SPI SPECIALTY PRODUCTS, INC.
SEAMLESS SOLUTIONS FOR OVER 40 YEARS

ENVELO-SEAL™ 0.5 OC CL1

ENVIRONMENTALLY FRIENDLY SPRAY FOAM
CLASS 1 FIRE RATED, ICC APPROVED
PRELIMINARY

DESCRIPTION

ENVELO-SEAL™ 0.5 OC CL1 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 CL1 is a water blown hybrid foam insulation system. This product provides superior energy efficiency and air infiltration control. The 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
- Floors
- Ducts
- Unvented Attics
- Vented Attics
- Tanks
- Ceilings
- Piping

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

Sound Transmission Coefficient: ASTM E90 ASTM E283	39 75	
Aged R-Value: ASTM C518 75°F (24°C)	3.7 at 1"	
Density: ASTM D1622	0.50 PCF at 2 inches	
Open Cell Content: ASTM D6226	>92%	
Fungi Resistance ASTM C1338	No fungi growth	
Bio Based Content ASTM D6866	26%	
Rate of Air Leakage: ASTM E283	0.00022 ft. 3/s. ft^2	
Dimensional Stability: ASTM D2126 (% volume change)	-20°F	-0.1
	158°F 100% R.T. Humidity	-0.40
	158°F Dry	-0.20
Shelf Life: stored in original unopened containers between 50° - 80°F (10° - 27°C)	12 months	

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

CONTAINER SIZES

This product sold in standard 100 gallon drum and 500 gallon tote sets. Available in other container sizes, contact sales representative for further information. Non-standard containers may require a longer lead time.

PROCESSING PARAMETERS & PHYSICAL CHARACTERISTICS

Pre-Heater/Hose Temperature:	"A" and "B" ± 125°F (52°C) ±5°
Pressures:	1100 - 1400 psi dynamic, at gun
Mix Ratio Parts:	1:1 by volume "A" to "B"
Substrate/Air Temperature:	17°F (-8°C) min 65°F (18°C) max
Thickness Per Lift:	1" - 5" lifts

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 proprotioner pre-heat is critical.

REACTIVITY PROFILE @ 75°F (24°C)

Cream Time	3.0 sec.
Rise Time	7 sec.
Tack Free 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 should be applied in 1" to 5" lifts. This procedure is in accordance with the manufacturer's recommendations.

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, and ambient conditions. The user must test and qualify the product. Final determination of suitability is the responsibility of the user.

IGNITION BARRIER

ENVELO-SEAL™ 0.5 OC CL1 is compliant with ICC-ES AC 377, Appendix X, for use in attics and crawlspaces without a prescriptive ignition, thermal barrier or intumescent coating.

FIRST AID

Safety Data Sheets are available for this coating material. Any individual who may come in contact with these products should read and understand the S.D.S. **CHEMTREC EMERGENCY NUMBER 1-800-424-9300**

WARNING: Contact with skin or inhalation of vapors may cause an allergic reaction. Causes eye damage/irritation. Avoid eye contact with liquid or spray mist. Hypersensitive persons should wear protective clothes, gloves and use protective cream on face, hands and other exposed areas.

CONTAMINATION: Avoid moisture contamination in containers. Containers should not be resealed if contamination is suspected, carbon dioxide created pressure can develop. Do not attempt to use contaminated material.

EYE PROTECTION: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield.

SKIN PROTECTION: Personal protective equipment for the body should be selected based on the task being performed;

the risks involved, and should be approved by an industrial hygiene specialist before handling this product. Chemical resistant gloves are recommended. Cover as much of the exposed skin area as possible with appropriate clothing.

RESPIRATORY PROTECTION: Respiratory protection is MANDATORY! The vapors must not exceed the TLV (0.02 parts per million). Harmful if inhaled and may cause allergy or asthma symptoms. Use a respirator approved for isocyanates and organic vapors. If you are not sure, or not able to monitor levels, or if you are spraying in an enclosed/ indoor area, use MSHA/NIOSH approved supplied air respirator. Consider the application and environmental concentrations when deciding if additional protective measures are necessary.

INGESTION: Do not take internally. It is believed that ingestion of polymeric isocyanates would not be fatal to humans, but may cause inflammation of mouth and stomach tissue.

FIRE HAZARD: Fires involving “A” or “B” 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 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.

SPECIALTY PRODUCTS, INC.

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24/7/365

TECH SUPPORT

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SPI Media

SSPC The Society For Protective Coatings

PDA

PMC POLYMAC-USA POLYURETHANE MACHINERY CORPORATION

GRACO

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