUILDING SOLUTIONS



SERVICES

Scale your business and outputs (take-offs, estimating, job quotes, and more) with the comfort of fixed overhead costs.



AUTOMATED SOLUTIONS

Optimize your entire prefabrication facilities workflow with off-site solutions that enable better on-site building.



SOFTWARE

Enhance your operational performance with software solutions that connect the entire supply chain.



ENGINEERED SYSTEMS & PRODUCTS

Accelerate your building process with a full range of advanced solutions that save on labor and installation costs.

PROUDLY MADE IN NORTH AMERICA

Our structural connector products are designed to last and manufactured and distributed in strategic locations across North America.

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BRITISH COLUMBIA
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Suite 102
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QUÉBEC
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Laval, QC H7P 6E3

NEW BRUNSWICK
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