



## **Appendix C**

**-Weyerhaeuser Fire Rated Assembly Listings-**

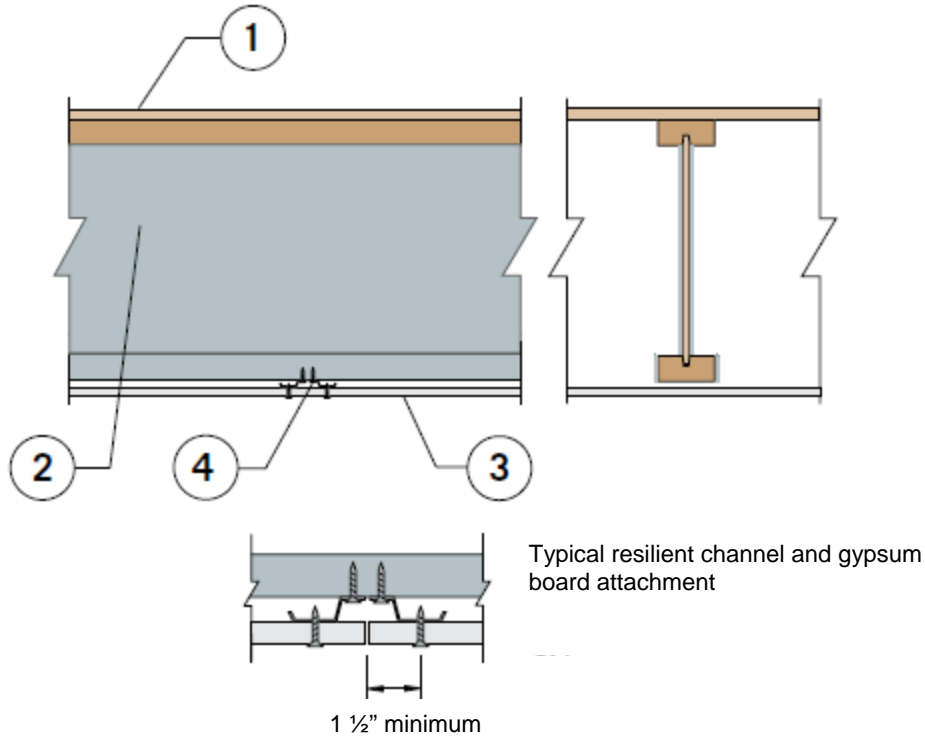
## Table of Contents

<b>Assembly</b>	<b>Description</b>	<b>Reference Standard/Criteria</b>
FJ-1	TJI® Joist 1 hour fire resistance rated floor and roof assembly.	ASTM-E119 and CAN/ULC-S101
FJ-2	TJI® Joist alternative to 2X10 dimension lumber prescribed in the 2012 IRC section R501.3, exemption 4.	ASTM-E119, CAN/ULC-S101 and ICC-ES AC14
WS-1	TimberStrand® LSL 1 hour fire resistance rated rim board assembly.	ASTM-E119 and CAN/ULC-S101
FA-1	TJI® Joist 1 hour fire resistance rated floor and roof assembly.	ASTM-E119 and CAN/ULC-S101



## Weyerhaeuser Assembly FJ-1 (1 Hour Fire Rated Assembly)

The following fire resistant designs are listed in accordance with ASTM-E119 and CAN/ULC-S101



1. The flooring consists of a single layer of 48/24 span-rated, tongue-and-groove, sheathing (Exposure 1). Construction adhesive conforming to ASTM D 3498 (AFG-01) must be applied to the top of the joists prior to placing sheathing. When used as a roof-ceiling assembly, the decking is permitted to be any wood deck recognized in the code. All butt joints of the sheathing must be located over framing members. The floor sheathing shall be installed in accordance with the applicable code.

**Floor Topping (optional, not shown):** Gypsum concrete, lightweight or normal concrete topping

2. TJI® 210, 230, 360, 560 and 560D joists with Flak Jacket™ Protection must be installed in accordance with this report, with a maximum spacing as shown in the table below:

TJI® Series	Joist Depth (in)	Maximum O.C. Spacing (in)
210	9½ and deeper	16
230/360/560/560D	9½	16
	11½ and deeper	24

*For design, use 90% of published TJI® 210, 230, 360, 560 and 560D bending moment capacity.* Flak Jacket™ protection is applied in accordance with the TJI® Joist With Flak Jacket™ Protection Manufacturing Standard and quality control program. Minimum TJI® Joist flange thickness is 1¾" (34.9mm) and minimum depth is 9½ in (241 mm) for 16 in (406mm) o.c. spacing and 11½ in (302 mm) for 24 in (610mm) o.c. spacing.

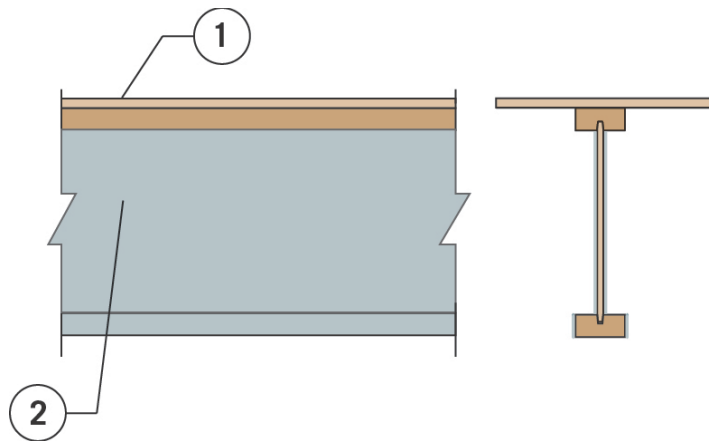
3. The ceiling membrane must consist of one layer of ½-inch-thick (15.8 mm), Type C gypsum board attached to resilient channels with 1½ inch Type S drywall screws spaced at 6 inches on center. All exposed gypsum board joints and screw heads must also be covered with two coats of joint compound.
4. Resilient channels (RC-1 type) spaced at 16 inches (406 mm) inches on center, installed perpendicular to the TJI® Joists and attached with 1½ inch-long (41.3 mm), Type W screws at each joist. Where splices are necessary, the resilient channels must overlap 6-inches and fastened together with two screws. Two channels must be located at each gypsum butt joint placed 1.5" from each butt end. The additional channels shall extend to the joist on each side.

**Optional:** Glass fiber insulation, 3½ inch thick in plenum placed between joists on top of bottom flange (or higher).



## Weyerhaeuser Assembly FJ-2

The following fire resistant designs are listed in accordance with ASTM-E119, CAN/ULC-S101 and ICC-ES AC14 as an alternative to 2X10 dimension lumber prescribed in the 2012 IRC Section R501.3Exception 4.



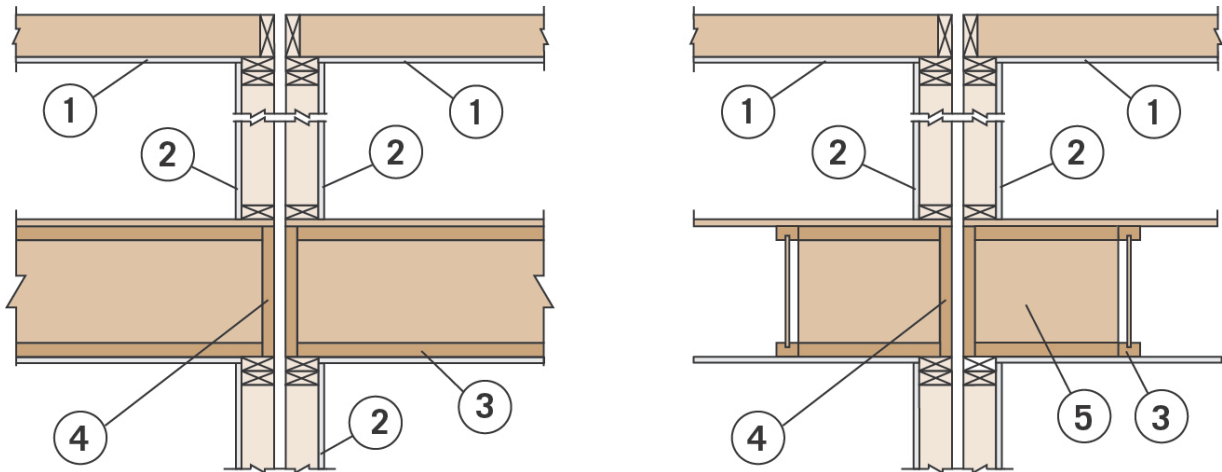
1. The flooring consists of an appropriate single layer of span-rated, tongue-and-groove, sheathing (Exposure 1). Construction adhesive conforming to ASTM D 3498 (AFG-01) must be applied to the top of the joists prior to placing sheathing. The floor sheathing shall be installed in accordance with the applicable code.
2. TJI® 210, 230, 360, 560 and 560D joists with Flak Jacket™ Protection must be installed in accordance with this report, with a maximum spacing of 24 inches (610 mm) on center. Flak Jacket™ protection is applied in accordance with the *TJI® Joist With Flak Jacket™ Protection Manufacturing Standard* and quality control program. Minimum TJI® Joist flange thickness is 1 $\frac{3}{8}$ " (34.9mm) and minimum depth is 9 $\frac{1}{2}$  inches (241 mm).



## Weyerhaeuser Assembly WS-1

### 1 Hour Rim Board Assembly - No Load Transfer to Adjacent Rim

The following fire resistant design is listed in accordance with ASTM-E119 and CAN/ULC-S101

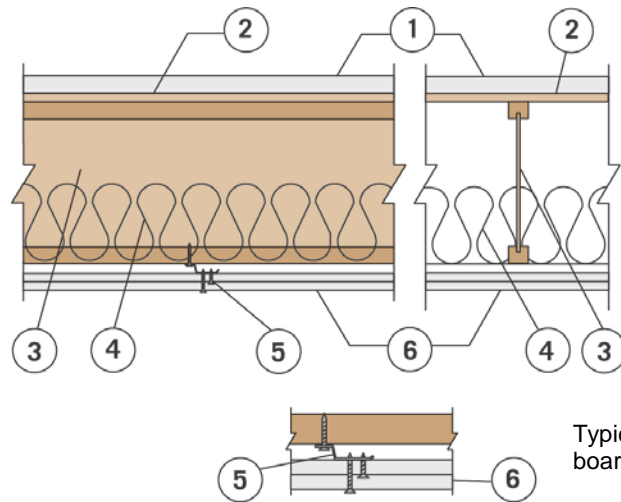


1. Floor/ceiling or roof/ceiling assembly as required by the applicable building code.
2. One - hour - rated wall assembly installed in accordance with the applicable building code.
3. TJI® 110, 210, 230, 360, 560, 560D, s31, s33 or s47 joists up to 16" deep with a minimum ½" regular gypsum ceiling assembly installed in accordance with the applicable building code.
4. 1¾" (44.5mm) thick 1.5E (minimum) TimberStrand® LSL installed in accordance with the applicable code. Maximum vertical load of 2000 plf ASD (un-factored) per rim board member.
5. For rim board deeper than 11 7/8", TJI® blocking placed at 4' on-center is required at walls running parallel to the floor joists. Attach blocking in accordance with detail PB1 of the Weyerhaeuser TJI® Joist Specifier's Guide (TJ-4000, TJ-4005, TJ-4500 and TJ-4510).



## Weyerhaeuser Assembly FA-1 (1 Hour Fire Rated Assembly)

The following fire resistant designs are listed in accordance with ASTM-E119 and CAN/ULC-S101



Typical resilient channel and gypsum board attachment

1. Optional gypsum concrete, lightweight or normal concrete topping.
2. The flooring consists of a minimum single layer of 48/24 span-rated [minimum 23/32 in (18mm) thick] tongue-and-groove, sheathing (Exposure 1). When TJI® Joists are limited to a maximum spacing of 20 in (508 mm), a minimum 40/20 span-rated [minimum 5/8 in (15 mm) thick] sheathing is permitted. Construction adhesive conforming to ASTM D 3498 (AFG-01) must be applied to the top of the joists prior to placing sheathing. When used as a roof-ceiling assembly, the decking is permitted to be any wood deck recognized in the code. All butt joints of the sheathing must be located over framing members. The floor sheathing shall be installed in accordance with the applicable code.
3. Minimum 9½" TJI® 110, 210, 230, 360, 560, 560D, s31, s33 or s47 joists with a maximum spacing of 24 in (610 mm) on center for floor ceiling or roof ceiling assemblies.
4. Optional glass fiber insulation or mineral wool insulation minimum 3½ in thick maybe placed in the plenum when resilient channels are used. The joist cavity is permitted to be filled with insulation, however the insulation must be placed above the resilient channels between the joist flanges.
5. Resilient channels (RC-1) installed at 16 in (406 mm) on center [for joist spaced at 16 in (406mm) and less, the resilient channels may be spaced at 24 in (610 mm) on center] fastened perpendicular to the TJI® Joists using 1 in (25.4 mm) long type S screws.
6. The ceiling membrane must consist of two layers of ½ in (15.8 mm) thick Type X gypsum board. The first layer of the ceiling member must be installed perpendicular to the channels and attached to the resilient channels using 1 in (25.4 mm) long, Type S screws spaced at 12 in (305 mm) on center. The second layer must be installed with the joints staggered from the first layer and attached using 1½ in (41 mm) long Type S screws. The screw spacing for the second layer of gypsum board must be a maximum of 12 in (305 mm) on center in the field and 8 in (203 mm) on center at the butt joints.  
Additionally, 1½ in Type G screws must be spaced 8 in (203 mm) on center and 6 in (152 mm) from each side of the butt joints of the second layer. The second layer must be finished with joint tape and compound.