SMARTCARE PU FOAM INSULATOR 60–70 KG PER CUM

WATERPROOFING SOLUTION

(Polyol + Isocyanate) 2K spray applied seamless polyurethane foam system.

PRODUCT DESCRIPTION

SmartCare PU Foam Insulator is a two component system. SC PU Foam Insulator Polyol and SC PU Foam Insulator Isocyanate are used in combination to produce spray foam insulation in multi layers for roofing, wall & basements. It contains all the raw materials and auxiliaries necessary for the production of rigid polyurethane spray foam with a density of 60-70 Kg/m^3. It gives good thermal insulation.

KEY FEATURES

- **Excellent Substrate Bonding:** The product provides good bonding to all common building materials, including concrete, metal, and wood.
- **Self-Flashing and Seamless:** It is self-flashing and provides seamless protection across the entire roof surface, eliminating joints.
- **Efficient Work Completion:** The material is fast drying, which allows for project work to be completed in a significantly lesser amount of time.
- **Lightweight Properties:** The insulator is light weight, ensuring that no extra load is placed on the existing structures.
- **Rapid Surface Drying:** It features touch free drying in seconds, allowing for immediate progression of the application process.

PRODUCT BENEFITS

- Strong Adhesion
- Seamless Protection
- Fast Drying
- VOC Free

PACKAGING

200 Liter Steel Drums

TECHNICAL PROPERTIES

1. Typical Component Properties

Component Properties	SC PU Foam Insulator Polyol	SC PU Foam Insulator Isocyanate
Viscosity*@25°C (ASTM D 445)	800±200mPa.s	-
Density*@25°C (ASTM D 891)	1.14 ± 0.02 kg/L	-

*These values provide general information and are not part of product specification.

2. Component Properties (Limits)

Component Properties	Units Limits	
Smartcare PU Foam Insulator Polyol	Pbv	100 Pbv
Smartcare PU Foam Insulator Isocyanate	Pbv	100 Pbv

3. Typical Reaction Characteristics - Foaming data by the hand mixing method at 21°C

Component Properties	Typical Values
Cream time	7 ± 2 sec.
Tack Free time	18 ± 1 sec.
Free rise density	44 ± 1 kg/L

4. Typical Polymer Characteristics

Component Properties	Typical Values
Working ratio / Isocayanate	100/100 Pbc
Overall core density (ASTM D 1622)	60–70 kg/L
Closed cell content (DIN 52616)	>90
Initial thermal conductivity (ASTM C 518)	≥0.023W/Mk
Compressive strength (UNI 6350)	≥100KPa
Fire rating (DIN 4102)	B3

*These values are given only as a guide and must be verified in each individual case on finished parts manufactured under the processor's production condition.

All technical data stated in this Product Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control and different test methods.

APPLICATION AREAS

- Roof spraying application – Roofs made of Metal, Concrete, Wood etc.
- Works as a heat Insulation system
- Flooring & Wall Insulation
- Storage tank insulation
- Acts as an air Barrier – Low Air Permeance
- Acts as a moisture Barrier – Prevention of moisture penetration
- Also acts as a sound Barrier – Air seals to absorb sound of varying frequencies

APPLICATION METHOD

1. Pre Application:

Surface Preparation

The surface of application must be thoroughly prepared by mechanical means to remove all loose particles, laitance, etc.

Oil & grease, if any, must be de-greased with suitable solvents.

Any surface undulations, cracks, and crevices must be duly filled or repaired with polymer-modified cement sand mortar mixed with SC Repair Polymer.

Environmental consideration and substrate temperatures

Applicators must recognize and anticipate climatic conditions prior to application. Ambient air & substrate temperatures, moisture, & wind velocity are all critical determinants of product quality & selection of the appropriate reactivity formulation.

Variations in ambient air and substrate temperature will influence the chemical reaction of the two components, directly affecting the expansion rate, amount of rise, yield, adhesion, and the resultant physical properties.

To obtain optimum results, the PUF system should only be spray-applied to substrates when ambient air and surface temperatures fall within the range of 12°C and 45°C.

All substrates to be sprayed must be dry at the time of application.

Moisture in the form of rain, fog, frost, dew, or high humidity (> 85% RH) will react chemically with the mixed components, adversely affecting the polyurethane barrier formation, dimensional stability, and physical properties of the finished product.

Wind velocities in excess of 20 miles per hour may result in excessive loss of exotherm and interfere with the mixing efficiency, affecting foam surface, cure, & physical properties.

Environmental consideration and substrate temperatures

2:1 transfer pumps are recommended for material transfer from the container to the proportioner.

The plural component proportioner must be capable of supplying each component within ±2% of the desired 1:1 mixing ratio by volume.

Hose heaters should be set to deliver 50°C to 55°C materials to the spray gun. These settings will ensure thorough mixing in the spray gun mix chamber in typical applications.

Optimum hose pressure and temperature will vary with equipment type and condition, ambient and substrate conditions, and the specific application. It is the responsibility of the applicator to properly interpret equipment technical literature, particularly information that relates to the acceptable combinations of gun chamber size, proportioner output, and material pressures.

The relationship between proper chamber size and the capacity of the proportioner's pre-heater is critical.

Mechanical purge spray guns are recommended for the highest foam quality.

2. Application:

Step 1

Concrete Roof - Ensure all loose materials are removed from the concrete substrate, and the surface is clean and dry.

Metal Roof - The steel surface needs to be rust-free before application. Priming is not required on Galvanized steel.

Step 2

SC PU Foam Insulator is sprayed onto the prepared roof surface in two components (a polyol and an isocyanate) that, when mixed, expand their volume to form a seamless layer. Within minutes, this foam can be walked on and cures to 90 percent of its full strength in about four hours. It is better to apply in two or multiple layers to achieve the desired thickness. Because the polyurethane layer adheres to most surfaces, horizontal or vertical, it creates a fully-adhered, self-flashing, monolithic roof surface, with none of the critical failure points of most roof systems.

Step 3

PU Foam should not be left exposed and must be covered with any waterproofing coating system.

Step 4

Cement - Sand screed or M20 grade Cement concrete is required to protect the insulation foam from degradation. The screed must have the panel joints to take the movements & the joints to be sealed with SC UNYVERSEAL PU sealant.

PRODUCT LIMITATIONS

Not available

STORAGE CONDITIONS

Store in original tightly closed containers away from direct sunlight and excessive heat.

SHELF LIFE

The shelf life of SC PU Foam Insulator Polyol – 220 Kg is 6 months and SC PU Foam Insulator Isocyanate – 250 Kg has a shelf life of 9 months.

SAFETY PRECAUTIONS

- Always wear protective gloves, goggles, and clothing during mixing and application to prevent skin or eye irritation.
- Avoid direct contact with skin or eyes; in case of contact, wash the affected area with plenty of clean water.
- If inhaled, move the affected person to fresh air immediately and seek medical advice if discomfort persists.
- Ensure proper ventilation at the site of application to avoid inhalation of fumes.
- Keep away from heat, sparks, and open flames. Do not smoke during handling.

CERTIFICATIONS

SmartCare PU Foam Insulator complies with ASTM D 445, ASTM D 891, ASTM D 1622, ASTM C 518, DIN 52616, DIN 4102 and UNI 6350.

DISCLAIMER

The information provided in this Technical Data Sheet is based on laboratory tests, industry practices, and practical application experience. However, actual site conditions may vary and are beyond the manufacturer's control. Asian Paints makes no warranties, expressed or implied, and shall not be liable for any loss or damage resulting from improper usage, handling, or non-compliance with the recommended guidelines. Users are advised to test the product for suitability before full-scale application.