CARLISLE SYNTEC SYSTEMS

Sure-Seal® EPDM
SAT™ Non-Reinforced Membrane

Overview

Carlisle's Sure-Seal EPDM SAT (Self-Adhering Technology) Non-Reinforced Membrane offers excellent weatherability and hail resistance, provides significant labor savings, and qualifies as a Low-VOC option with no solvent-related odors. Sure-Seal SAT is a nominal 60-mil non-reinforced EPDM membrane laminated to a 100%-solid pressure-sensitive adhesive and is available in 10' x 100' (3m x 30m) rolls. The release liner is silicon-coated on one side for consistent release from the adhesive.

Sure-Seal SAT membrane is formulated with fire retardants to inhibit the spread of flame and meets or exceeds UL Class A requirements.

Features and Benefits

- Carlisle EPDM has over 50 years of proven performance
- Industry-leading resistance to outdoor weathering
- 3" Factory-Applied Tape™ Seam Technology and full line of Pressure-Sensitive accessories enhance workmanship quality
- Dark-colored EPDM is the smart choice in colder climates
  - Reduces heating costs, which are generally 3 to 5 times greater than air conditioning costs
  - Reduces carbon footprint by lowering heating costs
  - Reduces safety hazards from snow and ice accumulation
  - Reduces hazardous conditions from frost, dew, or ice that are difficult to see on white membranes
  - Reduces potential for condensation problems
- Life Cycle 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 confirm that EPDM's elongation and weathering resistance result in superior hail damage resistance
- EPDM is the most dimensionally stable, heat-resistant membrane and stays flexible even in very cold temperatures
- Extruded manufacturing technology produces seamless sheets that are UL-Approved
- Eligible for up to 20-year warranties

Productivity Boosting Features and Benefits:

- Up to 80% productivity increase compared to traditional bonding adhesive
- Eliminates loading, stirring, application and disposal of bonding adhesive
- Pre-cleaned sheet allows roller application of the primer
- Factory-Applied Tape saves time on the seaming process

Carlisle's Factory-Applied Tape Seam Technology

With Carlisle's patented Factory-Applied Tape seam 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 reliable seams with greater peel and shear strengths and with no entrapped air bubbles. Consistent placement of the Factory-Applied Tape also maximizes the splice area and results in a high-quality seam.

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Installation

Sure-Seal SAT membrane is approved for application to DensDeck® Prime, SECUROCK®, SecurShield® HD, SecurShield HD Plus, SecurShield, InsulBase® Polyiso Insulation and clean concrete. Cover boards or insulation is adhered or mechanically attached to the roof deck with SecurFast™ or AccuTrac® Insulation Fastening Plates. Acceptable wall substrates include standard plywood, OSB, masonry block, and brick. **Walls must be primed with CAV-GRIP III or bonding adhesive and allowed to flash-off.**

Sure-Seal SAT membrane may only be installed when the ambient temperature is 40°F (4°C) and rising.

The surface to which the membrane will be applied must be very clean and dry. Prior to membrane placement, the surface of the insulation or underlayment board must be cleaned of dust and other foreign matter using a fine push broom or blower. **Unroll membrane and allow to relax for 30 minutes. The membrane temperature must be 50°F (10°C) or higher prior to installing.**

Option 1

1. Remove the release liner 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. Pull the membrane onto the substrate at an angle, avoiding wrinkles. When installing Sure-Seal SAT 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 membrane in place, starting from the middle of the 10'-wide sheet and working toward the outer edge.
4. Fold back the remaining half of the sheet and repeat the above process.

Option 2 (preferred method in cooler conditions)

1. Pull both release liners off simultaneously from underneath the membrane at a low angle, similarly to removing the release film from splice tape.
2. Push a broom lengthwise down the middle of the sheet to tack it in place. Continue brooming to push air out from the middle of the sheet towards the edges.

After brooming, roll the membrane with a segmented roller to ensure full contact with the substrate. Roller must weigh at least 50 lbs. (22 kg) per linear foot.

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 per detail SAT-2. See details SAT-12A, C or D for perimeter securement options.

Review Carlisle specifications and details for complete installation information.

Precautions

- Use proper stacking procedures to avoid point loading and to keep rolls above the water line.
- Exercise caution when walking on a wet membrane. Membranes are slippery when wet.
- Membranes with Factory-Applied Tape should not be exposed to prolonged jobsite storage temperatures in excess of 90°F (32°C), otherwise the shelf life of the tape may be affected.
- When membranes with Factory-Applied Tape are used in warm, sunny weather, shade the tape end of the rolls until ready to use.
- Factory-Applied Tape has a shelf life of 1 year.
- **Walls must be primed with CAV-GRIP III or bonding adhesive.**
- **SAT membrane must be allowed to relax and expand reaching a temperature of 50°F (10°C) or above prior to installing.**

LEED® Information	
Pre-consumer Recycled Content	5%
Post-consumer Recycled Content	0%
Manufacturing Location	Carlisle PA
Solar Reflectance Index	9

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Typical Properties and Characteristics

Physical Property	Test Method	SPEC. (PASS)
Tolerance on Nominal Thickness, %	ASTM D412	±10
Weight, lbs/ft² (kg/m²) 60-mil		0.41 (2.00 Kg/m²)
Tensile Strength, min, psi (MPa)	ASTM D412	1305 (9)
Elongation, Ultimate, min, %	ASTM D412	300
Tear Strength, min, lbf/in (kN/m)	ASTM D624 (Die C)	150 (26.3)
Factory Seam Strength, min	Modified ASTM D816	Membrane Rupture
Resistance to Heat Aging* Properties after 28 days @ 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
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
Brittleness Temp., max, °F (°C)*	ASTM D746	-49 (-45)
Resistance to Water Absorption* After 7 days immersion @ 158°F (70°C) Change in mass, max, %	ASTM D471	+8, -2
Water Vapor Permeance* Max, perms	ASTM E 96 (Proc. B or BW)	0.10
Resistance to Outdoor (Ultraviolet) Weathering* Xenon-Arc, total radiant exposure at 0.70 W/m² irradiance, 80°C black panel temperature	ASTM G155	No Cracks No Crazing 7,560 kJ/m² 3,000 hrs
At 0.35 W/m² irradiance, 80°C black panel temperature		6,000 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: Sure-Seal SAT 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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