

Technical Tip

ZIP System® R-Sheathing in Type V Construction

ZIP System® R-sheathing is recognized in ICC-ES ESR-3373 as a combination wood structural panel, water-resistive barrier, air barrier and exterior foam insulation. When fastened and installed according to Huber Engineered Woods installation instructions, ZIP System R-Sheathing is recognized to be used as wall sheathing in Type V Construction. Type V construction is the type of construction in which the exterior walls may be constructed of any material permitted by code. However, Section 4.0 of ESR-3373 states that ZIP System R-sheathing panels must be installed over wood-framed walls with nominal “2-by” framing spaced at a maximum of 24 inches on center.

Because of this, ZIP System R-sheathing is currently not approved for the following applications:

- R-Sheathing over concrete masonry unit (CMU) walls
- Roof sheathing applications

For information on installing ZIP System R-sheathing over metal framing please see the Tech Tip [ZIP System R-Sheathing over Light-Gauge Metal Framing](#).

Fire Protection

Minimum ½” gypsum wall board must be installed on the interior side of the wood wall studs as a thermal barrier using code-recognized fasteners per International Residential Code (IRC) or International Building Code (IBC) requirements.

When used in fire-rated construction, ZIP System R-sheathing must be used in accordance with an approved UL fire-rated assembly. R-sheathing panels are approved for use in two UL fire-rated assemblies; V302 and V303. ZIP System R-sheathing cannot be used in fire-rated assemblies in lieu of a required “wood structural panel”.

Fire-rated assembly options are not available for ZIP System R-sheathing installed over metal studs or in roof applications.

Acceptable Wall Coverings

The following coverings can be applied directly to ZIP System R-Sheathing.

- Vinyl and Aluminum siding
- Fiber-Cement Vertical, Plank or Lapped siding
- HardiePanel® Vertical Siding
 - o See manufacturer's installation instructions for 3/8” air cavity requirements.
- Wood siding and shakes
- Brick or Stone (1” minimum air space for stacked installation)
- Mechanically attached and drainable Exterior Insulated Finish Systems (EIFS)
- Any code-prescribed exterior wall cladding or one that is recognized in a current ICC-ES Evaluation Service Report

The following wall coverings require an additional layer of protection (i.e. water-resistive vapor-permeable barrier with a performance equivalent to grade D building paper or an intervening substantially nonwater-absorbing layer or designed drainage space) applied to ZIP System R-sheathing.

- Hardcoat (traditional) Stucco
- Natural or Manufactured Stone (adhered application)

Allowable shear capacities for ZIP System R-sheathing can be obtained from Table 2 in ESR-3373 or in the published installation instructions. The allowable shear capacities listed in Table 2 of ESR-3373 must be used in lieu of the values shown in Chapter 23 of the IBC or 2015 Special Design Provisions for Wind and Seismic (SDPWS). ZIP System R-sheathing panels are not recognized for use in wall designs intended to use wood structural panels to resist combined uplift and shear.

Fasteners used to secure ZIP System R-sheathing panels to supporting framing must be a minimum 0.131" shank diameter. When installed as a braced wall panel or in a shear wall, fasteners must have a minimum 1-1/2" embedment into framing. When panels are not used as braced wall panels, fasteners must have a minimum 1" embedment into framing. Braced wall panels are designed to resist lateral-forces. In addition, all joints and edges of panels used as bracing panels or in shear walls must be backed by framing. Refer to Table 1 and Table 2 in ESR-3373 for allowable shear capacities based on stud spacing, fastening schedule and fastener penetration requirements.

For maximum allowable cladding weights and cladding fastener schedules please refer to Table R703.15.1 of the 2015 IRC.

Please visit www.zipsystem.com or contact our technical services department at 1-800-933-9220 Ext. 2716 with any questions or comments.