

DuPont™ Styrofoam™ Brand XPS Pipe Insulation Billet

High R-value, Versatile Billet for Pipe Insulation Applications

FEATURES/BENEFITS

Description

DuPont™ Styrofoam™ Brand XPS Pipe Insulation Billet:

- Uniform large cross-section material provides ease of machining, cuttability and uniformity of resulting thermal performance
- Provides superior resistance to water absorption, water vapor transmission, and freeze thaw cycling
- Ideal for low-temperature, pipe insulation, and other condensation-prone applications
- Delivers long-term compressive strength
- Resists compressive creep and fatigue

Applications

Styrofoam™ Brand XPS Pipe Insulation Billet is used extensively in industrial and commercial piping applications. With a service temperature range of -320°F to 165°F (-196°C to 74°C), **Styrofoam™ Brand XPS Pipe Insulation Billet** is a preferred material for low-temperature systems, both for minimizing heat gain and preventing surface condensation.

Styrofoam™ Brand XPS Pipe Insulation Billet maintains its key insulating properties in low temperature applications and other environments with high humidity and high-moisture conditions.

Typical applications for **Styrofoam™ Brand XPS Pipe Insulation Billet** include:

- Ammonia refrigeration lines
- Freezer rooms
- Chilled water piping
- Transport pipelines
- Cold storage systems
- Refrigeration equipment
- Pharmaceutical plants
- Cryogenic systems

Standard Sizes

Styrofoam™ Brand Pipe XPS Insulation Billet:

- 7" x 14" x 109
- 8" x 16" x 109
- 10" x 20" x 109

Installation

Styrofoam™ Brand XPS Pipe Insulation Billet 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, DuPont recommends contacting qualified designers for system design.

Sustainable Solutions

Styrofoam™ Brand Pipe XPS Insulation Billet uses BluEdge™ technology. It is hydrochlorofluorocarbon (HCFC) free and chlorofluorocarbon (CFC) free with zero ozone depletion potential and is reusable in many applications. It meets Low Global Warming Potential requirements in US and Canada.

PROPERTIES

Physical Properties

Styrofoam™ Brand Pipe XPS Insulation Billet products exhibit the typical physical properties indicated in Tables 1 and 2 when tested as represented. Review all instructions and (Material) Safety Data Sheet ((M)SDS) before use. Please contact DuPont at 1-866-583-2583 when additional guidance is required for writing specifications that include this product.

* Styrofoam™ Brand Pipe XPS Insulation Billet is a product of DuPont.

** R means resistance to heat flow. The higher the R-value or RSI, the greater the insulating power.

Environmental Data

Styrofoam™ Brand XPS Pipe Insulation Billet is manufactured without the use of CFC or HCFC blowing agents. Styrofoam™ Brand XPS Pipe Insulation Billet is recyclable and can be reused in many applications.

Fire Protection & Safety Considerations

Styrofoam™ Brand XPS Pipe Insulation Billet requires care in handling. All persons working with this material must know and follow the proper handling procedures.

TABLE 1: U.S. Physical Properties of Styrofoam™ Brand XPS Pipe Insulation Billet

Density, ASTM D1622	2 lb/ft ³ (32.5 kg/m ³)
Thermal Resistance ⁽¹⁾ per inch, ASTM C518, ft ² -h ² -°F/Btu, aged as 1 inch thick slice for 180 days, R-value, min.@ 75°F (24°C) mean temp.	3.9
Compressive Strength ⁽²⁾ , ASTM D1621, psi, min.	20.0
Water absorption, ASTM C272, vol%, max	0.5
Water vapor permeance, ASTM E96, perm, max	2.0
Dimensional stability (linear change, %), ASTM D2126	2%
Service Use Temperature Range, °F	-320 to 165
Linear coefficient of thermal expansion, ASTM E228	3.5 x 10 ⁻⁵ /°F
Surface Burning Characteristics, ASTM E84	Flame Spread ⁽³⁾ 15, Smoke Developed ⁽³⁾ 15

⁽¹⁾ Values are consistent with the criteria of ASTM C578-19. 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™ Brand Extruded Polystyrene Foam Insulation is a visco-elastic material, adequate design safety factors should be used to prevent long-term creep and fatigue deformation. For static loads, 3:1 is suggested. For dynamic loads, 5:1 is suggested.

⁽³⁾ This numerical flame spread and smoke developed ratings are not intended to reflect hazards presented by this or any other material under actual fire conditions.

TABLE 2: Thermal conductivity values at specific mean temperatures

Temperature, °F (°C)	-75 (-59)	-50 (-46)	-25 (-32)	0 (-18)	50 (10)	75 (24)
Thermal Conductivity, BTU.in/hr. °F. ft ² (W/m.K)	0.194 (0.028)	0.160 (0.023)	0.167 (0.024)	0.181 (0.026)	0.201 (0.029)	0.215 (0.031)



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