

ZIP System® Sheathing Fasteners FAQs

What level of protection should a water resistive barrier (WRB) provide?

The *International Residential Code* and the *International Building Code* considers the water resistive barrier (WRB) a secondary layer of protection designed to prevent incidental moisture that penetrates the exterior cladding from further entering the wall assembly. After ZIP System® sheathing and tape is properly installed the enclosed areas can be considered “rough dried-in” which is defined as the stage of construction when the inside of the structure is protected from weather. During the rough dry-in stage exterior doors, windows, and roof underlayment are also typically installed. Many jurisdictions allow mechanical trades to begin work after a building is considered rough dried-in. Installation of interior “finish” work should not begin until the permanent watertight claddings and accessory products are completely installed.

How is the formulation of ZIP System® panels different than other OSB panels?

ZIP System® panels utilize a proprietary recipe of hydrophobic resins and wax, that when combined with a higher density wood substrate results in a panel that is more tolerant to moisture exposure than standard commodity OSB.

What is the recommended best practice for fastening ZIP System® sheathing?

We recommend the use of code recognized fasteners with the head of the fastener driven flush to the surface of the ZIP System® panel. Flush fastener placement is best achieved by properly setting the nail gun air compressor to the manufacturer’s recommended setting or using in-line pressure regulators. Many nail guns have depth control adjustments to ensure fasteners are driven flush. For tools that do not have a depth control adjustment feature, we recommend fitting a flush drive attachment collar on the end of the gun to help limit fastener embedment depth.

Do fasteners have to be corrosion resistant (galvanized, stainless steel, etc.) when installing ZIP System® sheathing?

Code-recognized fasteners that would typically be used to attach conventional OSB or plywood sheathing panels to the supporting framing are acceptable to use with ZIP System® sheathing. However, if the Authority Having Jurisdiction or the Designer of Record requires the use of corrosion resistant fasteners (i.e. stainless steel, galvanized, etc.) for typical wood structural sheathing on the roof or wall, then those same fasteners types must also be used to install ZIP System® sheathing.

How do overdriven fasteners affect the structural integrity of the sheathing?

The American Plywood Association (APA) and PFS TECO recommend either reducing allowable shear capacities or installing extra fasteners if any fastener is more than 1/8” overdriven or if more than 20% of fasteners are overdriven between 1/16” and 1/8”.

Do fastener penetrations present more risk to ZIP System® sheathing than other WRBs?

Fastener penetrations present a risk to most mechanically attached, flexible sheet WRB materials. Water can enter through cuts, tears, and fastener penetrations. Because mechanically attached sheet materials are not bonded to the OSB or plywood sheathing panels, water that penetrates behind them can migrate to untaped panel seams and into the wall cavity.

Do overdriven fasteners void the ZIP System® sheathing warranty or need to be taped over?

Overdriven fasteners do not necessarily void the ZIP System® sheathing warranty. However, when a fastener misses the framing and results in a “shiner” or if a fastener penetrates roughly half way or more through the panel, steps must be taken to seal these penetrations. Shiners should be removed and holes should be covered with ZIP System™ tape or ZIP System™ liquid flash. Fasteners that penetrate roughly half way or more through the panel should also be covered with tape or liquid flash.

Are field spray rack tests an appropriate way to evaluate the performance of Water Resistive Barriers?

Spray rack tests which are rarely done on single family structures are becoming common on multifamily and commercial projects. They are often performed by water management consultants and follow the procedures outlined in *ASTM E1105 – Standard Test Method for Field Determination of Water Penetration of Installed Exterior Windows, Skylights, Doors, and Curtain Walls, by Uniform Static Air Pressure Difference*. As the title of this test standard makes clear, it was created and is still primarily used to investigate the potential for water leaks through installed windows. In recent years, the test has been increasingly used to evaluate WRBs. This test is performed by pulling a vacuum on the inside of the wall while spraying a large volume of water on the exterior of the wall. The pressure exerted by the vacuum in combination with the water spray is intended to represent a significant wind driven rain. When this test is performed on a mechanically attached sheet material, the vacuum results in the material being suctioned to the wall. However, in a real world weather event with sustained wind driven rain, it is safe to assume that not only would the sheet material blow off resulting in significant water leakage into the structure, it would also require substantial repair. If ZIP System® sheathing and tape was subjected to the same weather event, the bonded WRB and adhered tape seams would remain intact resulting in far less exposure to moisture.