

## Technical Tip

### Spray Foam Insulation with ZIP System® Sheathing

There are two types of spray-in foam insulation used in today's construction industry, low density foam (open cell) and high density foam (closed cell). Both of these types are available in a variety of derivatives such as polyurethane, soy, polyisocyanurate, icynene, etc.

#### **Low Density Foam (Open Cell)**

Low density foam is not completely closed, which allows for air to fill the open voids in the insulation during installation. During installation, low density foam expands about 100 times its liquid volume. Low density foam typically weighs 0.5 pound per cubic foot and carries an average insulation value of R-3.5 per inch of thickness. Low density foam is an air barrier, but does not perform as a vapor barrier.

#### **High Density Foam (Closed Cell)**

High density foam packs and fills the tiny air bubbles with a gas which in turn allows the foam to rise and expand. During installation, high density foam expands from 30 to 50 times its liquid volume. High density foam typically weighs 2.0 pounds per cubic foot and carries an average insulation value of R-6.6 per inch of thickness. High density foam is an air barrier as well as a vapor barrier.

Any spray-foam insulation that is code recognized to be used on OSB products in roof and wall applications may be used on the underside of ZIP System sheathing. Icynene, soy, polyisocyanurate, and polyurethane all work well. Use of these products will not void the ZIP System warranty. Prior to installation, ensure the ZIP System panels are dry and free of debris as not to deter the adhesion of the spray-in foam.

If high density foam is installed behind ZIP System wall sheathing, we recommend back venting the finished wall covering. Back venting can be defined as incorporating a minimum gap between the structural sheathing and finished wall covering to allow air flow, which will in turn help dry any moisture that may occur. Back venting can be achieved by incorporating a minimum 1/8" air gap between the ZIP System wall sheathing and all exterior veneer types except vinyl siding. Vinyl siding inherently allows for adequate air movement without additional back venting. The use of any spray-in foam insulation in direct contact with the under side of ZIP System roof sheathing assumes the attic space will be designed in strict accordance with the 2009 International Residential Code, section R806, *Roof Ventilation*.

Please visit [www.zipsystem.com](http://www.zipsystem.com) or contact our technical services department at 800-933-9220 with any questions or comments.