

# FleeceBACK® RL™ EPDM

## RapidLock Membranes



### Overview

Carlisle's Sure-Seal® and Sure-White® RapidLock (RL) Roofing System is a revolutionary method of membrane attachment resulting in a fully adhered membrane without the use of adhesives. This innovative system utilizes VELCRO® Brand Securable Solutions along with FleeceBACK RL EPDM to achieve performance equal to traditional adhered single-ply systems. FleeceBACK RL EPDM is used in conjunction with an approved RapidLock insulation board resulting in a VOC- and odor-free attachment method having no temperature restrictions. Significant labor savings are achieved due to the simplicity of the system and ease of installation.

FleeceBACK RL EPDM membranes are manufactured using a patented hot-melt adhesive technology to bond Carlisle's RapidLock fleece backing to the EPDM sheeting. FleeceBACK RL EPDM membranes are available in total sheet thicknesses of 115 and 145 mil and are manufactured with 3" or 6" Factory Applied Tape™ to ensure consistent, quality seams. Carlisle's FleeceBACK RL EPDM is tough, durable, and versatile making it ideal for re-roofing or new construction projects.

### Features and Benefits

- » FleeceBACK RL EPDM membrane assemblies are UL Class A rated
- » Choice of Sure-Seal (Black) or Sure-White EPDM membranes
- » Fleece reinforcement adds toughness, durability, and enhanced puncture resistance
  - Better puncture resistance than modified bitumen
- » 67% fewer seams than modified bitumen systems when 10' FleeceBACK sheets are used
- » Factory-Applied Tape provides consistent seam quality and enhances productivity
- » Excellent hail damage resistance
- » No temperature restrictions – see reverse side for precautions and limitations
- » Adhesive-less system saves time and labor
- » Wind uplift ratings comparable to traditional fully adhered single-ply systems
- » No VOCs
- » No odor
- » Maximum 30-year warranty

### Productivity Boosting Features and Benefits:

- » Up to 80% rooftop labor savings over traditional bonding adhesives
- » Eliminates rolling and flash-off times
- » Up to 25% rooftop labor savings over low-rise urethanes
- » Eliminates equipment and string-time
- » Reduces jobsite cleanup by eliminating buckets and drums



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### Installation

#### RapidLock Roofing System

Insulation Attachment (Mechanically Fastened) – RapidLock insulation is mechanically fastened to the roof deck per Carlisle's specification.

Insulation Attachment (Adhered) – RapidLock insulation is adhered with Flexible FAST™ Adhesive to the roof deck. When adhering insulation with Flexible FAST, the adhesive is spray-applied or extruded onto the substrate and allowed to rise and foam. Once the adhesive develops string/body/gel (approximately 2 minutes depending on climate), place insulation into the adhesive and walk board into place. Roll the insulation with 150-pound segmented weighted roller to ensure full embedment.

Membrane Attachment – Prior to membrane placement, the surface of the RapidLock insulation must be cleaned of dust and other foreign matter using a fine push broom or a blower.

#### Option 1

1. Remove the RapidLock fleece release film on one half of the sheet starting from the split in the liner at the middle of the sheet. The liner should be removed at an angle to reduce splitting or tearing.
2. Roll the membrane onto the substrate at an angle while avoiding wrinkles. When applying Carlisle's FleeceBACK RL EPDM membrane, it is recommended to maintain a large curve (radius) on the leading edge of the membrane. This will help eliminate creases and bubbles that cannot be removed after the sheet is in place.
3. Broom the sheet and then roll the membrane in place starting using a 150-lb roller from the middle of the 10'-wide sheet and working towards the outer edge.
4. Fold back the remaining half of the sheet and repeat the above process.

#### Option 2

1. Pull both release liners off simultaneously from underneath the membrane at a low angle similar to removing the release film from splice tape.
2. Broom the sheet and then roll the membrane in place starting using a 150-lb roller from the middle of the 10'-wide sheet and working towards the outer edge.

To complete seams between two adjoining membrane panels, apply primer to the splice area in conjunction with Carlisle's Factory-Applied Tape.

Strip-in end laps with 6" Pressure-Sensitive Overlayment Strip or Pressure-Sensitive Cured Cover Strip.

*Review Carlisle specifications and details for complete installation information.*

### Splicing

1. Roller-apply HP-250 Primer or Low-VOC EPDM Primer to the splice area of the bottom sheet with a short-nap-length paint roller. The primed area will be free of globs and puddles. Allow primer to dry until it does not transfer to a dry finger.
2. Allow the taped edge of the top sheet to fall freely onto the primed sheet below.
3. Pull the poly backing from the Factory-Applied Tape beneath the top sheet and allow the top sheet to fall freely onto the exposed primed surface.
4. Press top sheet onto bottom sheet using firm, even hand pressure across the splice and toward the splice edge.
5. Immediately roll the splice with a 2"-wide (50 mm) steel roller or Carlisle's Stand-Up Seam Roller, using positive pressure. Roll across the splice edge when using a 2" roller, not parallel to it. When using the Stand-Up Seam Roller, roll parallel to direction of the splice.
6. For cold-weather splicing below 40°F (4°C), these steps must be followed:
  - Heat the primed area of the bottom membrane with a hot-air gun as the top sheet with Factory-Applied 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.
7. Install Pressure-Sensitive Elastoform Flashing® or Pressure-Sensitive T-Joint Covers over all field splice intersections. Apply Lap Sealant according to appropriate detail.

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### Precautions

- » Use proper stacking procedures to ensure sufficient stability
- » UV-resistant sunglasses are required when working with Sure-White membranes
- » Care must be exercised when working close to a roof edge when the surrounding area is snow-covered.
- » FleeceBACK RL EPDM membrane rolls must be tarped and elevated to keep dry prior to installation. If the fleece gets wet, use a wet vac system to help remove moisture from the fleece. **Do not install membrane if fleece is wet.**
- » Prolonged jobsite storage at temperatures in excess of 90°F (32°C) may affect product shelf life.
- » In warm, sunny weather, shade the tape end of the rolls until ready to use.
- » RapidLock fleece and insulation engagement is permanent once paired. Do not pull RapidLock fleece from the insulation once engaged.
- » **RapidLock fleece cannot be used with 2-part urethane adhesives (Flexible FAST, OlyBond).**
- » RapidLock release film is recyclable but restricted to local regulations. For recycling information, check with your local municipality.

### LEED® Information

Pre-consumer Recycled Content	5%
Post-consumer Recycled Content	0%
Manufacturing Location	Carlisle, PA
Solar Reflectance Index (SRI)	0-1

### Typical Properties and Characteristics

Physical Property	Test Method	SPEC (PASS)	Sure-Seal®	Sure-White®
<b>Tolerance on Nominal Thickness, %</b>	ASTM D751	±10	±10	±10
<b>Thickness Over Fleece, min</b> 115-mil (2.92 mm) 145-mil	ASTM D4637 Annex	.045 (1.14) .080 (2.03)	.060 (1.52) .090 (2.28)	.060 (1.52) .090 (2.28)
<b>Weight, lbm/ft<sup>2</sup> (kg/m<sup>2</sup>)</b> 115-mil 145-mil	—	—	0.38 (1.9) 0.59 (2.4)	0.42 (2.1) 0.63 (3.1)
<b>Breaking Strength, min, lbf (N)</b> 115-mil 145-mil	ASTM D751 Grab Method	90 (400)	200 (890) 263 (1170)	
<b>Elongation, Ultimate, min, %</b>	ASTM D412	300**	480**	480**
<b>Tearing Strength, min, lbf (N)</b> 115-mil 145-mil	ASTM D751 B Tongue Tear	10 (45)	45 (200) 60 (266)	45 (200)
<b>Puncture Resistance, Joules</b> 115-mil 145-mil	ASTM D5635	—	20 35	25
<b>Puncture Resistance, lbf</b> 115-mil 145-mil	FTM 101C Method 2031	—	338 355	325
<b>Puncture Resistance, lbf</b> 115-mil 145-mil	ASTM D120	—	22 28	19
<b>Hail Resistance</b> 115-mil	UL 2218 Over Iso HP Rec. Bd. Gypsum Bd. Ball at 20'	Class 4 Rating 2" Steel	Pass	Pass
<b>Brittleness point, max, °F (°C)</b>	ASTM D2137	-49 (-45)	-67 (-55)	-67 (-55)
<b>Resistance to Heat Aging*</b> Properties after 4 weeks @ 240°F (116°C) for Sure-Seal, 1 week @ 240°F (116°C) for Sure-White®	ASTM D573			
<b>Breaking Strength, min, lbf (N)</b> Elongation, Ultimate, min, % Linear Dimensional Change, max, %	ASTM D751 ASTM D412 ASTM D1204	80 (355) 200** ±1.0	200 (890) 225** -0.7	200 (890) 250** -0.7
<b>Ozone Resistance*</b> Condition after exposure to 100 pphm Ozone in air for 168 hours @ 104°F (40°C). Specimen wrapped around 3-inch (7.5 cm) mandrel	ASTM D1149	No cracks	No cracks	No cracks
<b>Resistance to Water Absorption*</b> After 7 days immersion @ 158°F (70°C). Change in mass, max, %	ASTM D471	+8, -2**	+2.0**	+3.6**
<b>Resistance to Outdoor (Ultraviolet) Weathering*</b> Xenon-Arc, total radiant exposure at 0.70 W/m <sup>2</sup> irradiance, 80°C black panel temp.	ASTM G155 ASTM D4637 Conditions	No cracks No crazing 7,560 kJ/m <sup>2</sup> 3,000 hrs	No cracks No crazing 41,580 kJ/m <sup>2</sup> 16,500 hrs	No cracks No crazing 25,200 kJ/m <sup>2</sup> 10,000 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.

Sure-Seal and Sure-White FleeceBACK RL EPDM membranes meet or exceed the minimum requirements set forth by ASTM D4637 for Type III fabric-backed 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.