

Closed-Cell Roofing Foam System

For Professional Use Only

DESCRIPTION

Opticell 2.5 is a two component, closed-cell spray applied polyurethane foam system. Opticell 2.5 offers high yield, smooth aesthetics, and a broad application temperature window.

The Opticell 2.5 system is self-flashing and provides seamless protection by sealing cracks, crevices and holes while insulating decks from temperature extremes. Opticell 2.5 offers a high R-value and can reduce condensation when applied correctly, thus reducing the possibility of mold growth, enhancing energy efficiency, and lowering lifecycle costs by providing a low maintenance deck solution.

UNIQUE PROPERTIES

The Opticell 2.5 spray polyurethane foam system comprises an "A" component, which is a polymeric diisocyanate, and a "B" component, which is a combination of polyols, additives, and HFO blowing agent.

RECOMMENDED USES

- Roofing Systems
- Agricultural Applications
- Tank Insulation
- Air barrier Systems

As with any product, use of foam made with Opticell 2.5 system must be tested (including, but not limited to, field testing) in advance by the user to determine suitability.

TYPICAL PHYSICAL PROPERTIES*

Property	Test Method	Result
R Value (aged):	ASTM C-518	6.76 at 1 inch
Compressive Strength	ASTM D-1621	>40 psi (nominal)
Core Density:	ASTM D-1622	2.5 lbs./ft 3 (nominal)
Closed Cell Content:	ASTM D-2856	>90%
Tensile Strength:	ASTM D-1623	80 psi
Water Absorption	ASTM D-2842	2%
Moisture Vapor Transmission:	ASTM E-96	1.0 perm-in
Dimensional Stability:	ASTM D-2126	% Change in Volume
28 days @ 158°F 100% RH		9.4%
28 days @ 200°F / AMB		5.1%
Surface Burning Characteristics:	UL 723	Flame Spread Index <75

**These terms are provided as general information only. They are approximate values and are not part of the product specifications.*

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ENVIRONMENTAL CONSIDERATION AND SUBSTRATE TEMPERATURES

Applicators must recognize and anticipate climatic conditions prior to application to ensure the highest quality foam and to maximize yield. Ambient air and substrate temperatures, moisture, and wind velocity are all critical determinants of foam quality and 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 of the foam insulation. To obtain optimum results, the Opticell 2.5 system should only be spray-applied to substrates when ambient air and surface temperatures fall within the range of 45°F and 120°F. 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% R.H.), will react chemically with the mixed components, adversely affecting the polyurethane foam formation, dimensional stability and physical properties of the finished product. Wind velocities in excess of 12 miles per hour may result in excessive loss of exotherm and interfere with the mixing efficiency, affecting foam surface, cure and physical properties and will cause overspray. Precautions must be taken to prevent damage to adjacent areas from overspray.

Processing Parameters and Physical Characteristics

Pre-heater Temperature:	"A" 110-120°F "B" 120-130°F
Hose Temperature:	110-120°F
Pressures:	1000-1200 psi (dynamic)*
Mix Ratio Parts:	1 by 1 volume "A" to "B"
Viscosity at 70°F	700±100 cps "B: Component" 150-250 cps "A" Component
Shelf Life	6 months @ 65°F to 80°F

*Dependent upon hose length

Product Reactivity

Processing Designation	Surface Temperature
Winter	50-75°F
Regular	70-100°F
Summer	100-120°F

Note: Adhesion should not be tested within one hour of application.

STORAGE CONDITIONS

Store drums at 70°F to 80°F for a minimum of 48 hours before use. Materials in containers should be maintained at 65°F to 85°F while in use. Conditioned trailers or tanks may be necessary. Material temperature should be confirmed with a thermometer or an infrared gun. Do not configure equipment to recirculate Opticell 2.5 components from

proportioner back into drum. Do not recirculate or mix other suppliers' "A" or "B" component into Opticell 2.5 system containers.

CAUTION: If components are below suggested temperatures, the increased viscosity of the components may cause pump cavitation resulting in unacceptable SPF application. If components are above suggested temperatures, there may be loss of blowing agent resulting in diminished yield.

PROCESSING EQUIPMENT

2:1 transfer pumps are recommended for material transfer from container to 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 110°F to 125°F 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 (specifically direct impingement or DI type) are recommended for highest foam quality.

CAUTION: Extreme care must be taken when removing and reinstalling drum transfer pumps so as NOT to reverse the "A" and "B" components.

PER LIFT APPLICATIONS

Applicators should apply a minimum pass thickness of 3/4 inches, maximum pass thickness of 1 1/2 inches, with a minimum of 30 minutes between passes.

HEALTH AND SAFETY INFORMATION

Appropriate literature has been assembled which provides information concerning the health and safety precautions that must be observed when handling materials used to produce foam from the Opticell 2.5 system. Before working with this product, you must read and become familiar with the available information on its risks, proper use and handling. This cannot be overemphasized. Information is available in several forms, e.g., material safety data sheets and product labels.

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