

SPECIFICATIONS

Modified Bitumen On Poured Concrete Deck

General

T. Clear approves smooth surfaced, reinforced or non-reinforced APP or SBS Modified Bitumen (see materials listing) for a 1 or 2 ply membrane on poured structural concrete decks. A single-ply membrane is constructed by applying a modified bitumen sheet which is approved for single-ply applications (see materials listing). A 2 ply membrane is constructed by first attaching a fiberglass (ASTM 4601), or modified bitumen base sheet to the deck. This is followed by a minimum single-ply modified bitumen sheet mopped or torched to the base sheet. The completed membrane is covered with Lightguard® Ballasted Roof Insulation. All installations of the Lightguard system shall 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 T. Clear. All membrane and flashing materials used on a roof shall be supplied by a single manufacturer.

It is the contractors responsibility to operate in a safe manner. It is recommended that all roofing applicators attend a qualified educational program for torch applications such as those offered by RIEI or SERTA.

Deck Condition

The erection and design properties for performance of the deck are not the responsibility of T. Clear and should be in accordance with applicable regulatory agency requirements and industry standards. Prior to the commencement of work, all roof surfaces shall be approved by the T. Clear applicator.

Reinforced concrete decks shall have a minimum density of 150 lbs./cu. ft.. Structural lightweight concrete decks shall have a minimum density of 100 lbs./cu. ft.. The deck shall be smooth and have no pronounced ridges or depressions. It shall be dry and unfrozen at

the time of roofing. The deck shall be considered not sufficiently dry if foaming occurs during application of the hot bitumen.

Deck Slope Requirements

Roofs shall 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 shall be recessed into the deck so that the clamping ring is flush with or below the deck surface. Sumps are recommended. The maximum slope that will be covered by Lightguard roof insulation systems is 2 inches per foot. The use of ASTM D 312-89, type III asphalt is preferred for all slopes. Lower melt asphalt can be used for low or no-slope applications.

Modified Bitumen Roof Installation

Sweep the deck free of dust and debris. Prime the concrete surface with asphalt concrete primer (ASTM D41-78) at a rate of one gallon per square. Allow the primer to dry to the touch before continuing with the application of the modified bitumen membrane.

Hot Mopped Application

For two or more plies: Starting at the low point of the roof, with a 1/2 width sheet as the first sheet and following with full sheets, fully mop one layer of fiberglass (ASTM D-4601) or modified bitumen base sheet perpendicular to the slope to the deck embedding it in ASTM D-312-89 type III asphalt, applied at the EVT of the asphalt and at a rate of 20-25 lbs. per square. Base

sheets shall be lapped 2" on all sides and 4" at the ends. The end laps should be staggered no less than 12" apart.

Mop the second sheet perpendicular to the slope, starting at the low point of the roof, as a full sheet. Fully mop the smooth surfaced modified bitumen sheets embedding them in ASTM D-312-89 type III asphalt, applied at the EVT of the asphalt at a rate of 20-25 lbs. per square. A flow of at least a 1/4" shall be obtained around all seams. The sheet is installed with a minimum 3" side laps and 6" end laps. Offset end laps a minimum of 12". If additional modified bitumen plies are used, they must be installed in shingle fashion.

For single ply: Fully mop the smooth surfaced modified bitumen sheets perpendicular to the slope embedding them in ASTM D-312-89 type III asphalt, applied at the EVT of the asphalt at a rate of 20-25 lbs. per square. A flow of at least a 1/4" shall be obtained around all seams. The sheet is installed with a minimum 3" side laps and 6" end laps. Offset end laps a minimum of 12".

Torched Application

For two or more plies: Starting at the low point of the roof, with a 1/2 width sheet as the first sheet and following with full sheets, weld one layer of torchable modified bitumen base sheet to the deck starting at the low point and applying perpendicular to the slope. Base sheets shall be lapped 2" on all sides and 4" at the ends. The end laps should be staggered no less than 12" apart.

Weld the second torchable smooth surfaced sheet perpendicular to the slope, starting at the low point of the roof, as a full sheet. A flow of at least a 1/4" shall be obtained around all seams. The sheet is installed with a minimum 3" side laps and 6" end laps. Offset end laps a minimum of 12". If additional modified bitumen plies are used, they must be installed in shingle fashion.

For single ply: Weld the torchable smooth surfaced sheet perpendicular to the slope, starting at the low point of the roof, as a full sheet. A flow of about a 1/4" shall be obtained around all seams. The sheet is installed with a minimum 3" side laps and 6" end laps. Offset end laps a minimum of 12".

Adhered Application

See approved manufacturer's specific instructions for installing peel-and-stick membranes.

Temporary Membrane

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 modified bitumen membrane, temporary water cut-offs are necessary at the end of the workday. Water cut-offs shall be removed prior to continuing the membrane application.

Flashing Installation

T. Clear flashing specifications call out granule surfaced modified bitumen sheets adhered with ASTM D-312-89, type III asphalt or torch applied. All flashings 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 additional periodic maintenance due to weathering. Maintenance 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 1994)
2. Lightguard flashing details (LFD 1994)

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 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 without), see the current U.L. Fire Resistance Directory.



P.O. Box 416
Hamilton, Ohio 45012
1-800-544-7398

NOTICE: T. CLEAR CORP. believes the information and recommendations herein to be accurate and reliable as of November 1990. However, since any assistance furnished by T. CLEAR CORP. with reference to the proper use and disposal of its products is provided without charge, and since use conditions and disposal are not within its control, T. CLEAR CORP. assumes no obligation or liability for such assistance and does not guarantee results from use of such products or other information herein; no warranty, expressed or implied, is given nor is freedom from any patent owned by T. CLEAR CORP. or others to be inferred. Information herein concerning laws and regulations is based on U. S. federal laws and regulations except where specific reference is made to those of other jurisdictions. Since use conditions and governmental regulations may differ from one location to another and may change with time, it is the Buyer's responsibility to determine whether T. CLEAR CORP.'s products are appropriate for Buyer's use, and to assure Buyer's workplace and disposal practices are in compliance with laws, regulations, ordinances, and other governmental enactments applicable in the jurisdiction(s) having authority over Buyer's operations.