

## DESCRIPTION

XPS PIB (eXtruded PolyStyrene Pipe Insulation Billet) 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 XPS PIB products high compressive strength, low friability and excellent resistance to water vapor and water absorption from freeze-thaw cycling. XPS PIB is non-dusting and non-irritating and is not a known food source for mold and mildew.

## APPLICATIONS

XPS PIB 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), XPS PIB is a preferred material for low-temperature systems, both for minimizing heat gain and preventing surface condensation.

XPS PIB maintains its key insulating properties in low-temperature applications and other environments with high humidity and high-moisture conditions.

Typical applications for XPS PIB include:

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

## SIZE

XPS PIB 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)

## AVAILABILITY

XPS PIB insulation is distributed through JM's extensive Authorized Fabricator Network

## INSTALLATION

XPS PIB 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, JM recommends contacting qualified designers for system design.



## PHYSICAL PROPERTIES

XPS PIB exhibits the properties and characteristics indicated in Table 1 when tested as represented. Consultation with local code officials and design engineers/specifiers are recommended before application. As with all cellular polymers, XPS PIB 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

XPS PIB is manufactured without the use of CFC or HCFC blowing agents. XPS PIB is recyclable and can be reused in many applications.

## FIRE PROTECTION & SAFETY CONSIDERATIONS

XPS PIB requires care in handling. All persons working with this material must know and follow the proper handling procedures. The current Safety Data Sheet (SDS) and General Handling Recommendations for XPS PIB contain information on the safe handling, storage and use of this material, and can be found at [www.jm.com](http://www.jm.com).

**XPS PIB**

## EXTRUDED POLYSTYRENE PIPE INSULATION BILLET

**PHYSICAL PROPERTIES OF XPS PIB** <sup>(1,2)</sup>

ASTM C578, Type XIII	Complies
Density, ASTM D1622	1.6 lb/ft <sup>3</sup> (26 kg/m <sup>3</sup> )
Compressive Strength, ASTM D1621	20 lb/in <sup>2</sup> (138 kPa) parallel to rise
k-Factor, ASTM C518, @75°F (24°C) mean temp, Aged 180 Days	0.259 Btu•in/hr•ft <sup>2</sup> •°F 0.037 W/m°C
Water Absorption ASTM C272 ASTMD2842	1.0% by vol. 1.0% by vol.
Water Vapor Permeability, ASTM E96	1.5 perms/inch (2.2 ng/Pa•s•m)
Dimensional Stability <sup>(3)</sup> , ASTM D2126 (%Change)	1.0 @ 158° F (70°C), 97% R.H. 7 days
Service Temperature <sup>(4)</sup>	-320°F to 165°F (-196°C to 73.9°C)
Surface Burning Characteristics, ASTM E84 <sup>(5)</sup>	≤ 5 Flame Spread ≤ 10 Smoke Developed (up to 10cm thickness)
Color	Blue

(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 JM representative.

(3) Average value through foam cross section.

(4) XPS PIB can be used at this temperature and below but for applications below -297°F certain system design precautions may be necessary. Please consult JM for more information.

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

XPS PIB Is produced by Dow DuPont



717 17th St.  
Denver, CO 80202  
(800) 866-3234  
JM.com

Technical specifications as shown in this literature are intended to be used as general guidelines only. Please refer to the Safety Data Sheet and product label prior to using this product. The physical and chemical properties of the product listed herein represent typical, average values obtained in accordance with accepted test methods and are subject to normal manufacturing variations. They are supplied as a technical service and are subject to change without notice. Any references to numerical flame spread or smoke developed ratings are not intended to reflect hazards presented by these or any other materials under actual fire conditions. Check with the Regional Sales Office nearest you for current information.

**All Johns Manville products are sold subject to Johns Manville's standard Terms and Conditions, which includes a Limited Warranty and Limitation of Remedy. For a copy of the Johns Manville standard Terms and Conditions or for information on other Johns Manville thermal insulation and systems, visit [www.jm.com/terms-conditions](http://www.jm.com/terms-conditions) or call (800)654-3103.**