LIGHTGUARD® Ballasted Roofing Systems

T CLEAR CORPORATION

SPECIFICATIONS

Modified Bitumen On Wood & Plywood Deck

General

T. Clear approves smooth surfaced, reinforced APP or SBS Modified Bitumen (see materials listing) for a 2 ply membrane constructed with a mechanically attached fiberglass (ASTM D-4601) or modified bitumen base sheet. The mechanical fasteners will be those recommended for this type of deck, and in the pattern specified. Fully mop or torch modified bitumen sheet(s) to the base sheet. Minimum thickness of this system shall be 160 mils not including the base sheet. 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 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.

The wood or plywood deck shall be properly attached to supporting members and shall be of sufficient thickness to prevent excessive deflection between supporting members. Wood roof decks shall be tongue and grooved, ship-lapped or splined to prevent differential flexing of the boards. Any significant voids shall be covered with sheet metal.

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

Base Sheet Installation

Sweep the deck free of dust and debris. Cover the deck with a rosin or unsaturated sheathing paper weighing approximately 5 lbs. per 100 square feet when necessary. Lap each sheet a minimum of 2" and mechanically attach to deck sufficiently to hold in place. Sheathing paper may be omitted for plywood decks. Starting at the low point of the roof, with a 1/2 width sheet as the first sheet and following with full sheets, lay one ply of fiberglass base sheet (ASTM D-4601), or a modified bitumen sheet perpendicular to the slope lapping the side joints 2" and end joints 4". Mechanically fasten along the laps at a maximum 9" intervals. Additional fasteners must be placed at the 1/3 points of the sheet in two rows which are staggered-fastened at 18" O.C. maximum. Fastener caps shall be a minimum of 2" in diameter. The end laps shall be staggered no less than 12" apart.

Hot Mopped Application

Starting at the low point of the roof, mop the modified bitumen sheets to the base sheet. The smooth surfaced modified bitumen sheets are applied perpendicular to the slope, with ASTM D-312-89 type III asphalt, applied at the EVT of the asphalt and 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". Minimum thickness of this system shall be 160 mils not including the base sheet. If additional modified bitumen plies are used to achieve the 160 mil thickness, they must be installed in shingle fashion.

Torched Application

Starting at the low point of the roof, weld the torchable smooth surfaced modified bitumen sheets to the base sheet, perpendicular to the slope. 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". Minimum thickness of this system shall be 160 mils not including the base sheet. If additional modified bitumen plies are used to achieve the 160 mil thickness, they must be installed in shingle fashion.

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.

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