



# STYROFOAM™ Extruded Polystyrene Pipe Insulation

STYROFOAM™ extruded polystyrene pipe insulation is a rigid thermoplastic foam manufactured by a proprietary extrusion process that forms a uniform, void-free, closed-cell structure. This structure, along with the naturally water-repellent nature of the polystyrene resin, gives STYROFOAM insulation products high compressive strength, low friability and excellent resistance to water vapor and water absorption from freeze-thaw cycling.

STYROFOAM pipe insulation is nondusting and nonirritating, and is not a known food source for mold and mildew.

## Applications

STYROFOAM™ pipe insulation is used extensively in industrial and commercial piping applications. With a service temperature range of -297°F to 165°F (-183°C to 74°C), STYROFOAM pipe insulation is a preferred material for low-temperature systems, both for minimizing heat gain and preventing surface condensation. STYROFOAM pipe insulation maintains its key insulating properties in low-temperature applications and other environments with high humidity and high-moisture conditions.

Typical applications for STYROFOAM pipe insulation include:

- ammonia refrigeration lines
- freezer rooms
- chilled water piping
- transport pipelines
- cold storage systems
- refrigeration equipment
- pharmaceutical plants
- cryogenic systems

**TABLE 1**

<b>Physical Properties of STYROFOAM™ Extruded Polystyrene Pipe Insulation</b>	
<b>Property<sup>(1)</sup> and Test Method<sup>(2)</sup></b>	<b>Value</b>
Density, ASTM D1622, lb/ft <sup>3</sup> (kg/m <sup>3</sup> )	1.6 (26)
Compressive Strength <sup>(3)</sup> , ASTM D1621, lb/in <sup>2</sup> (kPa)	20 (138)
k-factor, ASTM C518, Btu•in/hr•ft <sup>2</sup> •°F (W/m•°C), Aged 180 days @ 75°F (24°C)	0.259 (0.037)
Water Absorption, % by volume ASTM C272 ASTM D2842	0.5 1.0
Water Vapor Permeability, ASTM E96, perm-inch (ng/Pa•s•m)	1.5 (2.2)
Dimensional Stability <sup>(3)</sup> , ASTM D2126, % volume change At 158°F (70°C)/97% R.H., 7 days	1.0
Service Temperature, °F (°C)	-297 to +165 (-183 to +74)
Surface Burning Characteristics <sup>(4)</sup> , ASTM E84 Flame Spread/Smoke Developed (FS/SD)	5/165 up to 4" (10 cm) thickness
Coefficient of Linear Thermal Expansion, ASTM D696 in/in•°F cm/m•°C	35 x 10 <sup>-6</sup> 19.4 x 10 <sup>-4</sup>

(1) All properties are measured at 74°F (23°C), unless otherwise indicated.  
 (2) Unless otherwise indicated, data shown are typical values obtained from representative production samples. This data may be used as a guide for design purposes, but should not be construed as specifications. For property ranges and specifications, consult your Dow representative.  
 (3) Average value through foam cross section.  
 (4) This numerical flame spread data is not intended to reflect hazards presented by this or any other material under actual fire conditions.

Dow can provide general guidelines and recommendations for STYROFOAM pipe insulation. For additional information, visit [www.dowpipe.com](http://www.dowpipe.com), call 1-866-583-BLUE (2583) or contact your local Dow representative.

## SIZE

STYROFOAM™ pipe insulation is extruded into billets.

Height and width:  
 7" x 14" (18 cm x 36 cm)  
 8" x 16" (20 cm x 41 cm)  
 10" x 20" (25 cm x 51 cm)

Length:  
 9' (2.75 m)

Custom lengths are also available. Contact your local Dow representative for details.

## PHYSICAL PROPERTIES

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

Consultation with local code officials and design engineers/specifiers is recommended before application.

As with all cellular polymers, STYROFOAM pipe insulation will degrade upon prolonged exposure to sunlight. A covering to block ultraviolet radiation must be used to prevent degradation. Other coverings to protect the insulation from the elements may be required.

## ENVIRONMENTAL DATA

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

STYROFOAM extruded polystyrene foam is recyclable and can be reused in many applications.

## Installation

STYROFOAM™ pipe insulation is specifically formulated for easy fabrication into many shapes, such as pipe coverings, valve and fitting covers, and others to meet specific design needs. Because of the critical design aspects in many applications, Dow recommends contacting qualified designers for system design. For more specific instructions, contact a local Dow representative or access the literature library at [www.dowpipe.com](http://www.dowpipe.com).

## Availability

STYROFOAM™ pipe insulation is distributed through Dow's extensive Authorized Fabricator Network. For more information, call:  
1-866-583-BLUE (2583) (English)  
1-800-363-6210 (French)

## Technical Services

Dow can provide technical information to help address questions when using STYROFOAM™ pipe insulation. Technical personnel are available at:  
1-866-583-BLUE (2583) (English)  
1-800-363-6210 (French)

**THE DOW CHEMICAL COMPANY**  
Mechanical Insulation Solutions  
P.O. Box 1206  
Midland, MI 48641-1206

For Sales and Technical Information: **1-866-583-BLUE (2583)** (English); **1-800-363-6210** (French)  
[www.dowpipe.com](http://www.dowpipe.com)

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COMBUSTIBLE: Protect from high heat sources. For more information, consult MSDS or call Dow at 1-866-583-BLUE (2583). In an emergency, call 1-989-636-4400 in the U.S. or 1-519-339-3711 in Canada.

Building and/or construction practices unrelated to insulation 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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