TOP FIVE
HANGER INSTALLATION ERRORS

USP®
STRUCTURAL CONNECTORS
MiTek

Top Reasons for the Errors:

- The number of fasteners used is often incorrect
- The wrong fasteners are used (undersized or oversized)
- The bearing surfaces are not to spec

Link to Video ▶

Joist hangers, hangers use for stringers and glulams, truss hangers, and hangers used in decking and stairs are often installed wrong, and this compromises their ability to ensure the integrity of the structure, to say nothing of ensuring code compliance. Top reasons for the errors: The number of fasteners used is often incorrect; the wrong fasteners are used (undersized or oversized); and the bearing surfaces are not to spec. Here are the top five hanger installation errors that reps from USP Structural Connectors have seen in the field.

1. Improper Nailing of an I-Joist

The side nail into the bottom flange of the I-Joist is installed at the wrong angle. This may cause splitting of the bottom chord. The nail through the dimple should have been installed at a 30 to 45 degree angle. Nails installed into the underside of the bottom chord are not necessary.
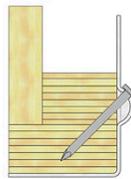
YES
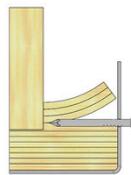
NO

2. Improper Bearing

Here the carried truss is not fully bearing on the hanger seat. Some gapping of framing members in a hanger is OK, but gaps greater than 1/8" are unacceptable and compromise the hanger's specified capacity.

3. Improper Hanger

The problem here is the use of a non-sloped hanger. (It is also installed with the wrong type of screws.) In this situation, use a sloped seat hanger, at left. With a standard hanger the wood is bearing only on the very front edge of the hanger. By using a hanger with a sloped seat you get full bearing of the wood in the seat of the connector.

Correct

Incorrect
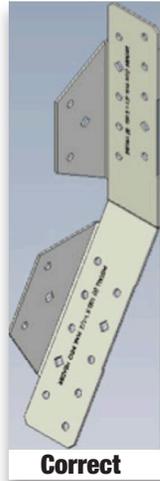
4. Shear Nails Missing

The hanger has no double shear nails, so it offers a reduced downward load and no *uplift resistance* at all.

5. Undersized Hanger

Hanger height must equal at least 60% of joist height. This is a rule developed to deliver enough hanger capacity and lateral stability of the connection. To fix this without tearing out the existing hangers, *framing angles* could be added above the hanger to add lateral stability.

MiTek®