

Subject: Blazeguard® Fire-Rated finish for Structural Insulated Panels (SIPs)**Date: June 2009**

Blazeguard® is a factory-applied coating made from specialized concrete and fiberglass. It is applied directly to the skin of an engineered OSB panel, which is then used to assemble a SIP with a fire-rated finish on its interior-facing skin. The coating is ICC approved to provide the code-required thermal barrier for separating foam plastic insulation from the interior of a building (IBC Section 2603.4; ICC ESR-1365, Section 4.2.d), eliminating the need (and cost) of applying layers of Type X gypsum for fire protection.

Where Used

Blazeguard is most commonly used on the interior room side of a SIP, in place of Type X gypsum. The finish saves considerable time and effort in the construction and fire coating of SIP roof and wall panels. Blazeguard can also be applied two-sided to a panel or face both inside and outside the SIP panel for additional fire protection.

Blazeguard SIP Appearance

Blazeguard is a white finish approximately 80 microns thick over OSB. It can be painted or textured, and act as its own primer.

Joint/Seam Treatment

Building designs that hide or blind panel seams are best for Blazeguard SIPs. Design systems that allow for panel breaks to be seen as reveal breaks from panel to panel also work well. Batten systems may also be used to cover seams or panel joints. If none of these techniques are available, following are the recommended procedures for the treatment of Blazeguard panel seams:

1. Insure that the Blazeguard SIP is dry from construction moisture, weatherproof claddings are in place and that it has been stabilized in the conditioned space (heating or cooling) of the structure.
2. The Blazeguard SIP joint must be backed with a Blazeguard-treated spline, or solid wood/engineered wood-style spline connector with fire coating applied.
3. For panel seams that will be finished, the joint edges of the Blazeguard SIP panel have an increased fastening regiment (to prevent cracking). # 6 or # 8 screws are the only approved fastener. Install screws 4" on center down both edges of the SIP. Install a secondary line of screws on 8" centers outside of the previously installed screws (see Figure 1, next page). Counter-sink the screws just below the depth of the Blazeguard coating.

4. Sand irregular or uneven areas around the joint using standard paper and sanding block. Do not over sand.
5. Using a stain blocking off-white primer, apply primer at Blazeguard panel edges, making sure that panel edges and any spline face showing below the panel surface are coated. Let primer dry.
6. Using a quick-drying cement-based compound, fill the joint opening. Trowel compound over the surface of the joint area wide enough to embed fiber mesh tape. Once the joint compound is dry, embed a second layer of fiber mesh tape. Apply a tight skim coat completely covering the second fiber mesh tape layer, feathering as needed.
7. Once the fiber mesh taped joint is completely cured, sand the joint area as needed. Do not over sand.
8. If the field area of the panel is to be textured, that step can be done now. Apply standard gypsum or cement products used for texturing in the normal manner.

Patching Blazeguard SIPs

Areas of the Blazeguard SIP surface damaged by installation may be repaired following steps 6 and 7 above.

Painting/Finishing Blazeguard SIPs

To paint or texture Blazeguard SIPs, follow these steps:

1. Insure that the Blazeguard SIP is dry, weatherproof claddings are in place and that it has been stabilized in the conditioned space (heating or cooling) of the structure.
2. Joint taping and sanding should be completed before beginning priming work (refer to joint treatment recommendations).

3. Stains or marks on the SIP that are dark in color should be washed off the surface using a scrub brush and a mild solution of water and dish soap. Allow all areas to dry completely before proceeding.
4. Using a stain blocking oil based off-white primer, pre-prime any areas that have high discoloration or mars. Allow pre-priming areas to dry before continuing.
5. If finishing is desired, it should occur at this stage. Any conventional application (texturing, coating, etc.) approved over drywall or plaster can be used.
6. Using a standard oil-based latex or primer, apply primer to the complete field area of the SIP as instructed by the primer manufacturer. Make sure that the primer selected is compatible with the finish paint in type and color and tint. Application method can be any technique that is approved by the primer manufacturer
7. If painting is required, select a paint compatible with the base primer. Apply paint to the complete field area of the Blazeguard SIP. Application can be any technique that is approved by the paint manufacturer.

Moisture/Vapor Barrier Information

Builders are required to attend to the panel edges in a manner that precludes the entry of moisture into and behind a Blazeguard SIP panel.

Any technique that has been identified as successful in preventing moisture intrusion in SIP systems without Blazeguard will be suitable with Blazeguard treatment as well. No "special" techniques are required or mandatory.

For further information about Blazeguard SIPs, including project case studies and photographs or to get a price quote, call 800-638-4570 or see www.intlbarrier.com.

Figure 1: Fastening Regiment for Blazeguard SIP

