

# STYROFOAM™ BRAND SPRAY POLYURETHANE FOAM INSULATION (RS SERIES)



## PRODUCT NAME

STYROFOAM™ Brand Spray Polyurethane Foam Insulation (RS Series)

## MANUFACTURER

The Dow Chemical Company  
Dow Building Solutions  
200 Larkin  
Midland, MI 48674  
866-583-BLUE (2583)  
Fax 989-832-1465

[www.dowbuildingsolutions.com](http://www.dowbuildingsolutions.com)

## PRODUCT DESCRIPTION

STYROFOAM™ Brand Spray Polyurethane Foam (RS Series) is a two-component, spray-applied polyurethane foam that creates a seamless, monolithic barrier against water vapor and air on the interior of stud walls. This closed-cell, 2-pcf spray foam is chlorofluorocarbon (CFC) free and successfully incorporates a zero ozone-depleting blowing agent.

STYROFOAM™ Brand SPF (RS Series) is available in three formulas:

### RS 2030

30°F – 70°F Ambient Processing  
30°F – 60°F Substrate Processing

### RS 2045

45°F – 95°F Ambient Processing  
45°F – 100°F Substrate Processing

### RS 2060

60°F – 100°F Ambient Processing  
60°F – 120°F Substrate Processing

## PROPERTIES

STYROFOAM™ Brand SPF Insulation is created from a unique polyol technology, which offers improved foam yield and wide processing latitude. STYROFOAM™ Brand SPF Insulation expands during installation to fill cavities, cracks and crevices, helping prevent uncontrolled air leakage and helping maintain consistent, comfortable indoor temperatures. The foam serves as both an insulation and air sealant for a wide range of new and retrofit 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.

## SIZES

STYROFOAM™ Brand Spray Polyurethane Foam (RS Series) is sold in sets of 55 gallon drums (one A isocyanate and one B polyol blend). Contact your Dow sales representative with questions.

## 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
- 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. see UL 723
- Southwest Research Institute (SWRI), Classified Class A (ASTM E84)
- ICC ES AC377 Appendix X modified NFPA 286: Being exposed in attics and ceilings

## FIRE PROTECTION

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

## SAFETY AND CONDITIONS OF USE

- Read the instructions and Material Safety Data Sheets carefully before use. The MSDSs are available at [www.dowbuildingsolutions.com/na](http://www.dowbuildingsolutions.com/na).

Visit [www.spraypolyurethane.com](http://www.spraypolyurethane.com) for information covering a wide range of topics, including an overview of SPF health and safety guidelines, suggested personal protective equipment (PPE), typical first-aid treatment, and regulations and information about “green” marketing.

- STYROFOAM™ Brand Spray Polyurethane Foam Insulation contains isocyanate, hydrofluorocarbon blowing agent and polyol. Do not breathe vapor or spray. Use only with a NIOSH-approved supplied air respirator (SAR) in accordance with your company’s respiratory protection program. Supplied air respirator or an approved air-purifying respirator equipped with an organic vapor sorbent and a P100 particulate 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. Sensitization, or the development of asthma, can lead to permanent respiratory problems.
- STYROFOAM™ Brand SPF will adhere to most surfaces and skin. Do not get foam on skin. When spraying polyurethane foam, wear MDI-resistant chemical gloves (e.g., nitrile) or fabric gloves coated in nitrile, neoprene, butyl or PVC. Spray applicators should wear chemically resistant coveralls or full body suits with hoods and MDI-resistant fitted boots or booties. Professional judgment is necessary to determine the appropriate PPE necessary for secondary activities such as cleaning and trimming of the cured foam. Cured foam must be mechanically removed or allowed to wear off in time.
- The contents are under pressure.
- STYROFOAM™ Brand 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 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 adhesion of

the polyurethane foam. Substrate temperatures should not exceed 60°F for STYROFOAM™ Brand SPF RS 2030.

Due to the exothermic reaction of the isocyanate and polyol blend, mixed components should be applied in layers (maximum 2½" thickness per layer). Allow foam to cool completely before applying successive layers.

Contact a local Dow representative or visit [www.dowbuildingsolutions.com](http://www.dowbuildingsolutions.com) for more specific instructions.

## 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. Artificial warming of drums is not recommended.

Exercise caution when opening the containers as pressure may be present when material has been exposed to elevated temperatures.

Ensure drums are capped after use. Empty drums are nonreturnable and should be disposed of by using current industrial practices in accordance with federal, state or local regulations.

## AVAILABILITY

STYROFOAM™ Brand Spray Polyurethane Foam (RS Series) is distributed through an extensive network. For more information, call 800-232-2436.

## TECHNICAL SERVICES

Dow can provide technical information to help address questions when using STYROFOAM™ Brand Spray Polyurethane Foam (RS Series). Technical personnel are available to assist with any insulation project. Call 866-583-BLUE (2583).

**TABLE 1: TYPICAL PHYSICAL PROPERTIES<sup>(1)</sup> OF STYROFOAM™ BRAND SPF INSULATION (RS SERIES)**

Property and Test Method	Value		
	RS 2030	RS 2045	RS 2060
Ambient (Substrate) Temperature Range, °F	30-70 (30-60)	45-95 (45-100)	60-100 (60-120)
Core Density, ASTM D1622, lb/ft <sup>3</sup>	2.5	2.5	2.2
Compressive Strength, ASTM D1621, lb/in <sup>2</sup> , parallel	25	25	20
Tensile Strength, ASTM D1623, lb/in <sup>2</sup> , parallel	60	60	60
Closed-cell Content, ASTM D6226, %	>95	>95	>95
Thermal Resistance, ASTM C518, 75°F mean temp., R-value <sup>(2)</sup> per inch, ft <sup>2</sup> •h•°F/Btu•in Aged value (90 days @ 140°F)	6.2	6.4	6.1
Water Vapor Permeability, ASTM E96, perm-inch	2.2	2.2	2.2
Water Absorption, ASTM D2842, % by volume	1.2	2.5	1.5
Dimensional Stability, ASTM D2126, max. % linear change At -20°F, ambient R.H., 7 days At 158°F, ambient R.H., 7 days At 158°F, 97% R.H., 7 days	-0.1 -2.0 Pass <sup>(3)</sup>	0.4 2.2 Pass <sup>(3)</sup>	0.1 3.0 Pass <sup>(3)</sup>
Surface Burning Characteristics <sup>(4)</sup> , ASTM E84	Class A	Class A	Class A
Flammability, NFPA 286 <sup>(4)</sup>			
Maximum foam thickness with code-approved thermal barrier Wall Ceiling	12" 12"	12" 12"	12" 12"
Flammability, AC377 Appendix X (modified NFPA 286) <sup>(5)</sup>			
Maximum foam thickness uncovered Attics Crawl spaces	10" 10"	10" 10"	10" 10"

(1) Not to be considered sales specifications. Properties determined by processing foam with Gusmer H2O/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) R means resistance to heat flow. The higher the R-value, the greater the insulating power.

(3) Pass AC377

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

(5) Attic and crawl space use limitations apply. Contact Dow at 866-583-BLUE (2583) for more information.

\*SPF 2030 has a preliminary shelf life of three months. Extended shelf life testing results are pending.

NOTICE: No freedom from any patent owned by Dow or others is to be inferred. Because use conditions and applicable laws may differ from one location to another and may change with time, Customer is responsible for determining whether products and the information in this document are appropriate for Customer's use and for ensuring that Customer's workplace and disposal practices are in compliance with applicable laws and other government enactments. The product shown in this literature may not be available for sale and/or available in all geographies where Dow is represented. The claims made may not have been approved for use in all countries or regions. Dow assumes no obligation or liability for the information in this document. References to "Dow" or the "Company" mean The Dow Chemical Company and its consolidated subsidiaries unless otherwise expressly noted. NO WARRANTIES ARE GIVEN; ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE EXPRESSLY EXCLUDED.

COMBUSTIBLE: STYROFOAM™ Brand Spray Polyurethane Foam is combustible and may constitute a fire hazard. Do not expose foam to flame or temperature above 240°F. For more information, consult MSDS, call Dow at 866-583-BLUE (2583) or contact your local building inspector. In an emergency, call 989-636-4400.

STYROFOAM™ Brand SPF Insulation contains isocyanate, hydrofluorocarbon blowing agent and polyol. Read the instructions and Material Safety Data Sheets carefully before use. Wear protective clothing, gloves, goggles or safety glasses, and proper respiratory protection. Supplied air or an approved air-purifying respirator equipped with an organic vapor sorbent and a P100 particulate filter is required to maintain exposure levels below ACGIH, OSHA, WEEL or other applicable limits. Provide adequate ventilation. Contents under pressure. STYROFOAM™ Brand SPF should be installed by a trained SPF applicator.

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.

a proud partner of



[www.dowbuildingsolutions.com](http://www.dowbuildingsolutions.com)

FOR TECHNICAL INFORMATION: 866-583-BLUE (2583)

FOR SALES INFORMATION: 800-232-2436

THE DOW CHEMICAL COMPANY

Dow Building Solutions • 200 Larkin • Midland, MI 48674

Printed in U.S.A.

Form No. 179-07751X-0510P&M

©™ Trademark of The Dow Chemical Company ("Dow") or an affiliated company of Dow  
Habitat for Humanity is a registered service mark owned by Habitat for Humanity International

