

Reinforced EPDM Membranes



Overview

WeatherBond RBR Reinforced 45-mil (1.14 mm), 60-mil (1.52 mm) and 75-mil (1.9 mm) thick roofing membranes are polyester reinforced Ethylene Propylene Diene Terpolymer (EPDM) based elastomeric homogenous roof coverings. These roofing membranes may be used for new single-ply roof construction and re-roofing applications. Membranes are available in widths of up to 10' (3 m) and lengths of up to 200' (60 m). These membranes are Fire Retardant (FR) membranes that are specially formulated to inhibit spread of flame and meet or exceed code body testing criteria for fire-retardant roofing membranes.

Features and Benefits

- Industry-leading resistance to outdoor weathering with 35,320 kJ/m² total radiant exposure without cracking or crazing
- Pre-Applied Seam Tape Technology and full line of Peel & Stick flashing accessories greatly enhance workmanship quality by simplifying the contractors' job
- Dark-colored EPDM is the smart choice in colder climates:
 - Reduces heating costs, which are generally 5 times greater than air conditioning costs
 - Reduces carbon footprint by lowering heating costs
 - Reduces safety hazard from snow and ice accumulation
 - Reduces hazardous conditions from frost, dew or ice that is difficult to see on white membranes
 - Reduces potential condensation problems
- Lifecycle Assessment using EPA's TRACI model analyzed EPDM, TPO, PVC and Modified-Bitumen
 - EPDM had the lowest Global Warming Potential
 - EPDM had the lowest Acid Rain impact
 - EPDM had the lowest contribution to smog

- Numerous studies and real-world experience confirm that EPDM's elongation and weathering resistance result in superior hail damage resistance; UL 2218 Class 4 Rating
- EPDM is the most dimensionally stable heat-resistant membrane and stays flexible even in extremely cold conditions
- Wide array of design choices that are UL and FM approved with standard or Low-VOC adhesives
- Internally reinforced sheets add puncture resistance and toughness
- WeatherBond manufactures all the major components of a typical roofing system including membrane, flashings, tapes, adhesives, sealants, insulations and insulating cover boards

WeatherBond Pre-Applied Seam Tape Technology

With WeatherBond's Pre-Applied Seam Tape technology, most of the labor to create seams between membrane panels is completed in a quality-controlled, state-of-the-art environment. This process results in a reliable seam with greater peel and shear strengths and with no entrapped air bubbles. Consistent placement of the Seam Tape also maximizes the splice area and results in a high-quality seam. WeatherBond Pre-Applied Seam Tape is available on all WeatherBond RBR Reinforced membranes up to 10' (3 m) in width, providing the fastest way to complete a seam in today's roofing market.

Reinforced EPDM

WeatherBond RBR Reinforced EPDM membranes have added thickness and a specialized reinforcement to generate higher resistance to puncture (as measured by ASTM D5635 and Federal Method 2031). The reinforcement more than doubles the puncture resistance compared to non-reinforced membranes. With its dual-ply construction that makes it resistant to cuts, tears and scuffs, reinforced EPDM is an extremely tough and durable roofing membrane, which is able to handle maintenance traffic and is backed by the industry's longest puncture warranty covering up to 32 labor hours per year to make repairs for accidental punctures.

Installation

WeatherBond RBR Reinforced 45-mil (1.14 mm), 60-mil (1.52 mm) and 75-mil (1.9 mm) thick reinforced EPDM membranes are utilized in mechanically attached and fully adhered roofing systems.

Reinforced EPDM Membranes

Mechanically Attached Systems: Insulation is mechanically attached to the roof deck and membrane is secured with seam fastening plates or bars and fasteners. To complete seams between two adjoining membrane panels, apply primer to the splice area in conjunction with WeatherBond's Pre-Applied Seam Tape. As an alternative, WeatherBond's hand-applied P&S (Peel & Stick) Seam Tape may be used.

Fully Adhered Roofing System: Insulation is mechanically attached or adhered to the roof deck. The substrate and membrane are coated with WeatherBond's EPDM Bonding Adhesive. The membrane is then rolled into place and broomed down. To complete seams between two adjoining membrane panels, apply primer to the splice area in conjunction with WeatherBond's Pre-Applied Seam Tape. As an alternative, WeatherBond's hand-applied P&S Seam Tape may be used.

For cold weather splicing below 40°F (5°C), these steps must be followed:

- Heat the primed area of the bottom membrane with a hot-air gun as the top sheet with Pre-Applied Seam Tape is applied and pressed into place.
- Prior to rolling the splice area with a 2"-wide steel hand roller, apply heat to the top side of the membrane with a hot-air gun. The heated surface should be hot to the touch. Be careful not to burn or blister the membrane.

REVIEW CURRENT WEATHERBOND INSTALLATION INSTRUCTIONS FOR SPECIFIC INSTALLATION REQUIREMENTS.

Precautions

1. Use proper stacking procedures to ensure sufficient stability of the materials.
2. Exercise caution when walking on a wet membrane. Membranes are slippery when wet.
3. Membranes with Pre-Applied Tape should not be exposed to prolonged jobsite storage temperatures in excess of 90°F (32°C), otherwise the shelf life of the Pre-Applied Tape may be affected.
4. When membranes with Pre-Applied Tape are used, shade the tape end of the rolls until ready to use in warm, sunny weather.

LEED® Information

Pre-consumer Recycled Content	0%
Post-consumer Recycled Content	0%
Manufacturing Location(s)	Carlisle, PA
Solar Reflective Index	9

Typical Properties and Characteristics

Property	Test Method	SPEC. (Pass)	Typical
Tolerance on nominal thickness, %	ASTM D751	± 10	± 10
Thickness over scrim, min, in. (mm)	ASTM D4637 Annex	0.015 (0.381)	0.016 (0.406) 0.020 (0.508) 0.032 (0.81)
Weight, lbs/ft² (kg/m²)			0.27 (1.3) 0.39 (1.9) 0.48 (2.3)
Breaking strength, min, lbf (N)	ASTM D751 Grab Method	90 (400)	140 (623) 177 (787)
Elongation, Ultimate, min, %	ASTM D412 (Die C)	250**	480** 500**
Tearing Strength, min, lbf (N)	ASTM D715 B Tongue Tear	10 (45)	70 (311) 70 (311)
Brittleness Point, max, °F (°C)*	ASTM D2137	-49 (-45)	-49 (-45)
Resistance to Heat Aging* Properties after 4 weeks @ 240°F (116°C)	ASTM D573		
Breaking strength, min, lbf (N)	ASTM D751	80 (355)	182 (823)
Elongation, Ultimate, min, %	ASTM D412 Die C	200**	250**
Linear Dimensional Change, max, %	ASTM D1204	±1.0	-1.0
Ozone Resistance* Condition after exposure to 100 pphm Ozone in air for 168 hours @ 104°F (40°C) Specimen wrapped around 3 in. mandrel	ASTM D1149	No Cracks	No Cracks
Resistance to Water Absorption* After 7 days immersion @ 158°F (70°C) Change in mass, max, %	ASTM D471	+8, -2**	5.5**
Factory Seam Strength, min	ASTM D816 Modified	Membrane Rupture	Membrane Rupture
Fungi Resistance	ASTM G1	0 (No Growth)	0 (no Growth)
Resistance to Outdoor (Ultraviolet) Weathering* Xenon-Arc, total radiant exposure at 0.70 W/m² irradiance, 80°C black panel temp.	ASTM D4537 Conditions	No Cracks No Cracking 7,560 kJ/m² 3,000 hrs	No Cracks No Cracking 35,320 kJ/m² 14,000 hrs
At 0.35 W/m² irradiance, 80°C black panel temperature		6,000 hrs	28,000 hrs

* Not a Quality Control Test due to the time required for the test or the complexity of the test. However, all tests are run on a statistical basis to ensure overall long-term performance of the sheeting.

** Specimens to be prepared from coating rubber compound, vulcanized in a similar method to the reinforced product.

Note: WeatherBond RBR Reinforced EPDM membrane meets or exceeds the minimum requirements set forth by ASTM D4637 for Type II reinforced EPDM single-ply roofing membranes.

Typical properties and characteristics are based on samples tested and are not guaranteed for all samples of this product. This data and information is intended as a guide and does not reflect the specification range for any particular property of this product.

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