

# WeatherBond PVC

## FRS Membrane (All material minimum thickness)

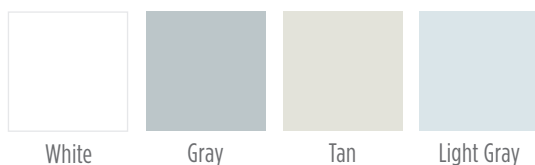


### Overview

WeatherBond's 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
- Exceptional fire and chemical resistance
- Fully formulated monolithic top-ply for long-term weatherability
- Meets or exceeds the requirements of ASTM D4434 Type II requirements
- Antimicrobials throughout the polymer for increased resistance to mold, mildew, and algae growth
- Highly flexible with wide window of weldability for ease of installation
- Available colors:



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Single-Ply Simplified



### Sustainable Attributes

WeatherBond Roofing Systems' focus has always been innovation – Innovation to solve problems, improve performance, reduce labor, and above all, improve sustainability. WeatherBond is committed to driving sustainable and efficient processes in the design and manufacturing of our products.

- PVC polymer derived from less than 50% fossil fuels
- Up to 10% pre-consumer recycled content
- 3<sup>rd</sup>-party verified Environmental Product Declaration available
- California Title 24 compliant\*
- See Radiative Properties and LEED® Information tables below for additional attributes

\*White only.

### Installation

Installation requires minimal labor and few components, making it quick and easy to install. Sheet seams are heat-welded together using hot-air welding equipment to create a monolithic, water-tight roof system.

WeatherBond PVC is suitable for the following roof systems:

**Fully-Adhered** – membrane is adhered to a suitable substrate utilizing an appropriate bonding adhesive

REVIEW CURRENT WEATHERBOND INSTALLATION INSTRUCTIONS FOR SPECIFIC INSTALLATION REQUIREMENTS.

### Precautions

- Sunglasses that filter out ultraviolet light are strongly recommended when working on reflective membranes. Roofing technicians should dress appropriately and wear sunscreen.
- Exercise caution when walking on wet membranes; membranes may be slippery when wet or due to frost and ice buildup.
- Care must be exercised while working close to a roof edge when the surrounding area is snow-covered, as the roof edge may not be clearly visible.
- Use proper stacking procedures to ensure sufficient stability of the materials.
- Store membrane in its original, undisturbed plastic wrap in a cool, shaded area and cover with light-colored, breathable, waterproof tarpaulins.
- Membrane that has been exposed to the weather or contaminated with dirt must be prepared with WeatherBond's PVC/KEE HP Membrane Cleaner prior to hot-air welding.

## Supplemental Approvals, Statements and Characteristics

- WeatherBond FRS PVC membrane meets or exceeds the requirements of ASTM D4434 Standard Specification for Poly (Vinyl Chloride) Sheet Roofing. WeatherBond FRS PVC membrane is classified as type II as defined by ASTM D4434.
- WeatherBond FRS PVC membrane was tested for dynamic puncture resistance per ASTM D5635 using the most recently modified impact head. 60-mil membrane was watertight after an impact energy of 10.0 J (14.75 ft-lbf) which passes the ASTM D4434 requirement.
- 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.
- UL 2218 Class 4 Rating for impact resistance

## Radiative Properties for Cool Roof Rating Council (CRRC) and LEED

| Physical Property                              | Test Method            | White PVC | Tan PVC | Gray PVC | Lt Gray PVC |
|--|------------------------|-----------|---------|----------|-------------|
| CRRC - Initial Solar Reflectance               | ASTM C1549             | 0.87      | 0.72    | 0.59     | 0.74        |
| CRRC - Solar Reflectance after 3 years         | ASTM C1549 (uncleaned) | 0.70      | 0.56    | 0.49     | 0.59        |
| CRRC - Initial Thermal Emittance               | ASTM C1371             | 0.89      | 0.87    | 0.89     | 0.88        |
| CRRC - Thermal Emittance after 3 years         | ASTM C1371 (uncleaned) | 0.88      | 0.87    | 0.89     | 0.89        |
| Solar Reflective Index (SRI) Initial           | ASTM E1980             | 110       | 89      | 70       | 91          |
| Solar Reflective Index (SRI) SRI after 3 years | ASTM E1980             | 86        | 65      | 57       | 70          |

## LEED Information

|  |  |
|--|--|
| Pre-consumer Recycled Content          | Up to 10%  |
| Post-consumer Recycled Content         | 0%   |
| Manufacturing Location                 | Greenville, IL   |
| Solar Reflectance Index (SRI), Initial | White: 110, Tan: 88, Gray: 70, Light Gray: 91, Slate Gray: N/A |

## Typical Properties and Characteristics

| Physical Property  | ASTM D4434 Requirement | 60-mil Minimum        | 80-mil Minimum        |
|--|------------------------|-----------------------|-----------------------|
| <b>Thickness over scrim</b> , in. (mm) ASTM D7635  | 0.016 (0.40) minimum   | 0.034 (0.86)          | 0.040 (1.02)          |
| <b>Weight</b> , lbs/ft <sup>2</sup> (kg/m <sup>2</sup> )   | No Requirement         | 0.44 (2.15)           | 0.54 (2.63)           |
| <b>Breaking Strength</b> lbf/in (N), MD x CD, ASTM D751 Proc B   | 55 (245) minimum       | 118 x 114 (525 x 507) | 159 x 150 (707 x 667) |
| <b>Elongation at break percentage</b> , MD x CD, ASTM D751 Proc B  | 250 x 220 minimum      | 276 x 220             | 301 x 277             |
| <b>Tear Resistance</b> lbf (N), MD x CD, ASTM D1004  | 10 (45) minimum        | 21 x 24 (93 x 107)    | 34 x 33 (151 x 147)   |
| <b>Low Temperature Bend</b> , no cracks 5x at -40°C, ASTM D2136  | -40°C                  | PASS                  | PASS                  |
| <b>Linear Dimensional Change</b> , percentage ASTM D1204, 6 hours at 176°F   | 0.1 maximum            | 0.05 x 0.05           | 0.06 x 0.05           |
| <b>Ozone Resistance</b> , no cracks 7x, ASTM D1149, 168 hours at 100pphm   | PASS                   | PASS                  | PASS                  |
| <b>Water Absorption Resistance</b> , mass percentage, ASTM D570, 166 hours at 158°F water  | ± 3.0 maximum          | PASS                  | PASS                  |
| <b>Puncture Resistance – Dynamic</b> , J (ft-lbf), ASTM D5635  | 10 (7.4)               | PASS                  | PASS                  |
| <b>Puncture Resistance – Static</b> , lbf (Kg), ASTM D5602   | 33 (15)                | PASS                  | PASS                  |
| <b>Xenon-Arc Resistance</b> , no cracks/crazing 10x, ASTM G155, 0.35 W/m <sup>2</sup> at 340-nm & 63°C B.P.T. 12,600 kJ/m <sup>2</sup> total radiant exposure 10,000 hours | PASS                   | PASS                  | PASS                  |
| <b>Retention of Properties after Heat Aging</b> , ASTM D3045, Tensile Strength ASTM D638, Elongation percent of original   | 90 min. 90 min.        | PASS                  | PASS                  |
| <b>Seam Strength</b> , percent of original   | 75 min.                | PASS                  | PASS                  |

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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