




TECHNICAL DATA SHEET

HANDI-FOAM® COMMERCIAL VEHICLE LOW PRESSURE REFILL SYSTEM



LOW PRESSURE POLYURETHANE FOAM INFORMATION

Description	Low pressure, medium density, black in color, two-component spray polyurethane foam
SPF	Spray Polyurethane Foam
Applications	Designed to coat flat or irregular surfaces. The foam easily blends in with the undercarriages of RVs and other vehicles while helping to reduce vibration and deaden sound.
Preparation for use	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 www.icpadhesives.com
Use	Warm/Cool chemicals to 75-85°F (24-29°C). Follow instructions for set-up found in the operating instructions.
PPE	 <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 prior to use of any product.</p>
Note	FOR PROFESSIONAL USE ONLY. Always check the local building code before use. Cured low pressure polyurethane foam is non-toxic and inert.
Product Storage	See temperature chart located on page 2
Temperature Guidelines	See temperature chart located on page 2
Return Instructions	Refer to SDS (Section 13) for instructions. The cylinders are shipped back to ICP Adhesives & Sealants, cleaned, refilled, and redistributed. Return instructions are included in collar of the A-side refill cylinder.
Shelf-life	6 months
Compatibility	Cured low pressure polyurethane foam is chemically inert and non-reactive in approved applications, and will not harm electrical wire insulations, 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

Density Free Rise	ASTM D1622	1.70 lbs/ft ³ (27.3 kg/m ³)
K-factor - Aged 28 days 70°F (21°C)	ASTM C518	0.181 BTU·inch/ft ² ·h·°F
R-Value - Aged 28 days 70°F (21°C)	ASTM C518	5.5 at 1 inch thickness
Air Barrier Properties -Estimated		
@1.57 psf (75 Pa)	ASTM E283	<0.0025 cfm/ft ² (<0.0125 L/s/m ²)
@6.24 psf (300 Pa)		<0.01 cfm/ft ² (<0.05 L/s/m ²)
Perm Rating -1 inch thickness	ASTM E96	1.80 (108 ng/(m ² ·Pa·s))- Class III Vapor Retarder
Compressive Strength	ASTM D1621	8 lbf/in ² (55 kPa)
Dimensional Stability	ASTM D2126	+/- 6%
Tack-Free/Expansion Time	Tack-Free/Expansion Time	30-45 seconds
Closed-Cell Content	ASTM D2856	>90%
Cuttability		1-2 minutes
Fungi Resistance	ASTM G21	No Growth
Fire Rating	FMVSS302/CMVSS 302	Meets/ Burn Rate 0/00 in/min
Fire Rating - Tested at 1" Thickness	ASTM E84	Flame Spread Index 15 Smoke Developed 195

APPROVALS/STANDARDS/CLASSIFICATIONS

ASTM E84	Conforms to the requirements of ASTM E84 and is classified as a class 1 (A) material. Tested at 1 inch thickness.
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TEMPERATURE

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

YIELD¹ (1.70 Density)

	Weight ² (Per cylinder)	Cylinder Dimensions	Board Feet	Cubic Feet	Empty Cylinder Weight
System 8 P21050	96.7 lbs (44 kg)	H 28" (71 cm) D 12.5" (32 cm) Base 9.5" Diameter (23.5 cm)	1040 (96.6 m ²)	86.7 ft ³ (2.46 m ³)	23 lbs (10.4 kg)
System 60 P22450³	790 lbs (358 kg)	H 51" (130 cm) D 24" (61 cm) Base 22" x 23" (56 cm x 58 cm)	8252 (766.6 m ²)	688 ft ³ (19.5 m ³)	205 lbs (93 kg)
System 120 P22840³	1391 lbs (630 kg)	H 59" (150 cm) D 30" (76 cm) Base 22" Diameter (56 cm)	15,006 (1394.1 m ²)	1250.5 ft ³ (35.4 m ³)	328 lbs (149 kg)

¹ Yield is based on density. We state our core density when describing the foam. We use theoretical calculations for comparative purposes so the results will vary depending on ambient conditions and use in particular applications.

² Average Gross Weight

³ Refillable cylinder is equipped with 1/2" plumbing

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.

ICP 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. Recommend using in a well-ventilated area. Avoid breathing vapors. Read the SDS and instructions carefully before use (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. Use only 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). Read the SDS (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). 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.

Cylinder Warranty Statement

ICP Adhesives & Sealants, Inc. warrants that the cylinder is fit to dispense ICP Adhesives & Sealants, Inc.'s foam products that are loaded into the cylinder by ICP Adhesives & Sealants, Inc. The sole remedy for any breach of warranty is replacement of the cylinder. 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. The terms, conditions and warranties applicable to ICP Adhesives & Sealants, Inc.'s products dispensed from the cylinder are covered in other ICP Adhesives & Sealants, Inc. documentation relating to that purchase. Liability for any indirect, incidental or consequential damage or loss specifically excluded. **Buyer must not make any changes to the cylinder or the cylinder components, including plumbing.** Any such change may produce dangerous results and cause damage or injury, including a loss of product stored in the cylinder. ICP Adhesives & Sealants, Inc. is not responsible for damages or injuries resulting from any such changes. Those damages or injuries are Buyer's responsibility, and ICP Adhesives & Sealants, Inc. may charge Buyer for the costs of any resulting cylinder damage or repairs. ICP Adhesives & Sealants, Inc. also reserves the right to restrict future sales if the Buyer does not address safety concerns such as modified or missing plumbing, pressure relief valve activated or excessive cylinder pressure.

Magnum Heated Hose Warranty Statement

See the hose manufacturer's warranty regarding any warranty applicable to the hose. ICP Adhesives & Sealants, Inc. makes no warranty regarding the hose and it is sold "AS IS" and ALL EXPRESSED AND IMPLIED WARRANTIES ARE EXPRESSLY DISCLAIMED. Liability for any indirect, incidental or consequential damage or loss is specifically excluded.



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WITH GLOBALLY SOURCED MATERIALS