WeatherBond **PVC**

FRS Membrane

Overview

WeatherBond FRS PVC is an advanced-formula, heat-weldable PVC membrane used exclusively in fully adhered applications that utilize liquid-applied bonding adhesives. Designed to provide long-term weatherability and performance, thick PVC-based top and bottom plies encapsulate the membrane's internal fiberglass reinforcement, enhancing dimensional stability. The membrane's smooth surface facilitates a permanent weld for a consistent, watertight, monolithic roof assembly. All FRS PVC membranes are manufactured to exceed minimum thickness specifications.

Features and Benefits

- Manufactured to exceed minimum thickness specifications
- Available in white, gray, and tan in a variety of thickness
- Excellent chemical resistance
- Exceptional head weldability and low-temperature flexibility
- Resistant to impact, punctures, UV, ozone and oxidation
- Simple installation process
- Reflective FRS PVC can help reduce cooling and air conditioning costs

Installation

With minimal labor and few components required, WeatherBond FRS PVC is quick and easy to install.

Fully Adhered Roofing System

The fully adhered system starts with a suitable surface upon which the Low-VOC Bonding or Aqua Base 120 Bonding Adhesive will be adhesive.

HydroBond Water-Based PVC Bonding Adhesive

Refer to HydroBond Technical Data Bulletin for detailed information. HydroBond water-based, one-sided, wet lay-in adhesive is first applied with a medium nap roller to the approved substrate. Once the adhesive is applied, roll the membrane in place. Applying the adhesive 3'–4' at a time ahead of the roll is recommended to prevent drying of the adhesive. Immediately broom the membrane, starting from the center of the sheet and working out to the sides of the sheet, using a soft-bristle push broom to work out any air bubbles. Immediately after brooming, roll the adhered membrane in two directions in a crossways pattern using a 100-lb (45 kg) split steel membrane roller.

Low-VOC PVC Bonding Adhesive

Refer to Low-VOC PVC Bonding Adhesive Technical Data Bulletin for detailed information. Roll the membrane onto the adhesive-coated substrate while avoiding wrinkles. Immediately brush down the bonded portion of the sheet with a soft-bristle push broom or a clean dry roller applicator to achieve maximum contact.

REVIEW CURRENT WEATHERBOND INSTALLATION INSTRUCTIONS FOR SPECIFIC INSTALLATION REQUIREMENTS.

Precautions

1. Sunglasses that filter out ultraviolet light are strongly recommended since the white surface is highly reflective to sunlight. White surfaces reflect heat and light. Roofing technicians should dress appropriately and wear sunscreen to protect skin from the sun.
2. Smooth surfaces become slippery due to frost and ice build up. Exercise caution during cold conditions to prevent falls.
3. Care must be exercised when working close to a roof edge when surrounding area is snow-covered as the roof edge may not be clearly visible.
4. Use proper stacking procedures to ensure sufficient stability of the materials.
5. Exercise caution when walking on wet membrane. Membranes may be slippery when wet.
6. Store WeatherBond FRS PVC membrane in the original undisturbed plastic wrap in a cool, shaded area and cover with light-colored, breathable, waterproof tarpaulins. FRS PVC membrane that has been exposed to the weather or contaminated with dirt must be prepared with PVC Membrane Cleaner prior to hot-air welding.

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Supplemental Approvals, Statements and Characteristics

1. WeatherBond FRS PVC membrane meets or exceeds the requirements of ASTM D4434 Standard Specification for Poly (Vinyl Chloride) Sheet Roofing. WeatherBond FRS PVC is classified as type II as defined by ASTM D4434.
2. WeatherBond FRS PVC membrane was tested for dynamic puncture resistance per ASTM D5635 using the most recently modified impact head. 50-mil membrane was watertight after an impact energy of 10.0 J (14.75 ft-lbf) which passes the ASTM D4434 requirement.
3. WeatherBond FRS PVC membrane was tested for static puncture resistance per ASTM D5602 and exceeded 33 lbf (145 N) which passes the ASTM D4434 requirement.

Radiative Properties for ENERGY STAR®*, Cool Roof Rating Council (CRRC) & LEED®

Radiative Property	Test Method	White PVC	Tan PVC	Gray PVC
ENERGY STAR - E-903 Initial Solar Reflectance	Solar Spectrum Reflectometer	0.86	0.73	0.59
ENERGY STAR - E-903 Solar Reflectance after 3 years	Solar Spectrum Reflectometer (uncleaned)	0.63	Pending	Pending
CRRC - Initial Solar Reflectance	ASTM C1549	0.86	0.72	0.59
CRRC - Solar Reflectance after 3 years	ASTM C1549 (uncleaned)	0.63	0.60*	0.49*
CRRC - Initial Thermal Emittance	ASTM C1371	0.89	0.87	0.89
CRRC - Thermal Emittance after 3 years	ASTM C1371 (uncleaned)	0.87	0.86*	0.86*
Solar Reflective Index (SRI) Initial SRI	ASTM E1980	108	88	70
Solar Reflective Index (SRI) SRI after 3 years	ASTM E1980	75	71*	56*

*Rapid Results

LEED Information

Pre-consumer Recycled Content	10%
Post-consumer Recycled Content	0%
Manufacturing Location	Hillside, NJ
Solar Reflectance Index (SRI)	White: 108, Tan: 89, Gray: 69

Typical Properties and Characteristics

Physical Property	ASTM D4434 Requirement	60-mil Minimum	80-mil Minimum
Thickness over scrim, in. (mm) ASTM D7635	0.016 (0.40) minimum	0.034 (0.86)	0.040 (1.02)
Weight, lbs/ft^2 (kg/m^2)	No Requirement	0.44 (2.15)	0.54 (2.63)
Breaking Strength lbf/in (kN/m), MD x CD, ASTM D751 Proc A	55 (10) minimum	80 x 85 (14 x 15)	80 x 85 (14 x 15)
Elongation at break percentage, MD x CD, ASTM D751 Proc A	250 x 220 minimum	310 x 250	380 x 290
Tear Resistance lbf (N), MD x CD, ASTM D1004	10 (45) minimum	20 x 20 (88 x 88)	25 x 25 (111 x 111)
Low Temperature Bend, no cracks 5x at -40°C, ASTM D2136	-40°C	PASS	PASS
Linear Dimensional Change, percentage ASTM D1204, 6 hours at 176°F	0.1 maximum	PASS	PASS
Ozone Resistance, no cracks 7x, ASTM D1149, 168 hours at 100pphm	PASS	PASS	PASS
Water Absorption Resistance, mass percentage, ASTM D570, 166 hours at 158°F water	± 3.0 maximum	PASS	PASS
Puncture Resistance – Dynamic, J (ft-lbf), ASTM D5602	10 (7.4)	PASS	PASS
Puncture Resistance – Static, lbf (N), ASTM D5602	33 (145)	PASS	PASS
Xenon-Arc Resistance, no cracks/crazing 10x, ASTM G155, 0.35 W/m^2 at 340-nm & 63°C B.P.T. 12,600 kJ/m^2 total radiant exposure 10,000 hours	PASS	PASS	PASS
Properties After Heat Aging ASTM D3045, 56 days at 176°F Breaking strength, percent retained Elongation, percent reatined	90 min.	PASS	PASS

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Single-Ply Simplified

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