FROTH-PAK™ Foam Insulation

1. PRODUCT NAME
FROTH-PAK™ Foam Insulation

2. MANUFACTURER
The Dow Chemical Company
Dow Building Solutions
200 Larkin Center, 1605 Joseph Drive
Midland, MI 48674
1-866-583-BLUE (2583)
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3. PRODUCT DESCRIPTION
Basic Use
FROTH-PAK™ Foam Insulation is a two-component, quick-cure polyurethane foam that fills cavities, penetrations, cracks and expansion joints. Unlike one-component foam, FROTH-PAK™ Foam Insulation is a chemically cured foam, significantly reducing curing time.

FROTH-PAK™ Foam Insulation dispenses, expands and becomes tack-free in seconds. The product will skin over in 30–40 seconds and will be completely cured in minutes.*

The Class-A rating (flame spread of 25 or less) of FROTH-PAK™ Foam Insulation allows its use in a wide range of interior and exterior industrial, commercial, institutional and residential settings. Check with local codes prior to use. If used in an exterior setting, a coating must be applied for ultraviolet (UV) protection.

Sizes
FROTH-PAK™ Foam Insulation is typically sold as a complete 42 lb (FROTH-PAK™ 210) portable kit that includes pressurized “A” and “B” cylinders, plus dispensing gun/hose assembly and accessories. FROTH-PAK™ Foam Insulation is also available in refillable, returnable cylinders for commercial applications requiring a large amount of foam. See Table 1 for yield and size information.

*Actual cure time will depend on temperature, foam thickness, the specific nozzle used, etc.

4. TECHNICAL DATA
Applicable Standards
ASTM International
- C203 – Standard Test Methods for Breaking Load and Flexural Properties of Block-Type Thermal Insulation
- C273 – Standard Test Method for Shear Properties of Sandwich Core Materials
- C518 – Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus
- D1621 – Standard Test Method for Compressive Properties of Rigid Cellular Plastics
- D1622 – Standard Test Method for Apparent Density of Rigid Cellular Plastics
- D1623 – Standard Test Method for Tensile and Tensile Adhesion Properties of Rigid Cellular Plastics
- D2842 – Standard Test Method for Water Absorption of Rigid Cellular Plastics
- E96 – Standard Test Methods for Water Vapor Transmission of Materials
- E283 – Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls and Doors Under Specified Pressure Differences Across the Specimen
- E2178 – Standard Test Method for Air Permeance of Building Materials

Physical Properties
FROTH-PAK™ Foam Insulation exhibits the typical properties and characteristics indicated in Table 2 when tested as represented.

Fire Information
Cured FROTH-PAK™ foam is combustible and will burn if exposed to open flame or sparks from high-energy sources. Do not expose to temperatures above 240°F.

Code Compliances
FROTH-PAK™ Foam Insulation complies with the following codes:
- Underwriters Laboratories, Inc. (UL) Classified, see Classification Certificate R7813
- National Fire Protection Association – per NFPA 286 testing, can be left exposed in non-fire-resistant-rated roof/wall junctures, maximum 6" high and 2" deep (unlimited width)

Contact your Dow sales representative or local authorities for state and local building code requirements and related acceptances.

5. INSTALLATION
Complete operating instructions are provided with each FROTH-PAK™ Foam Insulation purchase. Read all information and cautions before application. Note: Avoid overfilling restricted spaces. Chemicals exert force during reaction, and expansion of foam may result in substrate deformation.

TABLE 1: SIZES AND THEORETICAL YIELDS FOR FROTH-PAK™ FOAM INSULATION

Product	Theoretical Yield,(1) board ft
Kits	
FROTH-PAK™ 210	210
FROTH-PAK™ 650	650
Refillable Cylinders	
FROTH-PAK™ 17 (gal)	2,150
FROTH-PAK™ 27 (gal)	3,480
FROTH-PAK™ 60 (gal)	7,160
FROTH-PAK™ 120 (gal)	16,110
FROTH-PAK™ 350 (gal)	45,820

(1) The theoretical yield has become an industry standard for identifying certain sizes of two-component kits. Theoretical yield calculations are performed in perfect laboratory conditions, without taking into account the loss of blowing agent or the variations in application methods and types.

Safety and Conditions of Use

- Read the instructions and (Material) Safety Data Sheet ((M)SDS) carefully before use.
- FROTH-PAK™ spray polyurethane foam contains isocyanate, hydrofluorocarbon blowing agent and polyol. Do not breathe vapor or mist. Use only with adequate ventilation. It is recommended that applicators and those working in the spray area wear respiratory protection. Increased ventilation significantly reduces the potential for isocyanate exposure; however, supplied air or an approved air-purifying respirator equipped with an organic vapor sorbent and a particulate filter may still be required to maintain exposure levels below ACGIH, OSHA, WEEL or other applicable limits. For situations where the atmospheric levels may exceed the level for which an air-purifying respirator is effective, use a positive-pressure, air-supplying respirator (air line or self-contained breathing apparatus).
- Isocyanate is irritating to the eyes, skin and respiratory system, and may cause sensitization by inhalation or skin contact.
- FROTH-PAK™ foam will adhere to most surfaces and skin. Do not get foam on skin. Wear protective clothing (including long sleeves), gloves, and goggles. Cured foam must be mechanically removed or allowed to wear off in time.
- The contents are under pressure.
- FROTH-PAK™ foam should not be used around heaters, furnaces, fireplaces, recessed lighting fixtures or other applications where the foam may come in contact with heat-conducting surfaces. Cured FROTH-PAK™ foam is combustible and will burn if exposed to open flame or sparks from high-energy sources. Do not expose to temperatures above 240°F.
- Re-entry allowed after only 1 hour*

Visit dowbuildingsolutions.com or contact a local Dow representative for more specific instructions.

TABLE 2: TYPICAL PHYSICAL PROPERTIES OF FROTH-PAK™ FOAM INSULATION

These properties are typical but do not constitute specifications.

Property and Test Method	Value
Flame Spread/Smoke Developed,(1), (2) ASTM E84/UL 723	25/400
Nominal Density, ASTM D1622, lb/ft^3	1.75
Thermal Resistance(3) per inch, ASTM C518, ft^2•h•°F/Btu, R-value, min. Initial Aged 180 days at 75°F – 1.0" Aged 180 days at 75°F – 2.0"	 6.6 6.0 (when sprayed as 1" thickness) 12.2 (6.1/in when sprayed as 2" thickness)
Air Leakage, ASTM E283, cfm/ft^2 @ 1.57 psf ASTM E2178, L/s/m^2 @ 75 Pa	 0 0
Water Vapor Permeance, ASTM E96 perm @ 1" thick perm @ 2" thick	 6.4 3.2
Water Absorption, ASTM D2842, % by volume	3.2
Dimensional Stability, ASTM D2126, % volume change 100°F/97% RH @ 1wk 158°F/97% RH @ 1wk -40°F/amb RH @ 1wk 158°F/amb RH @ 1wk	 0.7 8.3 0.0 3.1
Compressive Strength, ASTM D1621, lb/in^2, parallel	17.2
Tensile Strength, ASTM D1623, lb/in^2, parallel	32.0
Maximum Service Temperature, °F	240

(1) Tested at 2" thickness, full coverage.
(2) This numerical flame spread rating is not intended to reflect hazards presented by this or any other material under actual fire conditions.
(3) R means resistance to heat flow. The higher the R-value, the greater the insulating power.

6. AVAILABILITY

FROTH-PAK™ Foam Insulation is distributed through an extensive network. For more information, call 1-800-232-2436.

7. WARRANTY

Not applicable.

8. MAINTENANCE

Not applicable.

9. TECHNICAL SERVICES

Dow can provide technical information to help address questions when using FROTH-PAK™ Foam Insulation. Technical personnel are available to assist. For technical assistance, call 1-866-583-BLUE (2583).

10. FILING SYSTEMS

sprayfoamatdow.com

In the U.S.
The Dow Chemical Company
Dow Building Solutions
200 Larkin Center, 1605 Joseph Drive
Midland, MI 48674

Technical Information
1-866-583-BLUE (2583)
Sales Information
1-800-232-2436

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Dow Polyurethane Foam Insulation and Sealants

CAUTION: When cured, these products are combustible and will burn if exposed to open flame or sparks from high-energy sources. Do not expose to temperatures above 240°F. For more information, consult Material Safety Data Sheets, call Dow at 1-866-583-BLUE (2583) or contact your local building inspector. In an emergency, call 1-989-636-4400.

When air sealing buildings, ensure that combustion appliances, such as furnaces, water heaters, wood burning stoves, gas stoves and gas dryers are properly vented to the outside. See website: http://www.epa.gov/iaq/homes/hip-ventilation.html.

FROTH-PAK™ Spray Polyurethane Foam contains isocyanate, hydrofluorocarbon blowing agent and polyol. Read the instructions and Material Safety Data Sheets carefully before use. Wear protective clothing (including long sleeves), gloves, goggles or safety glasses, and proper respiratory protection.

Do not breathe vapor or mist. Use only with adequate ventilation. It is recommended that applicators and those working in the spray area wear respiratory protection. Increased ventilation significantly reduces the potential for isocyanate exposure; however, supplied air or an approved air-purifying respirator equipped with an organic vapor sorbent and a particulate filter may still be required to maintain exposure levels below ACGIH, OSHA, WEEL or other applicable limits. For situations where the atmospheric levels may exceed the level for which an air-purifying respirator is effective, use a positive-pressure, air-supplying respirator (air line or self-contained breathing apparatus). Spraying large amounts of foam indoors may require the use of a positive pressure, air-supplying respirator. Contents under pressure.

Building and/or construction practices unrelated to building materials could greatly affect moisture and the potential for mold formation.
No material supplier including Dow can give assurance that mold will not develop in any specific system.

* See full ventilation guidelines at dowbuildingsolutions.com.

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