

SUBJECT: LOW SLOPE ROOFING OVER EXTREME SIPS

Low slope roofing systems are applied over Extreme SIPs for both residential and commercial building applications and require that the architect and contractor applicator fully understand the applicable code requirements and the performance of materials and systems.

Low slope roof applications typically utilize a single-ply roofing membrane, built-up roof (BUR), or modified bitumen as the roofing system. Within these systems, several techniques are used to secure the roof system to the roof deck, including ballasted, adhered, or mechanically attached methods. Ballasted systems rely on overlaid rock or cementitious pavers as a weight to hold the membrane in place. Adhered systems use asphalt or adhesives that are placed on the roof deck or carried on the membrane to adhere it to the underlying roof deck. Solvent-based adhesives are not approved by Extreme Panels, as they could cause deterioration of the Extreme SIPs rigid insulation core. Water-based adhesives are acceptable. In some attached systems, the adhesive layer is applied to a board or sheet known as a divorcement layer, which has been previously mechanically attached to the roof deck. Mechanical attachment is accomplished with long screws through the membrane and insulation layers.

When Extreme SIPs are used as the roof deck on a low slope roof system, Extreme Panels requires that a divorcement material be placed over the SIPs prior to the roof membrane installation. This divorcement layer can be a slip sheet for ballasted systems, a nail-applied base sheet for BUR systems, or a cover board such as gypsum, cement, or wood fiber for adhered systems. The application of these divorcement materials will protect the top OSB structural skin of the SIP if the roof membrane system were to fail and/or need replacing. The OSB skins of a SIP are part of the SIP's structural component assembly, so they must remain intact to ensure long-term structural capacity.

Further consideration should be given if the roof system needs to meet a Class A, B, or C designation based on ASTM E108 or UL 790 testing. Extreme SIPs are rated as a "combustible roof deck." Therefore, low slope roofing systems that can achieve a Class A, B, or C rating over a combustible deck should be specified by the architect and installed by the roofing contractor.

If a Class A rating over an SIPs combustible deck is specified, an acceptable and cost-effective method to achieve the Class A requirement is to apply a layer of gypsum or cementitious board over the SIPs. An example of a gypsum product is ¼" DensDeck®, which is mechanically attached to the SIPs. The attachment of the DensDeck needs to be sufficient to meet wind uplift requirements when used in conjunction with adhered membranes.

In addition to gypsum and cementitious board products, there are also fire-rated membranes that can achieve Class A fire ratings when applied over combustible roof decks. In all cases, whatever divorcement material is used, it should meet the requirements of the roofing membrane manufacturer.

Therefore, Extreme Panels requires that a DensDeck* (1/4" thickness or greater), or equivalently rated divorcement product in the type and style approved by the Low Slope Roofing System Manufacturer, be attached on top of the Extreme SIPs roof deck prior to the installation of fully adhered systems. Mechanical attachment of the divorcement product shall be installed in accordance with the Low Slope Roofing Manufacturer's recommendation when applied to a 7/16" OSB faced SIP roof deck system.

*DensDeck® is a registered trademark of Georgia Pacific.