

PremiR+™ 40

Spray Polyurethane Foam

Overview

PremiR+ 40 is a sprayed-in-place, nominal 40 psi compressive strength, rigid, HFO-blown, closed-cell spray polyurethane foam (SPF) roofing system. This two-component SPF consists of PremiR+ 40 B Component resin and Carlisle A Component. PremiR+ 40 provides an R-value of 6.7 per inch and a continuous insulation without thermal breaks. PremiR+ 40 SPF roofing systems provide excellent wind uplift resistance, are self-flashing and seamless, and the closed-cell nature provides a durable, leak-resistant roofing system.

Intended Uses

PremiR+ 40 SPF roofing systems can be used in most retrofit and new construction roofing applications. This SPF insulation can also be used for exterior tank and vessel insulation applications. It is used as a roofing system in conjunction with roof coatings from Carlisle Roof Foam and Coatings (CRFC). This product is intended for use by qualified contractors trained in the processing and application of SPF.

Features and Benefits

- Closed-cell SPF provides a fully adhered, monolithic, sustainable air barrier and thermal insulation
- Lightweight
- Superior yield reduces cost and amount of material required
- Enhances wind uplift resistance
- Yields a smooth surface, reducing the need for extra coating
- Excellent adhesion to most surfaces
- Self-flashing, seamless application
- HFO-blown low global warming potential (LGWP)



Installation

1. SPF roofing systems should be processed through commercially available spray equipment designed for that purpose by a qualified professional applicator. It is the responsibility of the professional applicator to thoroughly understand all equipment technical information and safe operating procedures that pertain to SPF.
2. All surfaces to be sprayed with PremiR+ 40 should be clean, dry, and free of all dirt and contaminants. All metal to which the SPF is applied must be free of oils, grease, etc.
3. Prior to application of the PremiR+ 40, the substrate should be between 45° – 120°F (7° – 49°C). Service temperatures for any surface to be sprayed with SPF should not exceed 180° – 200°F (82° – 93°C). Moisture in the form of rain, fog, frost, dew, or high humidity (>85%R.H.) will adversely affect the SPF formation and physical properties of the finished product. Wind velocities of excess of 15 mph may affect the foam surface texture, cure, and physical properties, as well as cause possible overspray problems.
4. A and B Component Preheater temperatures should be set according to ambient temperature and substrate conditions. A typical starting range is 125°–130°F (51° –54°C); hose heat should be set to maintain these temperatures. Set the dynamic fluid pressure at 1,000 to 1,200 psi. Mixing ratio through the Proportioner is 1:1 by volume. 2:1 Transfer Pumps are recommended to provide positive feedback from the material to the Proportioner. These are recommended initial settings and may vary based on specific conditions.
5. Each “pass” or layer of the SPF should be at least 0.5 inches (13 mm) and no more than 1.5 inches (38 mm) thick. Allow at least 10 minutes between each pass for cure and cooling. Multiple layers can be applied to reach the desired thickness and insulation value, as well as to facilitate positive drainage.
6. The finished surface of the PremiR+ 40 must be protected from the adverse effects of sunlight (UV), which can cause discoloration and degradation. The protective coating or covering should be applied over the SPF the same day as application, or within 24 hours. A variety of protective coatings designed for use with PremiR+ 40 are available from CRFC.

Review Carlisle Roof Foam and Coatings' specifications and details for complete installation information. Please contact CRFC for more information.

Reactivities

| PremiR+ 40 Reactivities | Recommended Ambient Temp Range |
|---------------------------|--------------------------------|
| PremiR+ 40 VS (Very Slow) | 100° – 125°F (38° – 52°C) |
| PremiR+ 40 S (Slow) | 85° – 110°F (29.5° – 43°C) |
| PremiR+ 40 R (Regular) | 65° – 90°F (18° – 32°C) |
| PremiR+ 40 F (Fast) | 50° – 75°F (10° – 24°C) |
| PremiR+ 40 VF (Very Fast) | 40° – 55°F (4.5° – 13°) |

Precautions

- PremiR+ 40 is not designed for interior insulation applications.
- In addition to reading and understanding the A and B Component Safety Data Sheet (SDS), all applicators must use appropriate respiratory protection as well as Personal Protective Equipment (PPE) when handling and processing polyurethane chemical systems.
- Large masses of SPF should be removed to outside safe area, cut into smaller pieces, and allowed to cool before discarding to prevent heat buildup and potential fire hazard.
- SPF is combustible. Heat sources such as welding, cutting, or roofing torches must not be used in contact with or in close proximity to PremiR+ 40 or any SPF.
- Protect A and B Components from moisture contamination.
- Application should not take place within 5°F (3°C) of the dew point.

Typical Physical Properties

| Property | Test Method | PremiR+ 40 |
|---------------------------------|-------------|-----------------------------|
| Compressive Strength | ASTM D1621 | 40 – 45 psi |
| Tensile Strength | ASTM D1623 | 55 – 65 psi |
| Thermal Resistance (R-Value) | ASTM C518 | 0.148 k (6.7 per inch) |
| Dimensional Stability | ASTM D2126 | <4% |
| Water Absorption | ASTM C2842 | 0.6% |
| Closed-Cell Content | ASTM D6226 | 94% |
| Core Density | ASTM D1622 | 2.4 – 2.6 lbs. / cu. ft. |
| Surface Burning Characteristics | ASTM E84 | 20 FSI |

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.

Liquid Properties and Characteristics

| | |
|------------|--|
| Packaging | A Component is packaged at 551 lbs. per 55-gallon drum B Component is packaged at 500 lbs. per 55-gallon drum |
| Shelf life | 12 months for A Component when stored in original unopened containers in dry area between 40°F (4.5°C) and 80°F (26.7°C) 6 months for B Component |

Ratings and Approvals

| |
|---|
| Meets ASTM C1029 – Type III Standard criteria |
| UL 790 – R26705 Listings |
| UL 790 – R26705 Certified for Canada |
| CA BEARHFTI Listed |
| Meets IBC/IRC requirements for Foam Plastic Roofing Systems |

LEED® Information

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|--------------------------------|------------------|
| Pre-Consumer Recycled Content | 1.3% |
| Post-Consumer Recycled Content | 3.35% |
| Manufacturing Location | Cartersville, GA |
| Rapidly Renewable Resources | 0.6% |

Shipping Information

| Container Size | Gross Weight | Class |
|---|--|-------|
| 55-gallon drum (208.2L) – 1,051 lbs. set A & B net | A Component – 591 lbs. (268 Kg) B Component – 540 lbs. (245 Kg) | 55 |
| D.O.T. Classification: Liquid Plastic Material - NOIBN | Protect from freezing (40°F/4.5°C) during shipping and storage. | |

