WeatherBond **EPDM**

White Membranes

Overview

WeatherBond's White EPDM membrane is a 60-mil (1.52 mm) or 90-mil (2.28 mm) non-reinforced EPDM-based elastomeric homogenous roof membrane. This roofing membrane may be used for new single-ply roof construction and re-roofing applications. WeatherBond White 60-mil EPDM membranes are available in widths of up to 20' (6 m) and lengths of up to 100' (30 m). WeatherBond White 90-mil EPDM membranes are available in widths of up to 10' (3 m) and lengths of up to 100' (30 m). WeatherBond White EPDM membrane meets cool roof standards for initial and aged solar reflectance and thermal emittance.

Features and Benefits

- WeatherBond White EPDM has 35 years of proven performance
- Industry-leading resistance to outdoor weathering with 25,200 kJ/m^2 total radiant exposure without cracking or crazing
- Pre-Applied Seam Tape and Peel & Stick flashing accessories greatly enhance workmanship quality
- White EPDM helps reduce air conditioning costs in warmer climates
  - Be advised that a heating penalty may outweigh the cooling benefit in central and northern climates
- 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 WeatherBond White EPDM's 540% 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 down to -40°F (see Flexibility/Torsion DMA data.)
- Extruded manufacturing technology results in seamless 10' wide sheets
- Zero fungi growth in ASTM G21 test
- WeatherBond manufactures all the major components of a typical roofing system including membrane, flashings, tapes, adhesives, sealants, insulations and insulating cover boards

WeatherBond's Pre-Applied Seam Tape Technology

With WeatherBond's patented 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 no entrapped air bubbles. Consistent placement of the seam tape also maximizes the splice area resulting in a high-quality seam.

Installation

WeatherBond White EPDM membrane is primarily utilized in Fully Adhered Roofing Systems.

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

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Precautions

1. Recommend using non-folded 10' or 16.5' sheets in cold weather to avoid wrinkles.
2. Sunglasses that filter out ultraviolet light are strongly recommended as the white surface intensifies sunlight through reflection.
3. White surfaces reflect heat and may become slippery due to frost and ice build-up. Exercise extreme caution during cold conditions to prevent falls.
4. Use caution when working close to a roof edge when surrounding area is snow covered as roof edge may not be clearly visible.
5. Use proper stacking procedures to ensure sufficient stability of the materials.
6. Exercise caution when walking on wet membrane. Membranes are slippery when wet.
7. Membranes with Pre-Applied Seam Tape should not be exposed to prolonged jobsite storage temperatures in excess of 90°F (32°C), otherwise the shelf life of the Peel & Stick Tape may be affected.
8. When WeatherBond White EPDM Membrane with Pre-Applied Seam Tape is used, shade the tape end of the rolls until ready to use in warm, sunny weather.
9. Shelf life for Pre-Applied Tape is 1-year.

Radiative Properties for Cool Roof Rating Council (CRRC) & LEED®

Property	Test Method	EPDM
CRRC initial solar reflectance	ASTM C1549	0.79
CRRC solar reflectance after 3 years	ASTM C1549 (uncleaned)	0.71
CRRC initial thermal emittance	ASTM C1371	0.86
CRRC thermal emittance after 3 years	ASTM C1371 (uncleaned)	0.89
LEED thermal emittance	ASTM E408	0.91
SRI (Solar Reflectance Index)	ASTM E1980 (initial) 3 year aged	98 87

LEED® Information

Pre-consumer Recycled Content	0%
Post-consumer Recycled Content	0%
Manufacturing Location	Carlisle, PA
Solar Reflective Index	98
Corporate Sustainability Report	Yes

Typical Properties and Characteristics

Property	Test Method	SPEC. (Pass)	Typical
Tolerance on nominal thickness, %	ASTM D412	± 10	± 10
Weight, lbm/ft2 (kg/m2) 60-mil 90-mil			 0.37 (1.8) 0.60 (2.9)
Tensile Strength, min, psi (Mpa)	ASTM D412	1305 (9)	1465 (10.1)
Air Permeance	ASTM E2178	(0.02 L/s*m^2)	Pass
Elongation, Ultimate, min, %	ASTM D412	300	540
Tear Strength, min, lbf/in (kN/m)	ASTM D624 (Die C)	150 (26.3)	187 (32.7)
Factory Seam Strength, min	Modified ASTM D816	Membrane Rupture	Membrane Rupture
Resistance to Heat Aging* Properties after 1 week @ 240°F (116°C) Tensile Strength, min, psi (Mpa) Elongation, Ultimate, min, % Tear Strength, min, lbf/in (kN/m) Linear Dimensional Change, max, %	ASTM D573 ASTM D412 ASTM D412 ASTM D624 ASTM D1204	 1205 (8.3) 200 125 (21.9) ± 1.0	 1345 (9.3) 280 185 (32.4) -0.2
Ozone Resistance* Condition after exposure to 100 pphm Ozone in air for 168 hours @ 104°F (40°C) Specimen is at 50% strain	ASTM D1149	No Cracks	No Cracks
Brittleness Temp., max, °F (°C)*	ASTM D746	-49 (-45)	-67 (-55)
Resistance to Water Absorption* After 7 days immersion @ 158°F (70°C) Change in mass, max, %	ASTM D471	+8, -2	+3.3
Fungi Resistance	ASTM G21	N/A	0 (No Growth)
Flexibility/Torsion DMA	ASTM D5279-08	N/A	55 MPa @ -40°F
Water vapor Permeance* Max, perms	ASTM E 96 (Proc. B or BW)	0.10	0.02
Resistance to Outdoor (Ultraviolet) Weathering* Xenon-Arc, total radiant exposure at 0.70 W/m^2 irradiance, 80°C black panel temperature	ASTM G155	No Cracks No Crazing 7,560 kJ/m^2 3,000 hrs	No Cracks No Crazing 25,200 kJ/m^2 10,000 hrs
At 0.35 W/m^2 irradiance, 80°C black panel temperature		6,000 hrs	20,000 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.

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.

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

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Single-Ply Simplified

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