

BioSeal™ 3.0 White – Part # BSL30-W SET

BioSeal™ 3.0 Black – Part # BSL30-B SET

DESCRIPTION: BioSeal™ 3.0 is a water-blown, closed cell, spray polyurethane foam sealant. It has a nominal density of 3.0 pounds per cubic foot. BioSeal 3.0 is ideal for use in agricultural and industrial applications.

When installed by an approved contractor, BioSeal expands to fill voids, crevices, and cavities, thereby reducing air and moisture flow. This high density polyurethane foam resists the harsh environments typically seen in industrial/agricultural applications. Available in white and black.

TYPICAL USES:

- Sealants for use in agricultural or industrial buildings
- Exterior and below-grade applications
- Tanks/silos
- Industrial duct work
- Soil stabilization
- Slab jacking

FEATURES & BENEFITS:

- Low VOC
- Adheres to and seals practically any sound surface
- Immediate bond
- Acts as a vapor retarder and air barrier
- Reduces condensation potential

CHEMICAL PROPERTIES:	Standard Test	Isocyanate (A)	Resin (B)
Specific Gravity (grams/cc)	ASTM D-792	1.23	1.18
Viscosity, CPS at 77°F (25°C)		180 – 240	750 – 850
Solids by Volume/Weight		100%	100%
Volatile Organic Compounds		0 lbs/gal	0 lbs/gal
Mix Ratio, Parts per Volume		1	1
Gel Time, Seconds at 77°F (25°C)		4 – 7	
Tack-free, Seconds		8 – 12	
Shelf Life - Unopened Containers		12 months	6 months
Base Color		brown	amber

TYPICAL PHYSICAL PROPERTIES:	Test	Result
Density, core (pcf)	ASTM D-1622	3.0 ± 0.2
Tensile Strength [psi]	ASTM D-1623	60 – 70
Compressive Strength [psi]	ASTM D-1621	40 – 45
Closed-Cell Content [%]	ASTM D-2856	>90%
Water Vapor Permeability* [perm]	1.5" (38 mm) ASTM E-96	<1 perm per inch
Air Permeability** [L/s/m² @ 75 Pa]	ASTM E-283	.003
Dimensional Stability [%] at 158 ± 4° F (70 ± 2° C) Ambient Humidity at 73 ± 4° F (23 ± 2° C) 50% Relative Humidity	ASTM D-2126	<12% change
Finished Foam Bio-Content	ASTM D-6866	16
Surface Burning Characteristics 2" Sample (102 mm)		
Fire Rating	ASTM E-84	non-rated
Flame Spread Index	ASTM E-84	non-rated
Smoke Development Index	ASTM E-84	non-rated
Thermal Transmission Properties	1" (25 mm) ASTM C-518	5.04
R-Value: Aged 90 days @ 140° F (60° C)		
ft² x °F x h/Btu (m² x K/W)		

PROCESS TEMPERATURE AND ENVIRONMENT CONDITIONS: The system settings required to achieve quality spray sealant application will vary depending on environmental and substrate conditions. The following recommended parameters will help ensure optimum sealant quality.

Iso (A) & Resin (B) Components	Hose	Static Pressure
120 – 140° F (49 – 60° C)	120 – 140° F (49 – 60° C)	1000 – 1400 psi (82.7 to 110 bar)

Substrate Surface	Substrate Moisture	Maximum Service Temperature
50 – 120° F (10 – 49° C)	Substrate must be dry, < 12% WMC	< 180° F (< 82.2° C)

PREPARATION: While prepping equipment, heating drums and re-circulating for spray foam application, agitate the 'B' component mildly using a pneumatic or equivalent performing mixer. Mild agitation may be necessary, not to exceed 4 hours per day.

Depth per pass of BioSeal 3.0 should be between ½" (12.7 mm) and 1½" (38 mm).

Thin passes (¼" [6.35 mm] or less) should be avoided and may result in reduced yield. Allow a 4 to 6 second time interval between passes to allow foam to cure and reduce the likelihood of blowing the reacting material away from the substrate. *It is important that applicators review and understand the training manual prior to use or application of BioSeal.*

APPLICATION INSTRUCTIONS: BioSeal must be installed by approved contractors who have successfully completed an approved training program or Rhino Linings approved field certification program which covers proper application techniques, environmental health and safety.

Enovate® 245fa blown foams followed by BioSeal water blown foam: When using BioSeal after an Enovate 245fa blown spray polyurethane foam it is necessary to flush the B-side lines with a non-water based solvent in order to achieve maximum foam quality and yield.

Water blown foams followed by BioSeal: Flushing the system with solvent may not be necessary when switching from one water blown foam system to the next, but it is imperative that any remaining product from the previous application is completely removed or flushed from applicator guns, B-side lines and pumping system by a through-put of BioSeal product until test sprays indicate that no mixed foam is present in the system.

When flushing or purging lines, never spray polyurethane foam into large, thick piles as the heat generated during the curing process can cause spontaneous combustion. Before adding additional foam, ensure that the core temperature is less than 150° F (66° C).

NOT RECOMMENDED FOR: This product is not intended for use in residential or commercial structures.

SUBSTRATES: Bonds to virtually all clean and dry substrate of any dimension

COLOR OPTIONS: Available in white and black

HOW SUPPLIED: Net weight per set is 960 pounds (435 kg). A set of BioSeal consists of one (1) 55 gallon (208 L) drum of 'A' component and one (1) 55 gallon (208 L) drum of 'B' component.

STORAGE: BioSeal should be stored between 60 – 90° F (15.6 – 32.2° C) out of direct sunlight.

SAFETY PRECAUTIONS: Refer to Material Safety Data Sheet (MSDS) prior to application of BioSeal. Storage temperatures for both 'A' and 'B' components should be between 60°F (15.6° C) and 90°F (32.2° C) out of direct sunlight. Conditioned trailers or storage areas may be necessary.

Use adequate ventilation to keep airborne particulates below the exposure level. Wear APR or SAR respiratory protection if material is heated, sprayed, or if the exposure limit is exceeded. Empty drums should be dry, punctured with a non-sparking tool and sent to a qualified drum recycler. Liquid product should be incinerated in a licensed facility in accordance with local, state, and federal regulations. Do not discharge to waterways or sewer systems or dispose of on the ground.

Health Considerations - Consult the Rhino Linings® Safety Data Sheets (SDS) This chemical system requires the use of proper safety equipment and procedures. Please follow the Rhino Linings® product SDS and Safety Manual for detailed information and handling guidelines.

For Your Protection: The information and recommendations in this publication are, to the best of our knowledge, reliable. Suggestions made concerning the products and their uses, applications, storage and handling are only the opinion of Rhino Linings Corporation. Users should conduct their own tests to determine the suitability of these products for their own particular purposes and of the storage and handling methods herein suggested. The toxicity and risk characteristics of products made by Rhino Linings Corporation will necessarily differ from the toxicity and risk characteristics developed when such products are used with other materials during a manufacturing process. The resulting risk characteristics should be determined and made known to ultimate end-users and processors.

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* ASHRAE defines a Class III vapor retarder as a material having between 1 and 10 perms.

** The International Residential Code defines air impermeable as having less than 0.02 L/m-s at 75 Pa.

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