LIGHTGUARD®
Protected Membrane Roof Systems

T. CLEAR CORPORATION

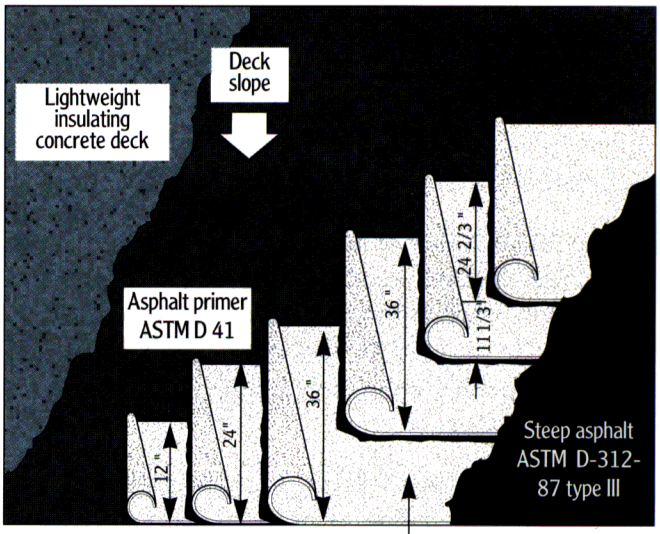
SPECIFICATIONS

Bur On Lightweight Insulating Concrete Deck

General

On non nailable decks, a 3-ply membrane constructed with fiberglass felts is mopped to the deck in shingle fashion. This is covered with Lightguard Ballasted Roof Insulation. All installations of the Lightguard system must be in accordance with current specifications approved by T. Clear, installed by a T. Clear approved contractor, and will be covered by a warranty from Clear.

The mechanically attached specification utilizing the fiberglass base sheet and two shingled fiberglass felts for a nailable deck may be used when the lightweight insulating concrete is installed over a permeable form board or slotted metal deck.



Deck Condition

The erection and design properties for performance of the deck are not the responsibility of T. Clear Corporation and should be in accordance with applicable regulatory agency requirements and industry standards.

In particular the deck shall be smooth, well troweled, and have no pronounced ridges or depressions. It must be dry and unfrozen at the time of roofing. Provisions must be made in the building design for all the water-based material to dry to the underside. The deck shall be considered not sufficiently dry if foaming occurs during application of the steep asphalt.

Deck Slope Requirements

Roofs must be designed and constructed to drain water within 48 hours after a rain. A 1/4" per foot slope is recommended. "Dead level" decks of this construction are acceptable with a sufficient number of correctly placed drains. Where a negative slope exists, consideration may be given to increasing the thickness of the insulation over the membrane to displace water. The drain body must be recessed into the deck so that the clamping ring is flush with or below the deck surface. Sumps are recommended.

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The maximum slope that will be covered by Lightguard roof insulation systems is 2 inches per foot and requires the use of ASTM D 312-89, type III asphalt. (Note: Type III asphalt is the preferred asphalt for all slopes.) ASTM D 312-89, type II asphalt may be used for slopes not to exceed 1 inch per foot. ASTM D 312-89, type I may be used for slopes not to exceed 1/2" per foot when covered with a minimum 6 mil polyethylene sheet to completely cover the asphalt so as not to come in contact with the Lightguard panel.

Built-Up Roof Installation

Sweep the deck free of dust and debris. Prime the concrete surface with asphalt concrete primer (ASTM D 41-78) at a rate of one gallon per square. Allow the primer to dry to the touch before continuing with the application of the built-up roof.

Starting at the low point of the roof, if the deck is sloped, uniformly mop the primed surface with steep asphalt (ASTM D-312, type III) at the rate of 25-30 lb. per square. While hot, embed three plies of fiberglass felt (ASTM D-2178, type IV) in shingle fashion, lapping each sheet 24 2/3".

Interply moppings shall be continuous. Complete embedment of felts is required and accomplished by dragging a broom or squeegee over the felt, no more pressure is required than that exerted by the weight of the "brooming" utensil. During cold weather, effective brooming is essential to eliminate voids and to assure adhesion.

As the work progresses, full mop the surface of the membrane using a minimum coverage of 25-30 pounds per square of ASTM D-312, type III asphalt. Felt should never be exposed overnight or in inclement weather. Bitumen temperature at the kettle shall be controlled so as to not exceed the bitumen manufacturer's recommendations.

It is not acceptable to include any temporary membrane as a part of a completed membrane. Install completed membrane in final form on a day-to-day basis. If the slope of the deck is such that water might flow under the secured fiberglass felt, temporary water cut-offs are necessary at the end of the workday. Water cut-offs must be removed prior to continuing the membrane application.

Flashing Installation

Flashings should be of granule surfaced modified bitumen sheet adhered with ASTM D 312-89, type III asphalt or torch applied. All flashing must be completed in each area prior to installing Lightguard Ballasted Roof Insulation. Conform to details shown in architectural drawings, and install according to T. Clear flashing specifications. Non granule surfaced modified bitumen sheets may be used but require periodic maintenance due to weathering that is not included in the T. Clear warranty.

Other Relevant T. Clear Specifications

For installation of Lightguard Ballasted Roof Insulation panels, see:

1. Lightguard installation, wind design, and securement specifications (LIDS 1993)
2. Lightguard flashing details (LFD 1993)
3. Lightguard roofing specifications for coal tar pitch bitumen membranes (CTPM 1993)

Fire Classification Information For Lightguard Roof Assemblies

1. All Lightguard assemblies are considered as ballasted systems with respect to Factory Mutual (F.M.). Refer to the current F.M. data sheet 1-29.
2. All Lightguard roof assemblies are rated Class A. (fire from without). Obtain specific configuration details from Underwriter's Laboratory (U.L.) from the current roofing materials and Systems Directory.
3. For information on hourly rated constructions (fire from within) see the current U.L. Fire Resistance Directory.

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