



1 PRODUCT NAME STYROFOAM™ Ribbed ROOFMATE™ Extruded Polystyrene Insulation

2 Manufacturer

The Dow Chemical Company
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3 Product Description

BASIC USE

STYROFOAM™ Ribbed ROOFMATE™ extruded polystyrene insulation is designed for use above waterproofing membrane in protected membrane systems (PMR) that include pavers or patio stones as primary ballast. STYROFOAM Ribbed ROOFMATE insulation incorporates ribs on the upper surface that extend the length of the panels. Drainage channels are also incorporated into the lower side edges of the panels. In paver/patio stone applications, it is recommended that a drainage layer, which normally takes the form of a paver/pedestal arrangement, be incorporated between the insulation and ballast to facilitate moisture dissipation. The ribbed configuration eliminates the need for expensive pedestals.

STYROFOAM Ribbed ROOFMATE insulation helps the roof membrane maintain a steady temperature, minimizing the harmful effects of freeze-thaw cycles, weathering and physical damage during and after construction.

SIZE

Edge Drainage Channel
Width and length:
2' x 8'
Thickness:
2"

Custom thicknesses are also available. Not all products are available in all parts of the United States. Contact your local Dow representative for details.

4 Technical Data

APPLICABLE STANDARDS

STYROFOAM™ Ribbed ROOFMATE™ insulation meets ASTM C578, Type VI – 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
- D2842 – Standard Test Method for Water Absorption of Rigid Cellular Plastics
- C272 – Standard Test Method for Water Absorption of Core Materials for Structural Sandwich Constructions

TABLE 1

Physical Properties of STYROFOAM™ Ribbed ROOFMATE™ Insulation	
Property and Test Method	Value
Thermal Resistance per inch, ASTM C518 @ 75°F mean temp., ft ² •h•°F/Btu, R-value ⁽¹⁾ , min.	5.0
Compressive Strength ⁽²⁾ , ASTM D1621, psi, min.	40
Water Absorption, ASTM C272, % by volume, max.	0.1
Water Vapor Permeance ⁽³⁾ , ASTM E96, perm, max.	0.8
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.	60
Dimensional Stability, ASTM D2126, % linear change, max.	2.0
Surface Burning Characteristics ⁽⁴⁾ , ASTM E84, Flame spread	5
Smoke developed	165

(1) R means resistance to heat flow. The higher the R-value, the greater the insulating power.

(2) Vertical compressive strength measured at 10 percent deformation or at yield, whichever occurs first. Adequate design safety factors should be used to prevent long-term creep. Contact Dow for design recommendations. When placing a load over the surface of the product, the compressive strength should be multiplied by 0.52 to account for the surface area lost due to channels cut into the foam surface.

(3) Based on 1" thickness.

(4) This numerical flame spread rating is not intended to reflect hazards presented by this or any other material under actual fire conditions.

- E96 – Standard Test Methods for Water Vapor Transmission of Materials
- E84 – Standard Test Method for Surface Burning Characteristics of Building Materials
- D696 – Standard Test Method for Linear Thermal Expansion of Plastics Between -30°C and 30°C With a Vitreous Silica Dilatometer
- C203 – Standard Test Method 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

CODE COMPLIANCES

STYROFOAM™ Ribbed ROOFMATE™ insulation complies with the following codes:

- Meets IBC/IRC requirements for foam plastic insulation; see ICC-ES NER-699
- ICBO-ES ER-2257
- BOCA-ES RR 21-02
- Underwriters Laboratories, Inc. (UL) Classified, see Classification Certificate D369
- Factory Mutual Approved – Subject to conditions of approval as a roof insulation when installed as described in the current edition of FM Approval Guide

PHYSICAL/CHEMICAL PROPERTIES

STYROFOAM™ Ribbed ROOFMATE™ insulation exhibits physical properties as indicated in Table 1 when tested as represented.

For chemical resistance properties of STYROFOAM Ribbed ROOFMATE insulation, see Table 2.

ENVIRONMENTAL DATA

STYROFOAM Ribbed ROOFMATE insulation is manufactured with HCFC blowing agents, which have 94 percent less ozone depletion potential than standard CFC blowing agents.

STYROFOAM Ribbed ROOFMATE insulation is reusable in many applications.

FIRE PROTECTION

STYROFOAM™ Ribbed ROOFMATE™ 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.

TABLE 2

Chemical Resistance ⁽¹⁾ of STYROFOAM™ Ribbed ROOFMATE™ 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 change in plastic during exposure, possible etching, discoloration, dimensional or weight changes.
 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.

5 Installation

STYROFOAM™ Ribbed ROOFMATE™ insulation is strong, yet lightweight and easy to fabricate into various sizes and shapes to meet specific design needs. However, because of the critical technical design aspects of many of its applications, Dow recommends that qualified designers or consultants design your system. Contact a local Dow representative for more specific instructions.

6 Availability

STYROFOAM™ Ribbed ROOFMATE™ insulation is distributed through an extensive network of roofing distributors. For product availability or for the name of your local Dow sales representative, call 1-800-232-2436.

7 Warranty

10-, 15- and 20-year thermal warranties are available.

8 Maintenance

Not applicable.

9 Technical Services

Dow can provide technical information to help address questions when using STYROFOAM™ Ribbed ROOFMATE™ insulation. Technical personnel are available 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.

