



## BAYSEAL<sup>®</sup> CC

### Characterization

Bayseal CC/CC Polar is a spray-applied polyurethane foam (SPF) insulation.

### Properties / Applications

Bayseal CC/CC Polar spray-applied polyurethane foam insulation is a two component, Next Generation HFO, medium density, structural system designed for commercial, industrial and residential insulation applications.

The Bayseal CC/CC Polar foam-forming system is comprised of an "A" component (aromatic diisocyanate) and a blended "B" component which included polyols, fire retarding materials, and additives.

Bayseal CC/CC Polar foam-forming system is available in two grades for warm and cold weather applications: suggested ambient substrate temperatures are specified below.

Grade	Substrate/Ambient Temperature
Bayseal CC	50°F to 125°F
Bayseal CC Polar	15°F to 75°F

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## Typical Physical Properties\*

Properties	Test Method	Value
R Value (aged) <sup>a</sup> :	ASTM C-518	6.9 at 1 inch
		20 at 3 inches
		34 at 5 inches
Compressive Strength:	ASTM D-1621	26.1 psi (nominal)
Core Density:	ASTM D-1622	2.0 lbs./ft <sup>3</sup> (nominal)
Closed Cell Content:	ASTM D-2856	> 95%
Tensile Strength:	ASTM D-1623	70 psi (nominal)
Moisture Vapor Transmission (Permeance):	ASTM E-96	<1 Perms at 2"
Water Absorption:	ASTM D-2842	< 1%
Dimensional Stability: (158°F & 97% R.H.)	ASTM D-2126 % Change in Volume	< 10%
Air Leakage Rate:	ASTM E-2178	< 0.02 L/s•m <sup>2</sup>
Surface Burning Characteristics	ASTM E-84 4-inches	Flame Spread Index < 25
		Smoke Developed Index < 450

\* 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

Material should be stored from 70°F to 85°F (21°C to 29°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 CC/CC Polar system components from proportioner back into drum. Do not recirculate or mix other suppliers' "B" component into Bayseal CC/CC Polar 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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### 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 **105°F to 125°F for Bayseal CC** and **120°F to 140°F for Bayseal CC Polar** 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.

**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 Conditions

### Processing Parameters and Physical Characteristics

Pre-heater Temperature:	Bayseal CC: "A" and "B" 105-125°F Bayseal CC Polar: "A" and "B" 120-140°F
Hose Temperature:	Bayseal CC: "A" and "B" 105-125°F Bayseal CC Polar: "A" and "B" 120-140°F
Pressures:	1000-1500 psi (dynamic)*
Mix Ratio Parts:	1 to 1 by volume "A" to "B"
Viscosity at 75°F	400 - 500 cps "B" component
Shelf Life	6 months at 70°F to 85°F
<b>Or With Measuring Capabilities at Gun:</b>	
Material temperature at gun	"A" and "B" 100-130°F
Pressure at gun (w/in 15')	>800 psi

\* Dependent upon hose length.

### 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 CC/CC Polar system should only be spray-applied to substrates when ambient air and surface temperatures fall within the range of 15°F and 120°F. All substrates to be sprayed must be free of dirt, soil, grease, oil and moisture prior to 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 Bayseal 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.

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### 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.

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### Thermal Barrier

The International Building Code and International Residential Code requires that SPF be separated from the interior of a building by an approved fifteen (15) minute thermal barrier, such as 1/2" gypsum wall board or equivalent, installed per manufacturer's instructions and corresponding code requirements. The International Building Code allows for omission of the prescribed thermal barrier in certain instance, such as:

- attics and crawlspaces with limited access
- approval by way of diversified testing, such as room corner protocols

Local building codes may vary and must be consulted for applicability of thermal barrier exceptions.

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### Moisture Vapor Transmission (Permeance)

Bayseal CC/CC Polar has a Perm value of <1 Perm at two inches when tested per ASTM E-96. This value meets the definition of the International Residential Code for Class II Low Permeability Vapor Retarders.

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### Additional Technical Reference

Construction Specification Division 7 - Thermal and Moisture Protection  
ICC-ES Evaluation Report ESR 3999

Bayseal CC/CC Polar Spray Polyurethane Foam (SPF) Installation Guidelines

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

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Document contains important information and must be read in its entirety.

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