


**Styrofoam™**

Spray Polyurethane Foam

# STYROFOAM™ Brand Spray Polyurethane Foam Insulation – RS

STYROFOAM™ Brand Spray Polyurethane Foam (SPF) Insulation – RS is a two-component spray-applied polyurethane foam insulation that creates a seamless, monolithic barrier for protection against water and air. The SPF blend successfully incorporates the Enovate 3000 blowing agent from Honeywell.

## Properties

STYROFOAM™ Brand SPF Insulation is created from a unique polyol technology, which offers improved foam yield and wide processing latitude. Offered in two formulas for both new and retrofit applications, STYROFOAM™ Brand SPF Insulation expands during installation to fill cavities, cracks and crevices, preventing uncontrolled air leakage and helping maintain consistent, comfortable indoor temperatures. The closed-cell, 2.0 pcf foam serves as both an insulation and air sealant for a wide range of applications throughout the building envelope.\* In addition, STYROFOAM™ Brand SPF Insulation resists moisture and provides structural reinforcement for improved racking strength. STYROFOAM™ Brand SPF Insulation provides structural enhancement only. Use in conjunction with approved structural components and framing members consistent with local building code requirements.

STYROFOAM™ Brand SPF Insulation exhibits typical physical properties indicated in Table 1 when tested as represented.

STYROFOAM™ Brand SPF Insulation is chlorofluorocarbon (CFC) free and uses the Enovate 3000 blowing agent from

Honeywell, which is a zero ozone-depleting product.

STYROFOAM™ Brand SPF Insulation is combustible and may constitute a fire hazard. Do not expose foam to flame or temperatures above 240°F.

## Sizes

STYROFOAM™ Brand SPF Insulation is sold in 55 gal drum sets (one A isocyanate and one B polyol blend; total 950 lb). Contact your Dow sales representative with questions.

## Safety and Conditions of Use

- Read the instructions and Material Safety Data Sheet carefully before use.
- STYROFOAM™ Brand Spray Polyurethane Foam Insulation contains isocyanate, hydrofluorocarbon blowing agent and polyol. Do not breathe vapors or sprays. Use only with proper respiratory protection. Supplied air or an approved air-purifying respirator equipped with an organic vapor sorbent and a particle filter is 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. STYROFOAM™ SPF will adhere to most surfaces and skin. Do not get foam on skin. Wear gloves, and goggles or safety glasses, and protective clothing. Cured foam must be mechanically removed or allowed to wear off in time.

- The contents are under pressure.
- STYROFOAM™ SPF should be installed by a trained SPF applicator.

## Installation

Spray equipment must be capable of delivering the proper ratio (1:1 by volume) of polymeric isocyanate and polyol blend at adequate temperatures and spray pressures. Substrate must be at least 5 degrees above dew point, with best processing results when ambient temperature humidity is below 80 percent. Substrate must also be free of moisture (dew or frost), grease, oil, solvents and other materials that would adversely affect the adhesion of the polyurethane foam. Substrate temperatures should not exceed 120°F for STYROFOAM™ Brand SPF RS 2060 and 100°F for STYROFOAM™ Brand SPF RS 2045.

Due to the exothermic reaction of the isocyanate and polyol blend, mixed components should be applied in layers (maximum 2-1/2" thickness per layer). Allow foam to cool completely before applying successive layers.

Contact a local Dow representative or access the literature library at [www.sprayfoamatdow.com](http://www.sprayfoamatdow.com) for more specific instructions.

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 \*For attic and crawl space applications, Dow recommends using a fire-retardant coating, plywood or thermal barrier.  
 Contact Dow at 1-866-583-BLUE (2583) for more information.

## Storage and Shelf Life

STYROFOAM™ Brand SPF Insulation has a shelf life of six months when stored dry between 60°F and 90°F. Avoid direct sunlight during shipping and storage on the job site.

Caution should be exercised when opening containers as pressure may be present when material has been exposed to elevated temperatures.

Empty drums are non-returnable and should be disposed of by using current industrial practices in accordance with federal, state or local regulations.

## Technical Data

### APPLICABLE STANDARDS

Applicable test methods include:

- ASTM C1029 – Standard Specification for Spray-Applied Rigid Cellular Polyurethane Thermal Insulation
- ASTM C518 – Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus
- ASTM D1621 – Standard Test Method for Compressive Properties of Rigid Cellular Plastics

TABLE 1

Typical Physical Properties <sup>(1)</sup> of STYROFOAM™ Brand SPF Insulation – RS		
Property and Test Method	Value	
	STYROFOAM™ Brand SPF Insulation RS 2045 45°F-80°F (45°F-100°F) Ambient (Substrate) Processing	STYROFOAM™ Brand SPF Insulation RS 2060 60°F-100°F (60°F-120°F) Ambient (Substrate) Processing
Core Density, ASTM D1622, lb/ft <sup>3</sup>	>2	>2
Compressive Strength, ASTM D1621, lb/in <sup>2</sup> , parallel	26	26.4
Tensile Strength, ASTM D1623, lb/in <sup>2</sup> , parallel	55	53.3
Closed-cell Content, ASTM D6226, %	94	96
Thermal Conductivity, ASTM C518, k-factor <sup>(2)</sup>	0.154	0.154
Thermal Resistance, ASTM C518, R-value per inch <sup>(3)</sup>	6.5	6.5
Water Vapor Permeability, ASTM E96, perm-inch	1.1	1.4
Water Absorption, ASTM D2842, % by volume	3.2	3.2
Dimensional Stability, ASTM D2126, % volume change	At -20°F, 14 days	<1.0
	At 200°F, 14 days	<1.0
	At 158°F, >98% R.H.	<4.0
Surface Burning Characteristics <sup>(4)</sup> , ASTM E84, 4" thickness (Intertek UL 723)	Flame spread	<25
	Smoke developed	400
		20 <350

(1) Not to be considered sales specifications.

Properties determined by processing foam with Gusmer H20/35 primary heater at 120°F (A,B), hose temperature of 120°F with GX7 gun; .028 drilled module with 70 PCD; dynamic pressures at 600 psi-1,000 psi.

(2) Initial value. Aged k-factor: 0.185 at 180 days, 50% R.H. per FTC requirements.

(3) Initial value. Aged R-value: 5.1 at 180 days, 50% R.H. per FTC requirements.

(4) Calculated flammability values for this or any other material are not intended to represent hazards that may be present under actual fire conditions.

- ASTM D1622 – Standard Test Method for Apparent Density of Rigid Cellular Plastics
- ASTM D6226 – Standard Test Method for Open Cell Content of Rigid Cellular Plastics

### CODE COMPLIANCES

STYROFOAM™ Brand SPF Insulation complies with the following codes:

- Conforms to IBC/IRC requirements for foam plastic insulation

- Underwriters Laboratories, Inc. and Intertek Research Report (UL) Classified Class I at 4 inches; see UL 723
- ABAA standards for air leakage per ASTM E283

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

### IN THE U.S.:

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

THE DOW CHEMICAL COMPANY

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COMBUSTIBLE: Protect from high heat sources. Local building codes may require a protective or thermal barrier. For more information, consult MSDS, call Dow at 1-866-583-BLUE (2583) or contact your local building inspector. In an emergency, call 1-989-636-4400.

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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.

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