TECHNICAL DATA SHEET

HANDIFOAM® HFO FR LOW PRESSURE REFILL SYSTEMS

LOW PRESSURE POLYURETHANE FOAM INFORMATION

Description	Low pressure, medium density, two-component spray polyurethane foam
SPF	Spray Polyurethane Foam
Applications	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.
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	Condition chemical to 75-85°F (24-29°C). Follow instructions for set-up found in the operating instructions.
PPE	 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.
Note	FOR PROFESSIONAL USE ONLY. Always check the local building code before use. Cured low pressure polyurethane foam is non-toxic and inert.
Temperature	Please see chart located on page 2
Product Storage	Store in a dry area. Do not expose the kits or tanks to open flame or temperatures above 90°F (32°C). Excessive heat can cause premature aging of components resulting in a shorter shelf-life.
Disposal	Refer to SDS (Section 13) for instructions. Always dispose of empty cylinders according to applicable federal, state, provincial and local regulations.
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, 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
Density Free Rise	ASTM D1622	1.75 lbs/ft^3 (28.0 kg/m^3)
Density In-place		2.00 lbs/ft^3 (32.0 kg/m^3)
K-factor- Initial	ASTM C518	0.140 BTU·inch/ft^2·h·°F at 1" thickness
Initial		0.078 BTU·inch/ft^2·h·°F at 2" thickness
Aged 90 days (In-house)		0.164 BTU·inch/ft^2·h·°F at 1" thickness
Aged 180 days		Testing in progress
R-Value- Initial	ASTM C518	7.30 at 1" thickness
Initial		12.88 at 2" thickness
Aged 90 days (In-house)		6.10 at 1" thickness
Aged 180 days		Testing in progress
Air Barrier Properties- Estimated		
@1.57 psf (75 Pa)	ASTM E283 - modified	<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)
Compressive Strength	ASTM D1621	15 lbf/in^2 (103 kPa) Parallel
		9 lbf/in^2 (62 kPa) Perpendicular
Tensile Strength	ASTM D1623	27 lbf/in^2 (186 kPa) Parallel
Dimensional Stability	ASTM D2126 (% volumetric change)	+/- 7%

TECHNICAL DATA (Continued)	STANDARD	RESULTS
Tack-Free/Expansion Time	Tack-Free/Expansion Time	15-30 seconds
Closed-Cell Content	ASTM D2856	> 90%
Cuttable	--	10 minutes (estimate)
Fungi Resistance	ASTM G21	No growth
Perm Rating- Method A 1" Thick (2.54 cm)	ASTM E96	0.91 perms - Class II Vapor Retarder
VOC Content	EPA Method 24 (Calculated)	<25 g/L
Fire Rating- Tested at 2" Thickness. **Class A**	ASTM E84	Flame Spread Index 10 Smoke Developed 350
Fire Rating- Tested at 4" Beads	CAN/ULC-S102	Testing in progress

APPROVALS/STANDARDS/CLASSIFICATIONS

ULe GREENGUARD	Gold Certification
CCMC	Testing in progress for CAN/ULC S711.01

TEMPERATURE GUIDELINES

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 to +240°F (-129 to +116°C)

YIELD[1] (1.75 lbs/ft³ Free Rise Density)

	Weight[2] (Per cylinder)	**Board Feet**	**Cubic Feet**	**Linear Feet**	**Linear Feet**
P23220 System 8	97.0 lbs (44.0 kg)	1,015 (94.3 m^2)	84.6 (2.39 m^3)	15,506 ft at 1" bead	3,876 ft at 2" bead
P23093 System 17	201 lbs (91.2 kg)	2,002 (186 m^2)	167 (4.72 m^3)	30,592 ft at 1" bead	7,648 ft at 2" bead
P23293 System 27	350 lbs (159 kg)	3,381 (314 m^2)	282 (7.98 m^3)	51,651 ft at 1" bead	12,913 ft at 2" bead
P23487 System 60	705 lbs (320 kg)	7,783 (723 m^2)	649 (18.4 m^3)	118,913 ft at 1" bead	29,728 ft at 2" bead
P23887 System 120	1278 lbs (580 kg)	13,989 (1,300 m^2)	1166 (33.0 m^3)	213,728 ft at 1" bead	53,432 ft at 2" bead

[1] 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.

[2] Average Gross Weight

MADE IN USA
WITH GLOBALLY SOURCED MATERIALS