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 light gauge metal framing
- R-Sheathing over concrete masonry unit (CMU) walls
- Roof sheathing applications

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
    - See manufacturer's installation instructions for 3/8" air cavity requirements.
- Wood siding and shakes
    - See manufacturer's recommendations for back-priming, back-venting and interlayment requirements
- 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

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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 1 in ESR-3373 or in the published installation instructions. The allowable shear capacities listed in Table 1 of ESR-3373 must be used in lieu of the values shown in Chapter 23 of the IBC or 2008 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 in ESR-3373 for allowable shear capacities based on stud spacing, fastening schedule and fastener penetration requirements.

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