

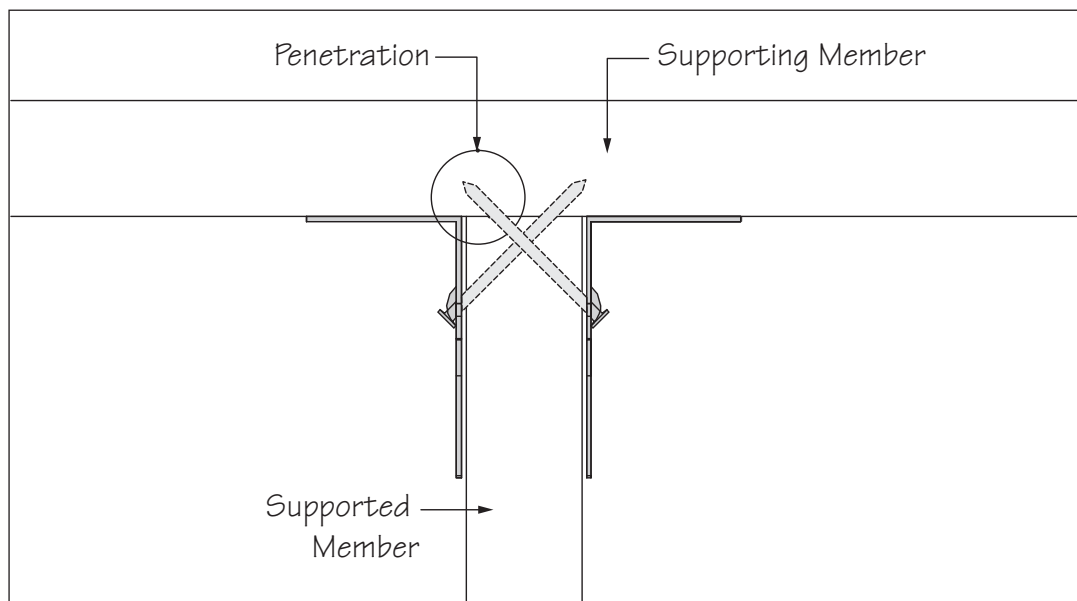
# SLANT NAIL HANGERS

## Slant Nails

Many USP joist hangers include slant nails that are driven through the joist or truss and into the supporting member. USP requires using 3" 10d common (diameter  $\geq 0.148$ ") or 3 1/2" 16d common nails (see catalog) for these slant nails in order to achieve the full load carrying capacity of the hanger. Use of 2 1/2" nails for the slant nails may reduce the overall capacity of the hanger by 5%-20% depending on the amount the nail penetrates into the supporting member and the number of slant nails contributing to the load carrying capacity of the connector.

If the slant nails achieve 10D (10 x diameter) penetration into the supporting member, the strength of the fastener (adjusted by the Toe-Nail Factor Ctn) is fully achieved and the hanger will have its full design capacity. Any penetration length between 6D and 10D will result in a reduced load carrying capacity for the hanger. If the slant nails penetrate less than 6D, the National Design Specification (NDS) states that the slant nails are not sufficiently embedded into the supporting member, and are assumed to have no shear or withdrawal capacity. In such case, the allowable load carrying capacity of the hanger is based on the straight nails into the supporting member alone.

If you have questions regarding the capacity of a specific hanger using 2 1/2" nails, call USP's engineering department at 800-328-5934.



**Note: Nail selection can be confusing. Nail manufacturers assign different diameters and lengths to nails of the same name. (i.e. 16d common nail could have a diameter of 0.162, 0.148, or 0.131 with a length of 2 1/2" or 1 1/2" in any combination) The length and the diameter are important.**



USP supplies quality products to build Stronger Safer Structures

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