



OptiMax® Membranes

OptiMax • OptiMax FR Mineral

PRODUCT DESCRIPTION

OptiMax membranes are fiberglass reinforced asphalt-based membranes modified with a specially-designed polyurethane resin designed to extend roof longevity. OptiMax membranes combine two of the most effective waterproofing materials on the market - polyurethane and asphalt - in a patent-pending “active modification” process involving chemically locking the urethane modifier to the asphalt, providing enhanced performance characteristics. This long-lasting, puncture and fatigue resistant membrane is designed to be the waterproofing and reinforcement layer in a modified bitumen roofing system.

PRODUCT ADVANTAGES

Unique Chemistry - OptiMax membranes are modified with one of the market's most effective waterproofing materials - thermoset polyurethane. By cross-linking the polyurethane and asphalt, this compound remains strong over time. This chemistry also maintains flexibility and resilience even when other asphalt-based materials would harden and crack.

Strength - OptiMax membranes are reinforced asphalt-based membranes modified with a specially-designed polyurethane resin that retains its resiliency, resulting in a membrane that provides enhanced performance characteristics and increases the overall service life of the roof system. The dual fiberglass scrim resists movement from today's modern buildings and provides tensile strength in excess of 200 plus pounds per inch in the machine and cross machine direction.

Weatherability - The polyurethane resin specifically designed for the OptiMax membranes provides incredible protection against the effects of exterior exposure and as such, the membrane weathers slower than its modified membrane counterpart. OptiMax membranes retain their physical properties when exposed to UV radiation and with improved mineral retention, UV degradation slows even further. Due to its ability to retain its physical properties and mineral adhesion, UV degradation is slowed throughout the life of the roof system.

Excellent Heat and Chemical Resistance - The thermoset urethane modifier in OptiMax membranes has extremely high heat resistance. This gives OptiMax membranes better thermal cycling performance than a traditional modified roofing membrane, allowing the membrane to handle the stress of temperature change. OptiMax membranes are also more resistant to chemical factors than traditional modified systems and are proven to maintain mineral adhesion.

Long-Term Protection - OptiMax membranes can be surfaced with reflective minerals, which adhere strongly to the urethane chemistry, reducing problems associated with mineral loss and providing additional UV protection. When

subjected to ASTM D 4977 scrub testing, OptiMax retains over 99 percent of its minerals as opposed to less than 80 percent on similarly tested traditional modified mineral sheets, translating to a longer lasting roof.

USES

OptiMax membranes are designed for use as the top component in a roofing system where superior performance is required. OptiMax can be used in conjunction with Garland modified base sheets depending on the adhesive used. Specifications are available for either hot- or cold-applied two-ply systems. In addition, OptiMax membranes can be used as the top ply in a two-ply flashing system. They can also be used to repair splits, cracks, and other deteriorated areas in existing asphalt based roofing systems.

APPLICATION

Hot-Applied

OptiMax membranes can be used with ASTM D 312, Type III or IV asphalt, Garland's HPR All-Temp Asphalt or modified asphalt. One modified ply of an approved base sheet is solidly bonded to the approved substrate. OptiMax is then solidly adhered to this base sheet with mopping asphalt.

Cold-Applied

OptiMax can also be applied in Garland's cold-applied Weatherking® or Green-Lock® membrane adhesive. One layer of a Garland modified base sheet is applied in Weatherking or Green-Lock membrane adhesive to the approved substrate. OptiMax is then adhered to this base layer with Weatherking or Green-Lock Membrane adhesive.

OptiMax Membranes

Technical Data	OptiMax	OptiMax FR Mineral
Tensile Strength	*MD 215 lbf./in. (38 kN/m) *XD 225 lbf./in. (39 kN/m) **MD 240 lbf./in. (42 kN/m) **XD 240 lbf./in. (42 kN/m)	*MD 205 lbf./in. (36 kN/m) *XD 215 lbf./in. (38 kN/m) **MD 220 lbf./in. (39 kN/m) **XD 230 lbf./in. (40 kN/m)
*Tear Strength	MD 300 lbf. (1334 N) XD 300 lbf. (1334 N)	MD 300 lbf. (1334 N) XD 300 lbf. (1334 N)
*Elongation	MD 4.7% XD 5.0%	MD 4.7% XD 5.0%
*Low Temperature Flex	passes 0°F (-18°C)	passes 0°F (-18°C)

Eco-Facts	OptiMax	OptiMax FR Mineral
Recycled Content		
Pre-Consumer	27%	NA
Post-Consumer	8%	5%

Finished membrane meets and/or exceeds the performance criteria of ASTM D 6163, TYPE III.

Test Method ASTM D 5147 is tested at:

*2 in/min @ 73.4 ± 3.6°F (50 mm/min @ 23 ± 2°C)

**0.08 in/min @ 0 ± 3.6°F (2.0 mm/min @ -18 ± -3°C)

Roll Dimensions	OptiMax	OptiMax FR Mineral
Width	3 ft. 3 in. (1 m)	3 ft. 3 in. (1 m)
Length	34 ft. 2 in. (10.57 m)	26 ft. 2 in. (7.98 m)
Weight	85 lbs. (39 kg)	85 lbs. (39 kg)
Nominal Thickness	80 mils (2,032 microns)	145 mils (3,683 microns)
Net Coverage	100 sq. ft. (9.29 m ²)	75 sq. ft. (6.97 m ²)
Packaging	25 rolls/pallet	25 rolls/pallet

For specific application recommendations, please contact your local Garland Representative or Garland Technical Service Department.

Installation of this product with hot asphalt may result in exposure to hazardous chemicals. For specific details, refer to DHHS (NIOSH) Publication No. 2003-107 titled "Reducing Roofers' Exposure to Asphalt Fumes" as well as OSHA standard 1910.134 for further exposure precautions.

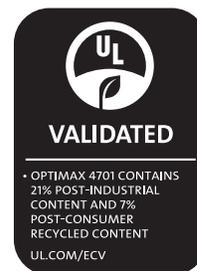


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Tests verified by independent laboratories. Actual roof performance specifications will vary depending on test speed and temperature. Data reflects samples randomly collected. ± 10% variation may be experienced. The above data supersedes all previously published information. Consult your local Garland Representative or the home office for more information.

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