

TECHNICAL DATA SHEET

FOR PROFESSIONAL USE ONLY



Two-Component E84 Class 1 Spray Foam



Handi-Foam® E84 Class 1 Spray Foam is a low pressure foam system that 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(A)" 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.

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 (A) 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, greases, mold release agents and similar materials.

Optimum application temperature is 75-85°F (24-29°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°F 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.

Handi-Foam E84 Class 1 Spray Foam is 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.

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/Cool tanks to 75-85°F (24-29°C). After following instructions for set-up, attach appropriate hose to tanks A and B if needed (11-605 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 mechanically.

Personal Protective Equipment (PPE):

Use 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 safety information (M)SDS prior to use of any product. The (M)SDS can be found at www.fomo.com.

For additional product stewardship information visit www.fomo.com/healthandsafety/default.aspx

Important Note:

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 100°F (38°C). Excessive heat can cause premature aging of components resulting in a shorter shelf life. Prior to use: store kits at recommended use temperature of 75-85°F (24-29°C). Handi-Foam E84 Class 1 Spray Foam is reusable by following product instructions.

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

Disposal Procedures

Refer to product (M)SDS (Section 13) for instructions. Always dispose of empty cylinders according to applicable federal, state, provincial and local regulations. Check with your local waste disposal service for guidance.

Warranted shelf life is twelve (12) months from date of manufacture.

Fomo Products, Inc.
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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	
Initial	0.139 BTU-inch / ft ² -h-°F
Aged 90 days at 140°F (60°C)	0.166 BTU-inch / ft ² -h-°F
R-VALUE	
Initial	7.2/inch
Aged 90 days at 140°F (60°C)	6.0/inch
AIR BARRIER PROPERTIES	
ASTM E283	
Tested at 1" thickness	0.003 cfm/ft ² (0.02 L/s/m ²)
@1.57 psf (75 Pa)	
PERM RATING	
ASTM E96-Method A	
1" (2.54 cm)	1.67 (100 ng/(m ² -Pa-s))- Class III Vapor Retarder
2" (5.04 cm)	1.44 (82 ng/(m ² -Pa-s))- Class III Vapor Retarder
3" (7.62 cm)	1.00 (57 ng/(m ² -Pa-s))- Class II Vapor Retarder
TENSILE STRENGTH	
ASTM D1623 –Type C	
	OSB 20 lbf/in ² (137 kPa)
	CMU 25 lbf/in ² (172 kPa)
	Steel 22 lbf/in ² (152 kPa)
AIR PERMEANCE	
ASTM E2178	.02 l/(m ² -s)
COMPRESSIVE STRENGTH	
ASTM D1621	
Parallel @ 10%	26 lbf/in ² (182 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	95%
TACK-FREE / EXPANSION TIME	
	30 - 60 seconds
CUTTABLE / FULLY CURED	
	2-5 minutes / 1 hour
WATER ABSORPTION	
ASTM D2842	2.9%
FUNGI RESISTANCE	
ASTM G21	No Growth
FIRE RATING*	
ASTM E84 / UL 723	Flame Spread Index = 20
Tested at 2" thickness (full coverage)	Smoke Developed =400
FIRE RATING*	
CAN/ULC S102	Flame Spread Index = 9
Tested at 2" beads	Smoke Developed =43
Caulking & Sealant	
FIRE RATING*	
FMVSS 302 / CMVSS 302	Meets
	Burn Rate 0/00 in/min

Approvals / Standards

Handi-Foam® E84 Class 1 SPF was tested in accordance with NFPA 286 for use in roof/wall junctions and attic/wall penetrations at 2" thickness x 6" wide with unlimited length without a thermal barrier. This testing also allows for the foam to be used in duct joint sealing applications in residential construction without an ignition barrier.

Handi-Foam® E84 Class 1 SPF and Handi-Foam® Ignition Barrier tested in accordance with NFPA 286 (modified) can be used in attic & crawlspace applications when certain qualifying conditions are met. Please see the Handi-Foam® Ignition Barrier TDS for more information.

CCMC #13455-L
ICC-ES Report ESR-2717

Contains a non-flammable HFC propellant.

GREENGUARD Certified Product

Theoretical Yield* 1.75 Density

Non-Refillable	Weight (including packaging)	Board Feet	Cubic Feet	Linear feet	Linear Feet
II-105 P10705	26.4 lbs	105 (9.8 m ²)	8.75 (.25 m ³)	1,603 @ 1 inch bead	400 @ 2 inch bead
II-205 P10726	41 lbs	205 (19 m ²)	17 (.48 m ³)	3,132 @ 1 inch bead	783 @ 2 inch bead
II-605 P10762	115.7 lbs	605 (56.2 m ²)	50 (1.42 m ³)	9,236 @ 1 inch bead	2,309 @ 2 inch bead

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

Processing Parameters

Product Storage*	<100°F (38°C)
Application Temperature	40-100°F (4-38°C)
Chemical Temperature	75-85°F (24-29°C)

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

**The numerical flame spread rating is not intended to reflect hazards presented by this or any other material under actual fire conditions.

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 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: 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 limited to, structural requirements, performance specifications and application requirements prior to installation and after product is applied.



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