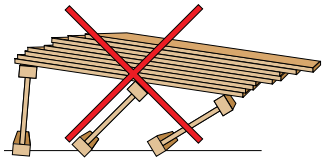
SAFETY & CONSTRUCTION PRECAUTIONS

INSTALLATION

- Walking on the joists should not be permitted until they are properly braced.
- All hangers, rim boards, rim joists and blocking at the end supports of the joists must be installed and nailed properly.
- During installation, a minimum of 1 x 4 temporary bracing is required.
- Bracing members should be spaced at 8′– 0″ o.c. and nailed to each joist with two 8d nails (10d box nails if bracing thickness exceeds 1″).
- Lap bracing ends and anchor them to temporary or permanent sheathing nailed to the first 4′ of joists at the end of the bay or a braced end wall.
- Do not cut, drill, or notch flanges.
- The ends of cantilevers must be temporarily braced on both the top and bottom flanges.
- Never overload sheathed joists with loads that exceed design loads.
- Only remove the bracing as the sheathing is attached.
- Engineered wood products should be used in dry conditions only.
- When stacking construction material, stack only over beams or walls, NOT on unsheathed joists.



These are general recommendations and in some cases, additional precautions may be required.

STORAGE & HANDLING GUIDELINES

STORAGE

- Installation guidelines from Pacific Woodtech will be included with every shipment of trademarked PWI joists to job sites.
- Store bundles upright on a smooth, level, well drained supportive surface.
- Always stack and handle I-joists in the upright position only.
- Bundles should not be in contact with the ground.
- Place 2x or LVL spacers (at a maximum of 10′ apart) between bundles and the ground and bundles stored on top of one another.
- Bundles should remain wrapped, strapped and protected from the weather until time of installation.

HANDLING

- All handling of joists with a forklift or crane should be done carefully.
- Joists should remain vertical during handling.
- Avoid excessive bowing during all phases of handling and installation (i.e. measuring, sawing or placement).
- Damage may result if the joist or beam is twisted or a load is applied to it while it's lying flat.

Never use or field repair a damaged I-joist.

SYSTEM PERFORMANCE

Traditionally, floor vibration has not been an issue with a well-designed and constructed floor. The model code-required serviceability deflection requirements of span/360 for live load and span/240 for total load have long served to keep code-conforming floors stiff enough to minimize vibration-related problems. These deflection requirements were based on the use of traditional lumber framing and prevailing architectural norms. Spans in traditional lumber-framed structures seldom exceeded 14–16 feet.

With engineered wood products, however, designers are no longer limited by the capacities and lengths of traditional lumber structural elements. Spans unheard of just a few years ago are now common with engineered wood products. The traditional deflection limits may no longer be appropriate for the longer spans made possible by engineered wood products. For this reason, APA has voluntarily adopted a live load deflection criteria that is 33% stiffer than that required in the current model building codes. This deflection criteria was selected for increase because vibration loads are caused by transient or live loads, most often by people moving about the floor itself.

By increasing the stiffness of the floor—using span/480 requirements instead of the more traditional span/360, the vibrations caused by a thundering herd of youngsters can be more easily tolerated. Designing the ideal floor is not, however, an exact science. Because one of the benefits of a wood floor is its ability to cushion footfalls, it is not desirable to make every floor overly stiff. As usual, a one-size solution does not fit all. The selection of span/480 as a serviceability requirement is a compromise. It provides a substantial decrease in floor vibration with a minimal cost penalty without making the floor so stiff that comfort is compromised.

Researchers have proposed a number of additional methods that can be used to reduce floor vibration even further. These methods include:

- Gluing the wood structural panel floor to the PWI joists
- Attaching wood structural panels or gypsum board to the bottom of the PWI floor joists
- Decreasing the PWI floor joist spacing by one increment based on allowable span
- Using full-depth blocking at regular intervals between all of the PWI floor joists over the entire floor
- Adding concrete topping over the floor sheathing

By far the most practical and most economical way to further increase the stiffness of your floor when using PWI joists is to select the most economical joist from our allowable span tables and then maintain the same joist designation but upgrade to the next net depth.