



# TECHNICAL DATA SHEET

## HANDI-FOAM® E84 CLASS 1(A) LOW PRESSURE SPRAY FOAM

### LOW PRESSURE POLYURETHANE FOAM INFORMATION

<b>Description</b>	Low pressure, medium density, two-component spray polyurethane foam
<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) system.
<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.icpadhesives.com">www.icpadhesives.com</a>
<b>Use</b>	Warm/Cool chemical to 75-85°F (24-29°C). Follow instructions for set-up found in the operating instructions.
<b>PPE</b>	<p>Recommend using 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 chart located on page 2
<b>Product Storage</b>	Store in a dry area. Do not expose the kits or tanks to open flame or temperatures above 122°F (50°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 according 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 thickness
Aged 90 days 140°F (60°C)		6.0 at 1 inch thickness
Aged 90 days 140°F (60°C)		12.0 at 2 inch 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 E2183	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
<b>Closed-Cell Content</b>	ASTM D2856	95%

<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-</b> Tested at 2" Thickness	ASTM E84	Flame Spread Index 20 Smoke Developed 400
<b>Fire Rating-</b> Tested at 2" Beads	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>GREENGUARD</b>
<b>CCMC #13455-L</b>	Conforms to the requirements of CAN/ULC S711.01	
<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-Modified</b>	Tested with No Burn Plus XD Ignition Barrier. Can be used in attic and crawlspace applications when certain qualifying conditions are met.	



**MADE IN USA**  
WITH GLOBALLY SOURCED MATERIALS

**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-105 P10705</b>	26.4 lbs	105 (9.8 m <sup>2</sup> )	8.75 ft <sup>3</sup> (.25 m <sup>3</sup> )	1603 at 1 inch bead	400 at 2 inch bead
<b>II-205 P10726</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 P10762</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.

**Always read all operating, application and safety instructions before using any products.** 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 Adhesives & Sealants, Inc. of all liability with respect to the materials or the use thereof. For additional information and location of your nearest distributor, call ICP Adhesives & Sealants Inc. 1 330.753.4585 or 1 800.321.5585.

**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. 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.

Handi-brand® low pressure one-component polyurethane foam sealants and adhesives (OCF), low pressure spray polyurethane foams (SPF), and low pressure pour-in-place polyurethane foams (PIP) are composed of a diisocyanate, hydrofluorocarbon or hydrocarbon blowing agent, and polyol. For polyurethane foam sealants/adhesives: wear protective glasses with side shields or goggles, nitrile gloves, and clothing that protects against dermal exposure. Use only in a well-ventilated area. Avoid breathing vapors. Read the SDS and instructions carefully before use ([www.icpadhesives.com](http://www.icpadhesives.com)). For spray polyurethane foams and pour-in-place polyurethane foams: wear protective glasses with side shields or goggles, nitrile gloves, and clothing that protects against dermal exposure. Recommend using in a well-ventilated area and with certified respiratory protection or a powered air purifying respirator (PAPR). Additional information on ventilation can be found in the Product Stewardship Guide ([www.icpadhesives.com](http://www.icpadhesives.com)). Read the SDS ([www.icpadhesives.com](http://www.icpadhesives.com)) and instructions carefully before use. 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). 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. Refer to the products' SDS, ICP Adhesives & Sealants' Product Stewardship Guidelines, and operating instructions for guidance on the safe and proper application of the product ([www.icpadhesives.com](http://www.icpadhesives.com)). 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.

**WARNINGS:** Follow safety precautions and wear protective equipment as recommended. Prolonged inhalation exposure may cause respiratory irritation/sensitization and/or reduce pulmonary function in susceptible individuals. Onset may be delayed. Pre-existing respiratory conditions may be aggravated. We recommend that the product is used in a well-ventilated area and with certified respiratory protection. NIOSH approved positive pressure supplied air respirator is recommended if exposure guidelines may be exceeded. Contents may be very sticky and irritating to skin and eyes, therefore wear safety glasses with side shields or goggles, nitrile gloves, and clothing that protects against dermal exposure when operating. If liquid chemical comes in contact with skin, first wipe thoroughly with dry cloth, then rinse affected area with water. Wash with soap and water afterwards, and apply hand lotion if desired. If liquid comes in contact with eyes, immediately flush with large volume of clean water for at least 15 minutes and get medical help at once. If liquid is swallowed, get immediate medical attention. Do not induce vomiting. If breathing is difficult, give oxygen. If breathing has stopped give artificial respiration. Products manufactured or produced from these chemicals are organic and, therefore, combustible. Each user of any product should carefully determine whether there is a potential fire hazard associated with such product in a specific usage. **KEEP OUT OF REACH OF CHILDREN.**

**LIMITED WARRANTY and LIMITATION OF DAMAGES:** ICP Adhesives & Sealants, Inc. warrants only that the product shall meet ICP Adhesives & Sealants, Inc. specifications for the product when shipped by ICP Adhesives & Sealants, Inc. 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 Adhesives & Sealants, Inc. 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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