


**TECHNICAL DATA SHEET****HANDIFOAM® E84 CLASS 1(A) LOW PRESSURE SEALANT  
FOR USE IN CANADA****LOW PRESSURE POLYURETHANE FOAM INFORMATION**

<b>Description</b>	Low pressure, medium density, two-component spray polyurethane foam sealant
<b>SPF</b>	Spray Polyurethane Foam
<b>Applications</b>	Designed to fill and seal various size voids, deaden sound or reduce vibration. Conforms to the requirements of ASTM E84 as a Class 1 (A) at two inch thickness and CAN/ULC S102 as a Class 1 (A) as a two inch bead.
<b>Preparation for use</b>	Substrate must be clean, dry, firm, free of loose particles, and free of dust, grease and mold release agents. Protect surfaces not to be foamed. Read SDS, Operating Instructions, and Product Stewardship Guidelines. For additional information go to <a href="http://www.handifoam.com">www.handifoam.com</a>
<b>Use</b>	Condition chemical to 75-85°F (24-29°C). Follow instructions for set-up found in the operating instructions.
<b>PPE</b>	 <p>Recommend using only in a well-ventilated area with certified respiratory protection or a powered air purifying respirator (PAPR). Wear protective glasses with side shields or goggles, nitrile gloves, and clothing that protects against dermal exposure. Read all instructions and SDS (Section 8) prior to use of any product.</p>
<b>Note</b>	FOR PROFESSIONAL USE ONLY. Always check the local building code before use. Cured low pressure polyurethane foam is non-toxic and inert.
<b>Temperature</b>	Please see temperature guidelines
<b>Product Storage</b>	Store in a dry area. Do not expose the kits or cylinders to open flame or temperatures above 90°F (32°C). Excessive heat can cause premature aging of components resulting in a shorter shelf-life.
<b>Disposal</b>	Refer to SDS (Section 13) for instructions. Always dispose of empty cylinders in accordance to applicable federal, state, provincial and local regulations.
<b>Shelf-life</b>	12 months
<b>Compatibility</b>	Cured low pressure polyurethane foam is chemically inert and non-reactive in approved applications, and will not harm electrical wire insulations, extruded polystyrene foams, Romex®, rubber, PVC, polyethylene (i.e. PEX) or other plastics. The product is not resistant to UV rays; if left exposed the product should be coated or painted.

**TECHNICAL DATA****STANDARD****RESULTS**

<b>Density</b> Free Rise	ASTM D1622	1.75 lbs/ft <sup>3</sup> (28 kg/m <sup>3</sup> )
<b>Density</b> In-place		2.12 lbs/ft <sup>3</sup> (34 kg/m <sup>3</sup> )
<b>K-factor</b> - Initial	ASTM C518	0.139 BTU·inch/ft <sup>2</sup> ·h·°F
Aged 90 days 140°F (60°C)		0.166 BTU·inch/ft <sup>2</sup> ·h·°F
Aged 90 days 140°F (60°C)		0.083 BTU·inch/ft <sup>2</sup> ·h·°F
<b>R-Value</b> - Initial	ASTM C518	7.2 at 1 inch (2.54 cm) thickness
Aged 90 days 140°F (60°C)		6.0 at 1 inch (2.54 cm) thickness
Aged 90 days 140°F (60°C)		12.0 at 2 inch (5.08 cm) thickness
<b>Air Barrier Properties</b>	ASTM E283	0.003 cfm/ft <sup>2</sup> (0.02 L/s/m <sup>2</sup> )
Tested at 1 inch thickness @1.57 psf (75Pa)		
<b>Air Permeance</b>	ASTM E2178	0.02 L/s/m <sup>2</sup>
Tested at 2 Inch Beads		
<b>Compressive Strength</b>	ASTM D1621	26 lbf/in <sup>2</sup> (182 kPa) Parallel
		16 lbf/in <sup>2</sup> (110 kPa) Perpendicular
<b>Dimensional Stability</b>	ASTM D2126	+/- 5%
<b>Tack-Free/Expansion Time</b>	Tack-Free/Expansion Time	30-60 seconds

**TECHNICAL DATA (Continued)**

<b>Closed-Cell Content</b>	ASTM D2856	95%
<b>Tensile Strength</b>	ASTM D1623	OSB 20 lbf/in2 (137 kPa) CMU 25 lbf/in2 (172 kPa) Steel 22 lbf/in2 (152 kPa)
<b>Cuttable</b>		2-5 minutes
<b>Fungi Resistance</b>	ASTM G21	No Growth
<b>Perm Rating- Method A</b>		
1" Thick (2.54 cm)	ASTM E96	1.67 (100 ng/(m <sup>2</sup> ·Pa·s))- Class III Vapor Retarder
2" Thick (5.08 cm)		1.44 (82 ng/(m <sup>2</sup> ·Pa·s))- Class III Vapor Retarder
3" Thick (7.62 cm)		1.00 (57 ng/(m <sup>2</sup> ·Pa·s))- Class II Vapor Retarder
<b>Water Absorption</b>	ASTM D2842	2.9%
<b>Fire Rating- Tested at 2" Thickness</b>	ASTM E84	Flame Spread Index 20 Smoke Developed 400
<b>Fire Rating- Tested at 2" Beads</b>	CAN/ULC S102	Flame Spread Index 9 Smoke Developed 43
<b>Fire Rating</b>	FMVSS 302/ CMVSS 302	Meets/ Burn Rate 0/00 min

**APPROVALS/STANDARDS/CLASSIFICATIONS**

<b>ESR- 2717</b>	Conforms to the requirements of AC 377
<b>CCMC #13455-L</b>	Conforms to the requirements of CAN/ULC S711.1 Handi-Foam E84 Class 1(A) shall be installed per the manufacturer instructions, CAN/ULC S711.1 and CAN/ULC S711.2.
<b>NFPA 286</b>	Testing for use in roof/wall junctions and attic/wall penetrations at 2" thickness x 6" wide with unlimited length without a thermal barrier
<b>NFPA 286</b>	Tested with DC 315 Intumescent Coating. Handi-Foam E84 and DC 315 can be used in lieu of the prescribed 15 minute thermal barrier when Handi-Foam does not exceed 2 inch thickness in walls or ceilings and the foam is covered with 13 dry mils of DC 315.
<b>NFPA 286-Modified</b>	Tested with No Burn Plus XD Ignition Barrier. Can be used in attic and crawlspace applications when certain qualifying conditions are met.
<b>ULe GREENGUARD</b>	Gold Certification



**TEMPERATURE GUIDELINES**

<b>Chemical Storage Temperature</b>	Optimum 75-85°F (24-29°C) but not <60°F (16°C) or >90°F (32°C)
<b>Outside Application Temperature</b>	40-100°F (4-38°C)
<b>Process Core Chemical Temperature</b>	75-85°F (24-29°C)
<b>Surface Temperature (Substrate)</b>	40-100°F (4-38°C)
<b>Cured Foam</b>	-200°F to +240°F (-129°C to +116°C)

**YIELD<sup>1</sup> (1.75 Density)**

	<b>Weight</b> (Including packaging)	<b>Board Feet</b>	<b>Cubic Feet</b>	<b>Linear Feet</b>	<b>Linear Feet</b>
<b>II-205 P10726C</b>	41 lbs	205 (19 m <sup>2</sup> )	17 ft <sup>3</sup> (.48 m <sup>3</sup> )	3132 at 1 inch bead	783 at 2 inch bead
<b>II-605 P10762C</b>	115.7 lbs	605 (56.2 m <sup>2</sup> )	50 ft <sup>3</sup> (1.42 m <sup>3</sup> )	9236 at 1 inch bead	2309 at 2 inch bead

<sup>1</sup> Yield is based on free-rise density. We state our core density/free-rise density when describing the foam. Applying foam into a cavity may result in higher in-place densities due to packing effects. These higher densities may result in lower yields.

**NOTE:** Physical properties shown are typical and are to serve only as a guide for engineering design. Results are obtained from specimens under ideal laboratory conditions and may vary upon use, temperature and ambient conditions. Right to change physical properties as a result of technical progress is reserved. Yields shown are optimum and will vary slightly depending on ambient conditions and application. This information supersedes all previously published data. The customer is responsible for deciding whether products and associated TDS information are appropriate for customer's use.

**WARNING:**

ICP low pressure one-component polyurethane foam sealants and adhesives (OCF), low pressure spray polyurethane foams and foam adhesives (SPF), and low pressure pour-in-place polyurethane foams (PIP) are composed of diisocyanate, hydrofluorocarbon, hydrocarbon, hydrofluoroolefin or hydrochlorofluoroolefin blowing agent, and a polyol blend. The urethane foam produced from these ingredients will support combustion and may present a fire hazard if exposed to a fire or excessive heat about 240°F (116°C). Read all instructions, ICP Product Stewardship Guidelines and SDS (Section 8) prior to use of any product. ICP polyurethane products are for professional use only.

Before using any OCF, SPF or PIP product, read the SDS and instructions carefully before use ([www.handifoam.com](http://www.handifoam.com)). **OCF Products:** wear protective glasses with side shields or goggles, nitrile gloves, and clothing that protects against dermal exposure. Recommend using in a well-ventilated area. Avoid breathing vapors. **SPF/PIP Products:** wear protective glasses with side shields or goggles unless using a full-face respirator, nitrile gloves, and clothing that protects against dermal exposure. Recommend dispensing product in a well-ventilated area and with certified respiratory protection or a powered air purifying respirator (PAPR); however, well ventilated exterior applications may not need respiratory protection. It is the responsibility of the employer to complete a PPE evaluation and/or exposure assessment to determine if respiratory protection is required. Personal Protective Equipment can be purchased through ICP by ordering the Polyset® Contractor Safety Kit (F65251). The Contractor Safety Kit includes nitrile gloves, contractor safety glasses, and a size Medium NIOSH-approved negative pressure half mask respirator.

Refer to each product's TDS for specifications, testing results, and other attributes. The customer is ultimately responsible for deciding whether products and associated TDS information are appropriate for customer's use. For professional use only. Building practices unrelated to materials can lead to potential mold issues. Material suppliers cannot provide assurance that mold will not develop in any specific system. Product uses a non-flammable compressed gas. Keep away from heat. Smoking and open flames, including hot work, should be prohibited in the vicinity of a foaming operation. Avoid contact with skin and eyes. May cause sensitization by inhalation and/or direct skin contact. Persons previously sensitized to Isocyanates may develop a cross-sensitization reaction to other isocyanates. Avoid prolonged or repeated breathing of vapor. Use in conformance with all local, state and federal regulations and safety requirements. Failure to strictly adhere to any recommended procedures and reasonable safety precautions shall release ICP of all liability with respect to the materials or the use thereof. For additional information and location of your nearest distributor, call ICP 330.753.4585.

**LIMITED WARRANTY and LIMITATION OF DAMAGES:** ICP warrants only that the product shall meet ICP specifications for the product when shipped by ICP. NO OTHER EXPRESSED OR IMPLIED WARRANTIES APPLY AND ANY IMPLIED WARRANTIES OF MERCHANTABILITY, NON-INFRINGEMENT OUTSIDE THE U.S. AND FITNESS FOR A PARTICULAR PURPOSE ARE EXPRESSLY DISCLAIMED. Buyer and users assume all risks of use, handling, and storage of the product. Failure to strictly adhere to any recommended procedures shall release ICP from all liability. The user of the product is responsible to determine suitability of the product for the particular use. The exclusive remedy as to any breach of warranty, negligence or other claim is limited to the replacement of the product. Liability for any indirect, incidental, or consequential damage or loss is specifically excluded.



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