



NATURAL-THERM[™] 2250 MARINE FOAM

Natural-Therm[™] 2250 is a two-component, zero ODP, low GWP blowing agent-based polyurethane foam system designed for marine applications that meets depth and buoyancy requirements while providing rigidity and strength. This product exceeds industry standards for resisting pressure and water penetration and can be applied by spray or pour methods. Natural-Therm[™] 2250 hardens into shape with minimal reduction, resists mold and mildew, and has required resilience and impact recovery.

Features

- Low GWP Blowing Agent
- Both Spray and Pour Formulations
- Excellent Processing Characteristics
- Consistent Density Distribution for Proper Flotation
- Lower Exothermic Reaction for Great Lift Thickness

Applications

- · General-purpose pour applications
- Buoys
- Boats, ships
- Submarine applications
- Docks
- Set design
- Water features
- Molding
- Floating devices

Packaging, Storage and Shelf Life

A Component: 55 U.S. Gallons, Closed-Top Steel Drum – 500 lb. net wt. B Component: 55 U.S. Gallons, Closed-Top Steel Drum – 475 lb. net wt.

Store containers between 50°F and 90°F. Containers should be opened carefully to allow any pressure buildup to be vented safely while wearing full safety protection. Excessive venting of the B Component may result in higher density foam and reduced yield.

Shelf Life: Excessive low or high temperatures may decrease shelf life. When stored in the original unopened container at $50^{\circ}F-90^{\circ}F$:

B Component is 6 months A Component is 12 months

Equipment

The proportioning equipment must be manufactured specifically for heating, mixing, and spray application of polyurethane foam and be able to maintain 1:1 metering with a +2% variance and adequate main heating capacity to deliver heated and pressurized materials up to 150°F.

Physical Properties

PROPERTY	TEST METHOD	VALUE
Viscosity @ 25°C, cps	A Component	200 cps
	B Component	300 cps
Specific Gravity @ 25°C, g/ml	A Component	1.24 g/ml
	B Component	1.16 g/ml
Core Density (lb./ft²)	ASTM D1622	Nominal 2.0 PCF
Compressive Strength ²	ASTM D1621	28 psi
Tensile Strength ²	ASTM D1623	28 psi
Initial k-Factor (BTU in/hr ft1 °F)	ASTM C518	0.140
Dimensional Stability		
158°F (Dry) 28-Day	ASTM D2126	1.70%
158°F (100% Humidity) 28-Day]	2.70%
Water Absorption lb/ft ¹ (% by volume)	ASTM D2842	0.122-0.155
Tumbling Friability (% loss)	ASTM C421	1.0-3.5%
Closed Cell Content	ASTM D6226	> 97.5%

1 R means the resistance to heat flow; the higher the value, the greater the insulation power. This insulation must be installed properly to get the marked R-value.
2 Value at value deflection which was converted for the second flow.

2 Value at yield or 10% deflection, whichever occurs first.

Safety and Handling

Exposure – Read and understand the Safety Data Sheet (SDS) for this product before use. Personnel must use appropriate respiratory, skin, and eye Personal Protective Equipment (PPE) when handling and applying polyurethane spray foam systems. Both Components A and B can cause severe inhalation and skin sensitization. For interior applications: full body protection required. A comprehensive review of SPF safety and handling can be found on the <u>CPI website</u>.

Fire — Polyurethane foam may present a fire hazard if exposed to fire or excessive heat (i.e., cutting torches). Polyurethane foam systems should not be left exposed and must be protected by a minimum 15-minute thermal barrier or other code-compliant material as prescribed by applicable building code(s). Proper authorities with jurisdiction over a particular area should always be consulted for additional or specific requirements prior to beginning any project.

Job Site Ventilation

During SPF application, a minimum of 10 ACH is recommended. Cross ventilation is required with negative pressure in the spray area and exhaust to a secured empty area. For more detailed information, please visit <u>American Chemistry Council</u>.

Temperature and Humidity

When choosing the specific reactivity of the Natural-Therm[™] 2250 Series for a particular application, climatic conditions must be anticipated. To ensure proper foam performance, all substrates to be sprayed must be dry (i.e., the application should not take place in high-moisture conditions, such as rain, fog, mist, frost, or high humidity, e.g., >85% RH). Under high wind conditions (>12 mph), problems with texture, cure, and overspray will likely be experienced. All polyurethane foams should be protected from direct prolonged contact from sunlight. To protect exposed foam surfaces from prolonged ultraviolet degradation and moisture attack, the application of a coating is required immediately after the foam has cured.

Surface Preparation

Natural-Therm[™] 2250 must be applied to surfaces that are clean and dry, and free of dirt, oil, solvent, grease, loose particulates, frost, ice, and other foreign matter that could inhibit adhesion.

SUBSTRATE	CONSIDERATIONS	PRIMING
Wood (OSB, Plywood, Lumber)	Moisture <18%	Not required unless porosity or moisture issues exist ¹
Concrete (CMU, Structural, Pour in Place)	28-day min. cure	Not required unless specified or adhesion testing supports ¹
Metal (Steel, Painted, Aluminum, ¹ Galvanized ¹)	Clean of oils, dry	May be required based on adhesion; Recommended for Al, Galvanized Surfaces ¹
Plastics (PVC, CPVC)	Compatible	Not required

1 SPFA-143 - Primers for Spray Polyurethane Foam Insulation and Roofing Systems.

Processing Guidance

	2250		
Ambient Temperature	60°F-80°F		
MACHINE SETTING TEMPERATURE			
A Component Pre-Heaters			
B Component Pre-Heaters	110°F-120°F		
Hoses			
Spray Pressure (Static)	900-1200 psi		
PROCESSING CHARACTERISTICS			
Cream Time (Seconds)	38-48 (Seconds)		
Tack-Free Time (Seconds)	120-130 (Seconds)		
Initial Cure Time	<1 Hour ¹		

1 Complete cure will depend on temperature, humidity, and degree of ventilation. Complete cure usually occurs within 24–72 hours.

Spraying

Natural-Therm[™] 2250 is designed to provide optimal yield when sprayed in 2-inch to 4-inch-thick passes. Excessive pass thickness above 4 inches can reduce physical properties and cause local overheating and possible fire. Additional thickness may be applied with a 5-to-10-second waiting period between lifts. Natural-Therm[™] 2250 will cool down fast, so you may spray multiple passes over the same lift. Yield and in-place density is dependent upon the temperature of the substrate, ambient air temperature, gun speed of application, gun tip size, and the output of the proportioner to provide maximum yield when sprayed in 4-inchthick passes.

Environmental and Sustainability

Owens Corning is a worldwide leader in building material systems, insulation, and composite solutions, delivering a broad range of high-quality products and services. Owens Corning is committed to driving sustainability by delivering solutions, transforming markets, and enhancing lives. More information can be found at www.owenscorning.com.

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The data presented here should only be used as a guide since the actual foam properties are influenced by the efficiency of the spray gun, component temperatures, foam thickness, and ambient conditions. Natural-Therm[™] 2250 should be sprayed in uniform passes of 2-inch to 4-inch thickness. While following the technical information is based on the results of actual tests conducted by Natural Polymers, it should only be used as a guideline for typical chemical and physical properties. The user must test and qualify the product. Final determination of suitability is the responsibility of the user.

Limited Warranty

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> For more information visit: www.owenscorning.com/naturalpolymers

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