

BAYSEAL[®] 2.7

Characterization

Bayseal 2.7 is a two-component, closed-cell spray-applied polyurethane foam (SPF) system.

Properties / Applications

Bayseal 2.7 SPF offers high compressive strengths, smooth aesthetics and a broad application temperature window. The Bayseal 2.7 system is self flashing and provides protection by helping to seal cracks, crevices and holes while insulating decks from temperature extremes.

The Bayseal 2.7 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 HFC-245fa blowing agent. As with any product, use of Bayseal 2.7 foam-forming system must be tested (including, but not limited to, field testing) in advance by the user to determine suitability.

Typical Physical Properties*

Properties	Test Method	Value
R Value (aged)	ASTM C-518	6.4 at 1 inch ^a 23.5 at 3.5 inch ^a
Compressive Strength:	ASTM D-1621	45 psi (nominal)
Core Density:	ASTM D-1622	2.7 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	
7 days at 158°F, 100% R.H.	% Change in Volume	< 5%
7 days at 200°F, 100% R.H.		< 5%
7 days at -20°F, 100% R.H.		< 5%
Surface Burning Characteristics**	UL 723	Flame Spread Index < 75

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

** These numerical flame spread values are not a true reflection on how this or any material will perform in actual fire conditions.

a The higher the R-value, the greater the insulating power. Ask your seller for the fact sheet on R-values.

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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 Bayseal 2.7 system components from proportioner back into drum. Do not recirculate or mix other suppliers 'A' or "B" component into Bayseal 2.7 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 the proportioner. The plural component proportioner must be capable of supplying each component within $\pm 2\%$ of the desired 1:1 mixing ratio by volume. Hose heaters should be set to deliver 125°F to 135°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.

Processing Parameters and Physical Characteristics

Pre-heater Temperature:	"A" and "B" 120-135°F
Hose Temperature:	"A" and "B" 120-135°F
Pressures:	1000-1500 psi (dynamic)*
Mix Ratio Parts:	1 to 1 by volume "A" to "B"
Viscosity at 70°F	500-650 cps "B" Component 150-250 cps "A" Component
Shelf Life	6 months at 65°F to 80°F

* Dependent upon hose length.

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Product Reactivity Processing Designation

Surface Temperature

Winter	45 - 65°F
Fall	55 - 80°F
Summer	Above 75°F

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

Environmental Consideration and Substrate Temperatures

Applicators must recognize and anticipate environmental conditions prior to application. Ambient air and substrate temperature, 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 Bayseal 2.7 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 any form: excessive humidity (>85%R.H.), rain, fog, or ice will react chemically and will adversely affect system performance and corresponding physical properties. Application should not take place when the ambient temperature is within 5°F of the dew point. Primers may be necessary dependent upon conditions; consult a Bayer MaterialScience LLC technical service representative.

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.

Per Lift Application

Applicators should apply a maximum pass thickness of 2 inches. Allow the surface temperature to cool to 100°F, or ambient temperature if higher than 100°F, between passes.

Additional Technical Reference

Construction Specification Institute Division 7 - Thermal and Moisture Protection

ICC-ES Evaluation Report ESR-1221



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Health and Safety Information

Appropriate literature has been assembled which provides information concerning the health and safety precautions that must be observed when handling this product. 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. For further information contact your Bayer MaterialScience representative or the Product Safety and Regulatory Affairs Department in Pittsburgh, PA.

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Product Datasheet