

## ZIP System<sup>®</sup> Sheathing over Gypsum in Fire Rated Assemblies

**DISCLAIMER: The following fire-protection options are provided to assist in the installation of ZIP System<sup>®</sup> product(s) and may not apply to every situation. As with all fire-rated assemblies, the Designer-of-Record must provide written approval for the specification and use of fire-protected assemblies or elements. Consult your local building authority for fire-rated construction deemed as acceptable in the jurisdiction having authority. Huber Engineered Woods accepts no responsibility or liability for fire-rated assemblies.**

ZIP System<sup>®</sup> sheathing is code recognized in ICC-ES ESR-1474 by the International Building and Residential Codes as a combination wood structural panel, water-resistive barrier and air barrier. The OSB wood structural panel substrate is readily available in 7/16", 1/2", and 5/8" thicknesses with 24/16, 32/16, or 40/20 span ratings, respectively. ZIP System sheathing can be utilized in any fire rated assembly that references a wood structural panel with corresponding thickness. However, wood structural panels are not always a specified component of fire-rated wall assemblies.

According to note 25 in the *2015 GA-600 Fire Resistance Design Manual* (Note 22 *2012 GA-600 Fire Resistance Design Manual*): "When not specified as a component of a fire-resistance rated wall or partition system, wood structural panels shall be permitted to be added to one or both sides. Such panels shall be permitted to be applied either as a base layer directly to the framing (under the gypsum board), as a face layer (over the face layer of gypsum board), or between layers of gypsum board in multi-layer systems."

In addition, in *Section VI of UL 263, BXUV*, Item 6 states: "The addition of wood structural panels in fire-rated gypsum board wall assemblies is permitted as described in this section. Wood structural panels that are 4 ft wide, minimum 7/16 in. thick oriented strand board (OSB) or 15/32 in. thick structural sheathing (plywood) complying with DOC PS1 or PS2, or APA Standard PRP-108, manufactured with exterior glue, may be applied horizontally or vertically to the framing members. Vertical joints should be centered on studs and staggered one stud space from the gypsum board joints. The wood structural panels are permitted to be applied either as (1) a base layer (directly to the wall framing and under the gypsum board), (2) in between gypsum board layers, or (3) over the top of the completed gypsum board layers. When wood structural panels are used on top of the gypsum board layers of exterior wall assemblies, the wood structural panel should be protected from the exterior environment either as specified in the design or as specified under item 10, **Exterior Walls**. When wood structural panels are added to wall assemblies that include furring channels, there should be no more than two layers

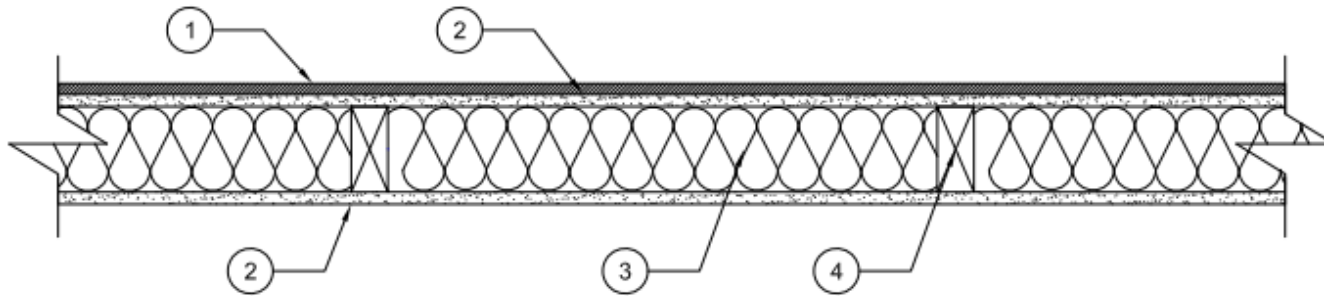
*(either gypsum board or wood structural panel or combination thereof) attached to the furring channel. When wood structural panels are added to the wall assembly, the length of the fastener used for the outermost layer (either gypsum board or wood structural panel) should be sized appropriately to accommodate the additional thickness of the wall panel.”*

Please refer to Section 4.3 of the 2015 American Forest and Paper Association (AF&PA) *Special Design Provisions for Wind and Seismic (SDPWS)* for nominal shear values for wall sheathing when designing shear walls using ZIP System sheathing over gypsum wall board. When installing ZIP System sheathing over a layer of gypsum wallboard, the fastener sizes and lengths may need to be increased to maintain the amount of fastener penetration into the wall framing to maintain the walls' shear capacities. For example, in Table 4.3A of the SDPWS states, if applying a 7/16" wood structural panel directly to the wood framing with an 8d common nail there will be a nominal shear capacity of 670plf (wind controlled) at 6-inch edge spacing. If this same wood structural panel is applied over a 1/2" or 5/8" gypsum wallboard or sheathing board, Table 4.3B of the SDPWS requires that a 10d common nail must be used to achieve a nominal shear capacity of 730plf (wind controlled) at 6-inch spacing. It is recommended to consult with the engineer of record or authority having jurisdiction to ensure the methods described above are acceptable in your local jurisdiction.

Please visit [zipsystem.com](http://zipsystem.com) or contact our technical department at 800-933-9220 Ext 2716 or at [techquestions@huber.com](mailto:techquestions@huber.com) with any questions or comments.

1. ZIP SYSTEM® SHEATHING
2. GYPSUM LAYER
3. CAVITY INSULATION
4. STUD

NOTE: FOLLOW SECTION 4.3 OF THE 2015 AMERICAN FOREST AND PAPER ASSOCIATION (AF&PA) SPECIAL DESIGN PROVISIONS FOR WIND AND SEISMIC (SDPWS) WHEN ATTACHING ZIP SYSTEM SHEATHING THROUGH GYPSUM WALL BOARD IF USING FOR SHEAR WALL PURPOSES



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