

TECHNICAL DATA SHEET

FOR PROFESSIONAL USE ONLY



Two-Component E84 Class 1 Spray Foam



Handi-Foam® E84 Class 1 Spray Foam utilizes a non-flammable blowing agent. Handi-Foam® E84 Class 1 Spray Foam has been specifically formulated for flame retardancy and conforms to the requirements of ASTM E84 as a "Class 1" system (flame spread of 25 or less, smoke development of 450 or less). The foam helps to lower heating and cooling costs by drastically reducing energy consumption. In addition, Handi-Foam® E84 Class 1 Spray Foam can assist in attaining an ENERGY STAR® rating and/or LEED Certification.

Application Areas

Spray foam onto any clean, dry surface in any direction to insulate, fill and seal various size voids, deaden sound or reduce vibration. It is specifically designed to spray onto flat or irregular surfaces and to fill large cavities where flame retardant requirements specify E84 Class 1 Spray Foam.

Properties

Two-component froth foam systems will expand immediately upon chemical reaction of A component (isocyanate) and B component (a polyol blend) to a final volume that is 3 to 5 times the dispensed volume, in typical applications, depending on various factors such as cavity size and ambient conditions. The foam will cure to a semi-rigid closed cell foam.

Handi-Foam® E84 Class 1 Spray Foam fully expands and dries tack-free within 30-60 seconds, is cuttable in 2-5 minutes and fully cures within 1 hour.

Handi-Foam® E84 Class 1 Spray Foam adheres to almost all building materials with the exception of surfaces such as polyethylene, Teflon®, polypropylene, silicone, oils and greases, mold release agents and similar materials.

Optimum application temperature is 75°F (24°C) to 85°F (29°C) but may be sprayed onto colder or warmer substrates, with slight effects on the foam characteristics. Cured foam is resistant to heat and cold, -200 to +240°F (-129°C to +116°C), and to aging, but not UV rays (i.e. sunlight) unless painted, covered or coated. Cured 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 plastic. It is approved for use around wires, plumbing penetrations, etc., and contains no formaldehyde.

Handi-Foam® E84 Class 1 Spray Foam systems are available in three non-refillable sizes to meet specific job applications requirements. When sprayed, the foam will create a seamless, continuous seal to insulate and protect against dust, air infiltration and pests.

Physical Properties

See technical data table on the second page.

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.

Shake kits well *before* using (applicable to non-refillable systems).

Read the enclosed operating instructions available in every kit or they can be found on our website www.fomo.com. Carefully read all cautions and warnings before use. Always refer to the local building codes before application of product.

Use

Warm tanks to 75°F-85°F (24°C-29°C). After following instructions for set-up, attach appropriate hose to tanks A and B if needed (II-605 size). Shake kits well before using. Open tank valves as directed. Materials are dispensed through the hoses. Attach the static cone or fan nozzle to the end of the dispensing unit. The A-component and the B-component meet and mix in the disposable nozzle. With a nozzle attached to the two-component froth dispensing unit, dispense foam by squeezing the trigger of the unit. To interrupt or stop foaming process, release the trigger. Once foaming process has stopped, the dispensing unit must be reactivated within 30 seconds or a new nozzle **must** be installed. Fresh foam may be applied in several stages to reduce overfilling of void or damage to non-rigid, confined cavities. Cured foam can only be removed manually.

Important Note: Use only in well-ventilated area with certified respiratory protection or a powered air purifying respirator (PAPR). Wear protective glasses or goggles, nitrile gloves, and clothing that protects against dermal exposure. Read all instructions and safety information (MSDS) prior to use of any product. The MSDS can be found at www.fomo.com. The product contains no formaldehyde. Cured foam is non-toxic. 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).

KEEP OUT OF REACH OF CHILDREN.

Product Storage

Store in a dry area. Do not expose the kit or tanks to open flame or temperatures above 120°F (49°C). Excessive heat can cause premature aging of components resulting in a shorter shelf life. Handi-Foam E84 Class 1 Spray Foam is reusable by following product instructions.

Cold Weather Note: For best results, foam chemical temperature must be between 75°F-85°F (24°C-29°C) Warm kits for a minimum of 1 day at room temperature.

Disposal Procedures

1. DO NOT INCINERATE TANKS.
2. After tanks are empty, the hose must be removed and the tanks must be vented. **CAUTION:** Tanks will still be under pressure. Turn valves to the off position before removing hoses. Protective glasses or goggles, nitrile gloves, clothing that protects against dermal exposure and a certified respirator must be worn during this procedure. With tank inverted, slowly open tank valve, point tank away from face and allow pressure to completely vent. **CAUTION:** Empty tank could contain potential vapor toxicity hazard. Dispose cylinders in a well ventilated area with certified respiratory protection. (Consult MSDS).
3. DISPOSE OF EMPTY CYLINDERS ACCORDING TO APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS. **CHECK WITH YOUR LOCAL WASTE DISPOSAL SERVICE FOR GUIDANCE.**

Fomo Products, Inc.
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management system registered to ISO 9001



2775 Barber Road PO Box 1078 Norton, Ohio 44203 USA
p: 1 330.753.4585 1 800.321.5585 f: 1 330.753.5199
e: info@fomo.com w: www.fomo.com

Technical Data

DENSITY	
ASTM D1622 Free Rise	1.75 lb/ft ³ (28 kg/m ³)
ASTM D 1622 In-place Density	2.12 lb/ft ³ (34 kg/m ³)
K-FACTOR	
ASTM C518 - Aged 90 days at 140°F	0.166 BTU·inch / ft ² ·h·°F (0.023 W/m·K)
R-VALUE (Metric RSI in parentheses)	
	6.0/inch (RSI=1.05/inch)
AIR BARRIER PROPERTIES	
ASTM E283	
@1.57 psf (75 Pa)	<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	
ASTM E96-Method A	
1" (2.54 cm)	1.67 (100 ng/(m ² ·Pa·s))
2" (5.04 cm)	1.44 (82 ng/(m ² ·Pa·s))
3" (7.62 cm)	1.00 (57 ng/(m ² ·Pa·s))
TENSILE STRENGTH	
ASTM D1623	29 lbf/in ² (200 kPa)
AIR PERMEANCE	
ASTM E2178	.02 l/(m ² ·s)
COMPRESSIVE STRENGTH	
ASTM D1621	
Parallel @ 10%	23 lbf/in ² (158 kPa)
Perpendicular @ 10%	16 lbf/in ² (110 kPa)
DIMENSIONAL STABILITY	
ASTM D2126	
HEAT AGE: +158°F (70°C)	-0.6%
HUMID AGE: +158°F (70°C), 100% RH	+2.9%
COLD AGE: -4°F (-20°C)	-0.3%
CLOSED CELL CONTENT	
ASTM D2856	>90%
TACK-FREE / EXPANSION TIME	
	30 - 60 seconds
CUTTABLE	
	2-5 minutes
FULLY CURED	
	1 hour
FUNGI RESISTANCE	
ASTM G21	No Growth
FIRE RATING	
ASTM E84	Flame Spread Index = 20
Tested at 2" thickness	Smoke Developed =400
FIRE RATING	
CAN/ULC S102	Flame Spread Index = 9
Tested at 2" beads	Smoke Developed =43
Caulking & Sealant	

Approvals / Standards

Handi-Foam E 84 Class 1 Spray Foam conforms to the requirements of ASTM E84 as a "Class 1" material. Tested at 2" thickness.
Flame Spread 20 Smoke Developed 400

CCMC #13392-R
CCMC- #13455-L
ICC ES Report- Pending

Contains a non-flammable propellant.

Theoretical Yield*

Non-Refillable	Board Feet	Cubic Feet
II-105 P10705	105 (9.8 m ²)	8.75 (.25 m ³)
II-205 P10726	205 (19 m ²)	17 (.48 m ³)
II-605 P10762	605 (56.2 m ²)	50 (1.42 m ³)

* Yields are based on theoretical calculations, for comparative purposes, and will vary depending on ambient conditions and particular application.

Processing Parameters

Product Storage*	<120°F (49°C)	Store in a dry area
Application Temperature	40°F (5°C)- 120°F (49°C)	For best results
Chemical Temperature	75-85°F (24-29°C)	

* For best results, warm kit for a minimum of 1 day at 75-85°F (24-29°C)

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 Fomo Products, Inc. of all liability with respect to the materials or the use thereof. For additional information and location of your nearest distributor, call Fomo Products, 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. Yields shown are based on theoretical calculations and will vary depending on ambient conditions and particular application. Read all product directions and safety information before use. Consult local building codes for specific requirements regarding the use of cellular plastics or urethane products in construction.

WARNINGS: Follow safety precautions and wear protective equipment as recommended. Consult Material Safety Data Sheet (MSDS) at www.fomo.com for specific information. 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. Use only 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 (see MSDS). Contents may be very sticky and irritating to skin and eyes, therefore wear safety glasses 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: The Manufacturer warrants only that the product shall meet its specifications: THIS WARRANTY IS IN LIEU OF ALL WRITTEN OR UNWRITTEN, EXPRESSED OR IMPLIED WARRANTIES AND THE MANUFACTURER EXPRESSLY DISCLAIMS ANY WARRANTY OF MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE. The buyer assumes all risks whatsoever as to the use of the material. Buyer's exclusive remedy as to any breach of warranty, negligence or other claim shall be limited to the replacement of the material. Failure to strictly adhere to any recommended procedures shall release The Manufacturer of all liability with respect to the materials or the use thereof. User of this product must determine suitability for any particular purpose, including, but not



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