

Installing a Replacement EWP Joist Adjacent to a Damaged Joist

In situations where a damaged TJI®, TimberStrand® LSL, and Microllam® LVL joists cannot be repaired, it is often more practical and less disruptive to leave the compromised member in place and install a new joist alongside it. This approach is suitable for both single and multiple span joist applications under uniformly distributed top loading conditions.

Design Considerations

- When evaluating the adequacy of the additional joist, with Weyerhaeuser literature or ForteWEB® software, any structural contribution from the damaged joist is not considered.
- The additional joist must be designed as a single span member.
- In multi-span applications, the undamaged spans of a damaged joist may be evaluated independently, without considering the effects of the damaged span. The potential effects of differential deflection may need to be considered in this evaluation.
- Verify that the span rating of the floor sheathing is not exceeded with the additional joist. In the case of 23/32" thick 24" o.c. rated floor sheathing:
 - For joist spacings $\leq 19.2"$ o.c., the additional joist can be added on either side of the damaged member.
 - For joist spacings $>19.2"$ o.c., an additional joist is required on each side of the damaged member to ensure the sheathing span rating is not exceeded.
- When floor panel joints are located over the damaged joist, an additional joist is required on each side of the damaged member.

Installation Guidelines

- A new joist must be installed within 3" of the existing damaged joist (either side). For TJI® 560, this spacing can be increased to 4".
- The new joist should match the original specification by the designer of record (DOR) whenever possible.
- Fasten floor panels to the new joist per the original specification. Install additional joists to support sheathing as required. Shallow predrilled screws into the bottom side of the top flange may be considered to secure floor panels while minimizing damage to existing finishes.
- End bay blocking between joists, hangers, or connection from existing rim board to new joist must be provided to resist rotation.
- Glue the additional joist's top flange to the underside of the floor sheathing to minimize floor squeaks.
- No connection between the new joist and existing damaged joist is necessary. Consult with the DOR for side-loaded situations, members acting as collectors, and shear/braced-wall loaded conditions.
- In flush mounted conditions, offsetting a new joist within 3" of the existing damaged joist may eliminate the need for new double joist hangers. Verify hanger geometry and constructability before proceeding.
- As an alternative to placing the new joist directly on existing plates or beams, consider using face-mount hangers attached to TimberStrand® LSL blocking positioned over the plate or beam. Blocking and joist hanger must be appropriately sized and fastened to existing structure (outside of the scope of this document).
- All new joists must have adequate bearing (minimum $1\frac{3}{4}"$) or be supported by a properly sized hanger.
- See detail RJ1 on page 2 for visual reference on placement of new joist adjacent to the existing damaged joist.

If you have any questions, please contact your Weyerhaeuser representative.

RJ1

UNREPAIRABLE JOIST

ADDITIONAL JOIST

3" MAX, EXCEPT FOR
TJI® 560 THIS SPACING
CAN BE INCREASED TO 4"

FLOOR SHEATHING, BRACING, BLOCKING,
RIM BOARD AND OTHER ACCESSORIES
ARE NOT SHOWN FOR CLARITY.



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REPLACEMENT JOIST INSTALLATION DETAIL

2025-12

DWG DATE:

Weyerhaeuser Product Engineering

DWG BY:

SHEET:

RJ1

DWG SCALE:

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