



# 1 PRODUCT NAME

## STYROFOAM PLAZAMATE

### Extruded Polystyrene Insulation

## 2 Manufacturer

The Dow Chemical Company  
 Building Materials  
 200 Larkin  
 Midland, MI 48674  
 1-866-583-BLUE (2583)  
 Fax 1-989-832-1465  
 www.dowstyrofoam.com/architect

## 3 Product Description

### BASIC USE

STYROFOAM\* PLAZAMATE\* extruded polystyrene insulation is designed for installation above waterproofing membranes in plaza deck applications.

STYROFOAM PLAZAMATE 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.

### U.S. SIZES

Thickness:

1-1/2"

2"

3"

Board size:

2' x 8'

Edge treatment:

Edge drain channel

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 PLAZAMATE insulation meets ASTM C578-01, Type VII – Standard Specification for Rigid Cellular Polystyrene Thermal Insulation, which includes:

- 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 D2842 – Standard Test Method for Water Absorption of Rigid Cellular Plastics
- ASTM C272 – Standard Test Method for Water Absorption of Core Materials for Structural Sandwich Constructions
- ASTM E96 – Standard Test Method for Water Vapor Transmission of Materials
- ASTM E84 – Standard Test Method for Surface Burning Characteristics of Building Materials
- ASTM D696 – Standard Test Method for Linear Thermal Expansion of Plastics Between

### U.S. PROPERTY CHART

TABLE 1

Physical Properties of STYROFOAM PLAZAMATE Insulation	
Property and Test Method	Value
Thermal Resistance per inch, ASTM C518 @ 75°F mean temp., ft <sup>2</sup> •h•°F/Btu, min., R-value <sup>(1)</sup>	5.0
Compressive Strength <sup>(2)</sup> , ASTM D1621, psi, min.	60
Water Absorption, ASTM C272, % by volume, max.	0.1
Water Vapor Permeance <sup>(3)</sup> , 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 <sup>-5</sup>
Flexural Strength, ASTM C203, psi, min.	75
Dimensional Stability, ASTM D2126, % linear change, max.	2.0
Surface Burning Characteristics <sup>(4)</sup> , ASTM E84,	
Flame spread	15
Smoke development	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.

(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.

- 30°C and 30°C With a Vitreous Silica Dilatometer
- ASTM C203 – Standard Test Method for Breaking Load and Flexural Properties of Block-Type Thermal Insulation
  - ASTM D2126 – Standard Test Method for Response of Rigid Cellular Plastics to Thermal and Humid Aging

**CODE COMPLIANCES**

STYROFOAM PLAZAMATE insulation complies with the following codes:

- Meets IBC/IRC requirements for foam plastic insulation; see NES 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 PLAZAMATE insulation exhibits physical properties as indicated in Table 1 when tested as represented.

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

**ENVIRONMENTAL DATA**

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

STYROFOAM PLAZAMATE insulation is reusable in many applications and can be recycled.

**FIRE PROTECTION**

STYROFOAM PLAZAMATE 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 <sup>(1)</sup> of STYROFOAM PLAZAMATE 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.

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## 5 Installation

STYROFOAM PLAZAMATE 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 PLAZAMATE 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

In the U.S., 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 PLAZAMATE insulation. Technical personnel are available at Dow sales offices to assist with any insulation project. For technical assistance, call: 1-866-583-BLUE (2583)

## 10 Filing Systems

- [www.dowstyrofoam.com/architect](http://www.dowstyrofoam.com/architect)
- [www.sweets.com](http://www.sweets.com)

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**IN THE U.S.:**

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

**THE DOW CHEMICAL COMPANY**

- Building Materials • 200 Larkin • Midland, MI 48674 • [www.dowstyrofoam.com/architect](http://www.dowstyrofoam.com/architect)

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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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