



1 PRODUCT NAME

STYROFOAM™ Z-MATE™ Extruded Polystyrene Insulation

2 Manufacturer

The Dow Chemical Company
Building Solutions
200 Larkin
Midland, MI 48674
1-866-583-BLUE (2583)
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3 Product Description

BASIC USE

STYROFOAM™ Z-MATE™ extruded polystyrene insulation is a moisture-resistant, durable and lightweight foam board designed specifically for use beneath drywall in interior masonry wall applications. Sized to fit snugly between Z-furring channels placed on 24" centers, STYROFOAM Z-MATE insulation saves time and money on the job site. Its closed-cell structure provides superior long-term thermal performance and moisture control.

SIZES

Square Edge

Width and length:

23.875" x 96"

Thickness:

1.5", 2.0"

Not all sizes are available in all areas. Consult your Dow representative for details.

4 Technical Data

APPLICABLE STANDARDS

STYROFOAM™ Z-MATE™ insulation meets ASTM C578, Type X – Standard Specification for Rigid Cellular Polystyrene Thermal Insulation. Applicable standards include:

- 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
- E96 – Standard Test Methods for Water Vapor Transmission of Materials
- D696 – Standard Test Method for Coefficient of Linear Thermal Expansion of Plastics Between -30°C and 30°C With a Vitreous Silica Dilatometer
- C203 – Standard Test Methods for Breaking Load and Flexural Properties of Block-Type Thermal Insulation
- D2126 – Standard Test Method for Response of Rigid Cellular Plastics to Thermal and Humid Aging
- C272 – Standard Test Method for Water Absorption of Core Materials for Structural Sandwich Constructions
- D2842 – Standard Test Method for Water Absorption of Rigid Cellular Plastics

CODE COMPLIANCES

STYROFOAM™ Z-MATE™ insulation complies with the following codes:

- International Residential Code (IRC) and International Building Code (IBC); see ICC-ES NES NER-699, BOCA-ES RR 21-02
- Underwriters Laboratories, Inc. (UL) Classified, see Classification Certificate D369

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

PHYSICAL/CHEMICAL PROPERTIES

STYROFOAM™ Z-MATE™ insulation exhibits the properties and characteristics indicated in Table 1 when tested as represented.

For chemical resistance properties of STYROFOAM Z-MATE insulation, see Table 2.

ENVIRONMENTAL DATA

STYROFOAM™ Z-MATE™ insulation is chlorofluorocarbon (CFC) free. It is manufactured with HCFC blowing agents, which have 94 percent less ozone depletion potential than standard CFC blowing agents.

STYROFOAM extruded polystyrene insulation products are reusable in many applications.

TABLE 1

Physical Properties of STYROFOAM™ Z-MATE™ Insulation	
Property and Test Method	Value
Thermal Resistance ⁽¹⁾ per inch, ASTM C518 @ 75°F (24°C) mean temp., ft ² •h•°F/Btu, R-value, min.	5.0
Compressive Strength ⁽²⁾ , ASTM D1621, psi, min.	15
Water Absorption, ASTM C272 (D2842), % by volume, max.	0.1
Water Vapor Permeance ⁽³⁾ , ASTM E96, perm, max.	1.1
Maximum Use Temperature, °F	165
Coefficient of Linear Thermal Expansion, ASTM D696, in/in•°F	3.5 x 10 ⁻⁵
Flexural Strength, ASTM C203, psi, min.	40

- (1) Values are consistent with the criteria of ASTM C578 and the requirements of the FTC R-value rule (16 CFR Part 460). R means resistance to heat flow. The higher the R-value, the greater the insulating power.
- (2) Vertical compressive strength is measured at 10 percent deformation or at yield, whichever occurs first. Since STYROFOAM extruded polystyrene insulations are visco-elastic materials, adequate design safety factors should be used to prevent long-term creep and fatigue deformation.
- (3) Based on 1" thickness.

TABLE 2

Chemical Resistance ⁽¹⁾ of STYROFOAM™ Z-MATE™ Insulation	
Acid, inorganic, weak	Excellent
Acid, inorganic, strong	Excellent
Acid, organic, weak	Excellent
Acid, organic, strong	Good
Bases	Excellent
Alcohols, including isopropyl alcohol	Excellent
Methyl ethyl ketone	Not recommended
Polyglycols, including propylene glycol	Excellent
Hydrocarbons	Not recommended
Salts	Excellent
Insecticides	Not recommended
Kerosene	Poor
Mineral oil USP	Excellent
Naphtha (VMP)	Not recommended
Turpentine	Not recommended
Beer	Good
Gasoline	Not recommended
Fruit juices	Good

- (1) Explanation of ratings:
 Excellent = The plastic was unaffected for the duration of the test.
 Good = A very slight clouding or discoloration of the plastic.
 Poor = Considerable changes in plastic during exposure.
 Not recommended = Severe attack of the plastic. Became soft and unusable after a few hours of exposure.

NOTE: This table should be used as a guide only. For design purposes, specific test data on the intended application may be needed.

FIRE PROTECTION

STYROFOAM™ Z-MATE™ insulation is 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.

5 Installation

Boards of STYROFOAM™ Z-MATE™ insulation are easy to handle, cut and install. Contact a local Dow representative or access the literature library at www.dowstyrofoam.com/architect for more specific instructions.

6 Availability

STYROFOAM™ Z-MATE™ insulation is manufactured in several locations across North America and is distributed through an extensive network. For more information, call 1-800-232-2436.

7 Warranty

A 15-year limited thermal warranty is available.

8 Maintenance

Not applicable.

9 Technical Services

Dow can provide technical information to help address questions when using STYROFOAM™ Z-MATE™ insulation. Technical personnel are available at Dow to assist with any insulation project. For technical assistance, call 1-866-583-BLUE (2583).

10 Filing Systems

- www.dowstyrofoam.com/architect
- www.sweets.com

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.

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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