



## STYROFOAM™ BRAND SPRAY POLYURETHANE FOAM (CM SERIES)

### 1. PRODUCT NAME

STYROFOAM™ Brand Spray  
Polyurethane Foam (CM Series)

### 2. MANUFACTURER

The Dow Chemical Company  
Dow Building Solutions  
200 Larkin  
Midland, MI 48674  
1-866-583-BLUE (2583)  
Fax 1-989-832-1465

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

### 3. PRODUCT DESCRIPTION

STYROFOAM™ Brand Spray Polyurethane Foam (CM Series) is a two-component, spray-applied polyurethane foam that creates a seamless, monolithic barrier for protection against water vapor and air on the interior of steel stud walls. This closed-cell, 2-pcf spray foam successfully incorporates the Enovate 3000 blowing agent from Honeywell.

STYROFOAM™ Brand SPF (CM Series) is available in three formulas:  
**CM 2030**

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

**CM 2045**

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

**CM 2060**

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

### BASIC USE

STYROFOAM™ Brand Spray Polyurethane Foam (CM Series) is designed as a water vapor and air barrier for the THERMAX™ Wall System. STYROFOAM™ Brand SPF (CM Series) expands during installation to fill cavities, cracks and penetrations, preventing uncontrolled air leakage in steel stud cavity walls. The spray foam also provides additional insulation to a wall system.

### SIZES

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

### 4. 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 Spray Polyurethane Foam (CM Series) complies with:

- Underwriters Laboratories, Inc. (UL) Classified Class A (ASTM E84/UL 723)
- Southwest Research Institute (SwRI) Classified Class A (ASTM E84)

When used in conjunction with the THERMAX™ Wall System, STYROFOAM™ Brand SPF (CM Series) (up to 1-1/2" thickness), complies with the following codes:

- NFPA 285-[06]: Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components, Using the Intermediate-Scale, Multistory Test Apparatus
- ASTM E331-[00]: Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors and Curtain Walls by Uniform Static Air Pressure Difference
- ASTM E2357-[05]: Standard Test Method for Determining Air Leakage of Air Barrier Assemblies

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

#### PHYSICAL PROPERTIES

STYROFOAM™ Brand Spray Polyurethane Foam (CM Series) exhibits typical physical properties indicated in Table 1 when tested as represented.

#### ENVIRONMENTAL DATA

STYROFOAM™ Brand Spray Polyurethane Foam (CM Series) is chlorofluorocarbon (CFC) free and uses the Enovate 3000 blowing agent from Honeywell, which is a zero-ozone depleting product.

TABLE 1: TYPICAL PHYSICAL PROPERTIES<sup>(1)</sup> OF STYROFOAM™ BRAND SPRAY POLYURETHANE FOAM (CM SERIES)

PROPERTY AND TEST METHOD	VALUE		
	CM 2030	CM 2045	CM 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 per inch, ft <sup>2</sup> •h•°F/Btu•in			
Aged Value (90 days @ 140°F)	6.1	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	-0.1	0.4	0.1
At 158°F, ambient R.H., 7 days	-2.0	2.2	3.0
At 158°F, 97% R.H., 7 days	Pass <sup>(2)</sup>	Pass <sup>(2)</sup>	Pass <sup>(2)</sup>
Surface Burning Characteristics <sup>(3)</sup> , ASTM E84	Class A	Class A	Class A

(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) Pass AC 377

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

**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.

**5. INSTALLATION**

**SAFETY AND CONDITIONS OF USE**

- Read the instructions and Material Safety Data Sheets carefully before use. MSDSs for STYROFOAM™ Brand SPF products are available at [www.dowbuildingsolutions.com/na](http://www.dowbuildingsolutions.com/na). Visit [www.spraypolyurethane.com](http://www.spraypolyurethane.com) for further details and supporting 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 contains isocyanate, hydrofluorocarbon blowing agent and polyol. Do not breathe the 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 particle filter (P100) 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.

Ambient and substrate temperatures should be within the range stated in Table 1. 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 the adhesion of the spray polyurethane foam.

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. Primary and hose heaters should be set between 115°F and 130°F. Dynamic pressures should range between 600 psi and 1200 psi, and should not exceed a difference of 200 psi between the isocyanate and the polyol sides.

It is recommended that STYROFOAM™ Brand Spray Polyurethane Foam (CM Series) be applied to the stud cavity once all insulation board and veneer fasteners have been installed. Apply spray polyurethane foam in the stud cavity and the inside of the stud flanges to ensure that all fastener penetrations are covered. Apply in consecutive layers of no less than 1/2" and no more than 1-1/2" to achieve a maximum thickness of 1-1/2". If multiple layers are used, allow foam to cool

completely before applying successive layers.

For more specific instructions, consult “Installation Procedures for THERMAX™ Wall System” (Form No. 179-04074).

**6. AVAILABILITY**

STYROFOAM™ Brand Spray Polyurethane Foam (CM Series) is distributed through an extensive network. For more information, call 1-800-232-2436.

**7. WARRANTY**

See THERMAX™ Wall System Limited Warranties for details (Form No. 179-04493).

**8. MAINTENANCE**

STYROFOAM™ Brand Spray Polyurethane Foam (CM Series) has a shelf life of six months when stored dry between 60°F and 90°F.\* Artificial warming of drums is not recommended. Caution should be exercised when opening 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.

\*STYROFOAM™ Brand SPF CM 2030 has a shelf life of three months. Testing is currently underway to confirm six-month shelf life.

**9. TECHNICAL SERVICES**

Dow can provide technical information to help address questions when using STYROFOAM™ Brand Spray Polyurethane Foam (CM Series). Technical personnel are available to assist with any insulation project. Call 1-866-583-BLUE (2583).

**10. FILING SYSTEMS**

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

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

**TECHNICAL INFORMATION**

1-866-583-BLUE (2583)  
**SALES INFORMATION**  
 1-800-232-2436

**IN THE U.S.**

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

STYROFOAM™ Brand Spray Polyurethane Foam contains isocyanate, hydrofluorocarbon blowing agent and polyol. Read the instructions and Material Safety Data Sheets carefully before use. Wear protective clothing, gloves, goggles and 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. 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.



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