



ENVELO-SEAL™ 0.5 OC CLI

ENVIRONMENTALLY FRIENDLY SPRAY FOAM

CLASS 1 FIRE RATED, ICC APPROVED

PRELIMINARY

DESCRIPTION

ENVELO-SEAL™ 0.5 OC is the “B” component of a two-component polyurethane foam insulation system processed at a 1:1 by volume. It has a 0.50 PCF spray in place density. ENVELO-SEAL™ 0.5 OC is a water blown hybrid foam insulation system. This product provides superior energy efficiency and air infiltration control. This product can be used in open wall cavities, crawlspaces, perimeter rim joists, cathedral ceilings, and garage ceilings. ENVELO-SEAL 0.5™ OC is designed as a high performance building envelope insulation system for both residential and commercial construction.

FEATURES

- Contains rapidly renewable resource components.
- Bio-based contents 5% (“B” side).
- Utilizes recycled plastic materials.
- No dangerous heavy metal catalysts (such as lead or mercury).
- No ozone depleting products (ODP).
- No bromine or other halogenated components.
- No formaldehyde components.
- Mildew, bacteria, and fungus resistant.
- Considered safe for burial and landfill disposal.
- Compliant with USDA/FDA requirements for incidental food contact.

RECOMMENDED USES

- Wall.
- Ducts.
- Vented attics.
- Ceilings.
- Floors.
- Unvented attics.
- Tanks.
- Piping.

IGNITION BARRIER

ENVELO-SEAL™ 0.5 OC CL1 is compliant with NFPA 286 Appendix X without a prescriptive ignition, thermal barrier or intumescent coating.

SURFACE BURNING CHARACTERISTICS

ASTM E84	Class I
Flame Spread	<15
Smoke Development	<300
Nominal Thickness (inches)	5.50

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

TYPICAL PHYSICAL PROPERTIES

R-Value (aged): ASTM C518	3.7 at 1 inch
Density: ASTM D1622	0.50 pcf @ 2 in
Sound Transmission Coefficient: ASTM E90 ASTM C423	39 75
Air Leakage: ASTM E283-91	0.00022 ft 3/s. ft ²
Thermal Resistance: ASTM C518	See Thermal Performance Chart
Open Cell Content: ASTM D6226	>92%
Dimensional Stability: ASTM D2126 at -20°F at 158°F, 100% RT at 158°F, dry	% volume change -0.1 -0.40 -0.20
Shelf Life: stored in original unopened containers between 50° - 80°F (10° - 27°C)	12 months

CONTAINER SIZES

This product is sold in standard 10 gallon, 30 gallon, and 100 gallon sets. Available in other container sizes, contact sales representative for further information. Non standard containers may require a longer lead time.

PROCESSING PARAMETERS

MATERIAL/HOSE TEMPERATURE:	"A" and "B" 80 - 100°F (27 - 38°C) ±5°
PRESSURES:	50 - 300 psi dynamic at gun
MIX RATIO PARTS:	1 to 1 by volume "A" to "B"
Viscosity at 70°F:	200 ±50 mPa.s "A" Component
	175 ±50 mPa.s "B" Component

REACTIVITY PROFILE @77°F (25°C)

Cream Time	3 sec.
Tack Free Time	7 sec.
Rise Time	7 sec.

THERMAL BARRIER

IRC and IBC codes require that SPF be separated from the interior of a building by a thermal barrier, which is applied over SPF to slow thermal rise, and delay its involvement in a fire. A building code definition of an approved thermal barrier is one that is equal in fire resistance to ½ inch gypsum board. Thermal barriers limit the temperature rise of the underlying SPF to not more than 250°F (121°C) after 15 minutes of fire exposure in compliance with ASTM-E119 (Test Methods for Fire Tests of Building Construction Materials). Thermal barriers meeting this criteria are termed a "15 minute thermal barrier" or classified as having an "index of 15". Specialty Products, Inc. recommends that an approved thermal barrier separate ENVELO-SEAL™ 0.5 OC CL1 foam from the building interior unless waived by a local building code official.

THERMAL PERFORMANCE

THICKNESS (")	R-VALUE (H-FT2-°)BTU	THICKNESS (")	R-VALUE (H-FT2-°)BTU
1.0	3.7	7.5	28
2.0	7.5	8.0	30
3.5	13	9.0	33
4.0	15	9.5	35
5.0	19	10.0	37
5.5	20	11.5	43
6.0	22	12.0	44
7.0	26		

PRODUCT APPLICATION

ENVELO-SEAL™ 0.5 OC CL1 is designed to be processed through a SPI LPG™ proportioner with a nucleator accessory kit.

ENVELO-SEAL™ 0.5 OC CL1 should be applied in 1" to 4" lifts. This procedure is in accordance with the manufacturer's recommendations.

ENVELO-SEAL™ 0.5 OC CL1 should only be applied to approved substrates recommended by the manufacturer. The product must be covered with an approved 15 minute thermal barrier equivalent to 1/2" Gypsum Wall Board or an approved ignition barrier.

To minimize lift off from the substrate, a tack (flash coat) pass onto the substrate is recommended, followed by another pass at your desired thickness. [Contact sales representative for further information.](#)

The data presented here should only be used as a guide since the actual foam properties are influenced by the efficiency of the spray gun, component temperatures, foam thickness, ambient conditions.

While the following technical information is based on results of actual tests, it should only be used as a guideline for typical chemical and physical properties. The user must test and qualify the product. Final determination of suitability is the responsibility of the user.

Store materials between 60° to 80°F (10 - 27°C) in a dry and well-ventilated area. Keep material from freezing. Liquid temperature in drums during application of product should be 80°F (27°C) minimum, 90°F (32°C) and 100°F (38°C) optimum. Heated trailers, hotboxes, or heated tank storage may be necessary. Material temperature should be confirmed with a thermometer or an infrared gun.

2:1 transfer pumps are recommended for material transfer from container to proportioner. The plural-component proportioner must be capable of supplying each component within ± 2% of the desired 1:1 mixing ration by volume. Hose heaters should be set to deliver 120° to 130°F material 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. Some equipment may require you to warm containers to achieve optimum material temperature. It is the responsibility of the applicator to properly interpret equipment technical literature, particularly information that relates to acceptable combinations of gun chamber size, proportioner output, and material pressures. The relationship between proper chamber size and 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.

FIRST AID

EMERGENCY FIRST AID PROCEDURES:

EYES: Causes eye irritation. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF eye irritation persists: Get medical advice/attention.

SKIN: Causes skin irritation and may cause allergic skin reaction/sensitization. IF ON SKIN: wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before use.

INHALATION: May be harmful IF INHALED. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

INGESTION: May be harmful if swallowed. IF SWALLOWED: Rinse mouth. Call a POISON CENTER or doctor/physician IF you feel unwell.

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 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.

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