

BAYSEAL[®] 3.0

Characterization

Bayseal 3.0 is a two-component closed-cell spray-applied polyurethane foam (SPF) system.

Properties / Applications

Bayseal 3.0 SPF offers high compressive strengths, smooth aesthetics and a broad application temperature window. The Bayseal 3.0 system is self flashing and provides protection by helping to seal cracks, crevices and holes while insulating decks from temperature extremes.

The Bayseal 3.0 spray polyurethane foam system comprises an "A" component or aromatic diisocyanate and a blended "B" component which includes polyols, fire retarding materials, and 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.

Storage Conditions

Material should be stored from 50°F to 80°F (10°C to 27°C) in a dry and well-ventilated area. Storage outside this range can affect shelf life and material performance. The material will need to be conditioned to between 70°F and 80°F (21°C and 27°C) prior to use. It takes approximately 48 hours in a heated area to condition all the material in a drum to the correct temperature.

Material temperature should be confirmed with a thermometer or an infrared gun. Do not configure equipment to recirculate Bayseal 3.0 system components from proportioner back into drum. Do not recirculate or mix other suppliers' "B" component into Bayseal 3.0 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.

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Typical Physical Properties*

Properties*	Test Method	Value
Density	ASTM D-1622	3.0 lbs/ft ³ (Nominal)
Aged R-value ^b , 6 months	ASTM C-518	6.4 at 1 inch
		23.5 at 3.5 inch
Compressive Strength	ASTM D-1621	50 psi (Nominal)
Tensile Strength	ASTM D-1623	90 psi
Water Absorption	ASTM D-2842	< 2% by volume
Moisture Vapor Transmission:	ASTM E-96	1.0 perm-in
Dimensional Stability:	ASTM D-2126	
7 days at 158°F @ 100% R.H		<5%
7 days at 200°F @ 100% R.H		<5%
7 days at -20°F @ 100% R.H		<5%
Closed Cell Content	ASTM D-2856	> 90%
Surface Burning Characteristics ^a Flame Spread	UL 723	<75

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

** Prepared on a Graco H-40, 60-ft of hose using a GX7 with no. 1 mix module and 90 PCD, stream temperatures 120-125°F, pressure 1000 psi (dynamic).

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

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

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 120°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.

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Processing Parameters and Physical Characteristics

Pre-Heater Temperature:	"A" and "B" 120° - 135°F
Hose Temperature:	"A" and "B" 120° - 135°F
Pressures:	1,000 - 1,500 psi (dynamic)*
Mix Ratio Parts:	1 to 1 volume "A" to "B"
Viscosity at 75°F	500 - 650 cps "B" Component 150 - 250 cps "A" Component
Shelf Life	6 months @ 50°F to 80°F
Or With Measuring Capabilities at Gun:	
Material temperature at gun	"A" and "B" 100° - 120°F
Pressure at gun (w/in 15'	>800 psi

* Dependent upon hose length.

Product Reactivity Process Grade	Surface Temperature
Winter	45° - 65°F
Fall	55° - 80°F
Summer	Above 75°F

Environmental Consideration and Substrate Temperatures

Applicators must recognize and anticipate environmental conditions prior to application to ensure the highest quality foam and to maximize yield. 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, Bayseal 3.0 system should 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 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. Application should not take place within 5°F of the dew point. Primers may be necessary dependant on conditions.

Wind velocities in excess of 12 miles per hour may result in excessive loss of exotherm and interfere with the mixing efficiency of the spray gun affecting foam surface texture, cure, and physical properties and will cause overspray. Precautions must be taken to prevent damage to adjacent areas from overspray.

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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.

Handling Information

Applicators should ensure the safety of the jobsite and construction personnel by posting appropriate signs warning that all “hot work ” such as welding, soldering, and cutting with torches should not take place until a thermal barrier or approved equivalent is installed over any exposed polyurethane foam.

Additional Technical Reference

Construction Specification Institute Division 7 - Thermal and Moisture Protection

ICC- ES Evaluation Report ESR-1221

Bayseal Roofing Installation Guidelines

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., safety data sheets and product labels. For further information contact your Accella Polyurethane Systems representative.



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