

Product Description

Bayseal™ OC open-cell spray applied polyurethane foam is a two component, low density, non-structural insulation system designed for commercial, residential and industrial applications

The low density nature of Bayseal OC allows for tremendous yield while still affording critical air sealing of the home, office space or classroom – resulting in better air quality and an increased comfort for building occupants

The Bayseal OC SPF system comprises of an "A" component or aromatic diisocyanate manufactured by Bayer MaterialScience and a blended "B" component which includes polyols, fire retarding materials, catalysts and a non-ozone depleting blowing agent.

Recommended Uses

- Walls
- Floors
- Ducts
- Unvented Attics
- Vented Attics
- Tanks
- Ceilings
- Piping

Environmental Consideration and Substrate Temperatures

Applicators must recognize and anticipate climatic conditions prior to application to ensure highest quality foam and to maximize yield. Ambient air and substrate temperatures, moisture, and wind velocity are all critical factors, extremes in ambient air and substrate temperature will influence the chemical reaction of the two components, directly affecting the yield, adhesion and the resultant physical properties of the foam insulation. To obtain optimum results, Bayseal OC should be spray-applied to substrates when ambient air and surface temperatures fall within a range of 45°F to 120°F. All substrates to be sprayed must be free of dirt, soil, grease, oil and moisture prior to the application of Bayseal OC. Moisture in any form: excessive humidity (>85%R.H.) rain, fog, or ice will react chemically will adversely affect system performance and corresponding physical properties. 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, physical properties, and will cause overspray. Precautions must be taken to prevent damage to adjacent areas from fugitive overspray.

Processing Parameters

Store at 65° to 85°F in a dry and well-ventilated area. Material in containers should be maintained at 80°F to 90°F while in use. Heated trailers, hotboxes, or heated tank storage may be necessary. Material temperature should be confirmed with a thermometer or an infrared gun if calibrated for drum material. Bayseal OC should be mixed once a day with a high-speed mixer for 30 to 45 minutes prior to application. Bayer MaterialScience recommends the use of a through-bung mixer equipped with three (3) sets of mixing blades: (2) six inch and (1) eight inch. To properly drive the mixer, 20 cfm of air is preferred. Using less air pressure may require extended mixing times. A thorough high-speed mix is an essential step in high quality foam production.

Do not recirculate or mix other suppliers' "A" or "B" component into Bayseal OC containers. 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 ± 2% of the desired 1:1 mixing ratio by volume.

Hose heaters should be set to deliver 125°F - 140°F materials to the spray gun. Proportioner dynamic pressures should be 1100-1500 psi range. These settings will ensure thorough mixing in the spray gun mix chamber in typical applications. Optimum hose pressure and temperature may vary as a function of the type of equipment, 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 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 over air purge guns for highest foam quality. Contact your local Bayer MaterialScience salesperson for specific recommendations, pricing, and availability of spray and auxiliary equipment.

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

Typical Physical Properties

Properties	Test Method	Value
Fungi Resistance:	ASTM G-21	Zero Rating
R Value (aged):	ASTM C-518	3.9 at 1 inch 13 at 3.5 inches 19 at 5.5 inches
Air Leakage Rate:	ASTM E-283	0.00 ± 0.01 (L/s)/m²
Sound Transmission Coefficient	ASTM E-90	51 (STC)
Noise Reduction Coefficient:	ASTM C-423	0.7 (NRC)
Oxygen Index:	ASTM D-2863	25
Compressive Strength:	ASTM D-1621	0.88 pcf
Apparent Density:	ASTM D-1622	0.5 pcf
Open Cell Content:	ASTM D-2856	>92%
Tensile Strength:	ASTM D-1623	3.2 psi
Shear Strength:	ASTM C-273	1.4 psi
Permeability:	ASTM E-96	20.587 perm-in

Processing Parameters & Physical Characteristics

Pre-heater Temperature:	"A" and "B" 125-140°F
Hose Temperature:	"A" and "B" 125-140°F
Pressures:	1100-1500 psi (dynamic)*
Mix Ratio/Parts:	1 to 1 by volume "A" to "B"
Viscosity at 75°F:	225 cps "B" Component
Shelf Life:	6 Months @ 65° - 85°F

Product Reactivity

Surface Temperature:	45-120°F
Cream Time:	1-3 seconds
Gel Time:	3-5 seconds
Tack Free Time:	5-7 seconds

Bayseal™ OC

Credentials/Certifications

Bayseal OC is a Class I formulation, as set forth under Underwriters Laboratories ASTM E-84 (UL 723, NFPA 255, UBC Standard 8-1).

Thermal Barrier

IRC and IBC codes require that SPF be separated from the interior of a building by a 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. There are exceptions to the thermal barrier requirement: (1) Code authorities may approve coverings based on fire tests specific to the SPF application. For example, covering systems that successfully pass large scale tests may be approved by code authorities in lieu of a thermal barrier; (2) SPF protected by 1" thick masonry does not need a thermal barrier. Certain materials that offer protection from ignition, called "ignition barriers," may not be considered as thermal barrier alternatives unless they comply with NFPA 286. Applicators should request test data and code body approvals or other written indications of acceptability under the code to be sure that the product selected offers code-compliant protection.

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 take place no less than 35 feet from any exposed foam. If "hot work" must be performed all spray polyurethane foam should be covered with an appropriate fire or welder's blanket, and a fire watch should be provided.

Vapor Retarder

Bayseal OC is intended for indoor applications, and is not a vapor retarder. It is vapor permeable and will allow some diffusion of moisture through the insulation. The following considerations are needed: (1) A vapor retarder needs to be considered in the design of the building envelope in cold climates, such as zones 6 and higher in the U.S., as defined in 2004 Supplement To The IRC, Table N1101.2; (2) A vapor retarder also needs to be considered where high interior humidity conditions exist; (3) When applying Bayseal OC in crawl spaces under living space, the underside of floor system may require the application of vapor retarder primer to prevent moisture diffusion into the flooring system. This is a concern when applying in warm, humid counties as defined in 2004 Supplement To The IRC, Table N1101.2.1; (4) The applicator should consider a vapor retarder in crawl space applications with hardwood floors, which may be damaged by moisture intrusion. Crawl space applications may require a thermal barrier between the foam and wood flooring, depending upon local codes. Where exposed rim joist applications are approved, vapor retarder criteria must be strictly adhered to for successful application. Refer to local codes and manufacturer's written specifications to ensure compliance.

Per Pass Application

Applicators should limit Bayseal OC thickness to 6" per pass for optimal processing and physical properties. Second passes if necessary should be applied after 10 minutes of cure time.

Handling and Safety

Respiratory protection is MANDATORY! Contact Bayer MaterialScience for a copy of the Model Respiratory Protection Program developed by API or visit their website at www.polyurethane.org.

Avoid contact with skin, eyes, and clothing. Open containers carefully, allowing any pressure to be relieved slowly and safely. Wear chemical safety goggles and rubber gloves when handling or working with these materials. In case of eye contact, immediately flush with large amounts of water for at least fifteen minutes, consult a physician immediately. In case of skin contact, wash area with soap and water. Wash clothes before reuse.

Fire Hazard

Fires involving either of these components may be extinguished with carbon dioxide, dry chemical, or inert gas. Application of large quantities of water spray is recommended for spill fires. Personnel fighting the fire must be equipped with NIOSH approved self-contained breathing apparatus.

Cleaning of Spills or Leakage

Cover the area with an inert absorbent material such as clay or vermiculite and transfer to metal waste containers. Saturate with water but do not seal the container with the isocyanates and water mixture. The area should then be flushed with large amounts of water, in the case of the "B" component, or a

Surface Burning Characteristics

ASTM Method E84 (UL 723)

	Class I
Flame Spread	≤25
Smoke Development	≤450
Nominal Thickness (Inches)	4.0

NOTE:

The flame spread rating is not intended to reflect hazards presented by this or any other material under actual fire conditions.

5% aqueous ammonia, in the case of the "A" component. Dispose of these materials in compliance with federal, state and local regulations.

Caution: Isocyanates will react with water and generate carbon dioxide. This could result in rupture of closed containers.

Disclaimer

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