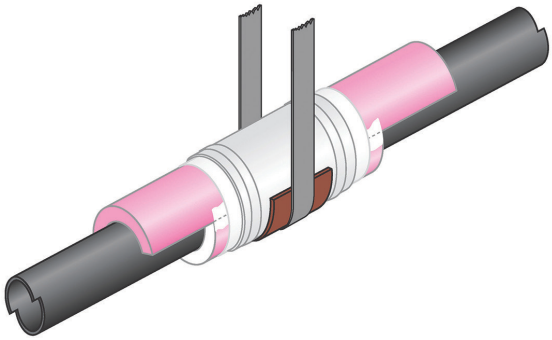
FOAMULAR® XPS Pipe Insulation

Extruded Polystyrene Fabrication Billets



Description

FOAMULAR® Extruded Polystyrene (XPS) Fabrication Billets are manufactured from rigid sheets of foam made using Owens Corning's Hydrovac® process technology. The unique closed-cell structure of FOAMULAR® XPS insulation makes it highly resistant to moisture, and thus low in water absorption but high in insulating capability.

FOAMULAR® XPS Fabrication Billets are factory laminated using a specially formulated polyurethane-based adhesive under strict process controls to ensure performance.

The primary function of the FOAMULAR® XPS Fabrication Billet product is to provide raw stock to commercial pipe fabricators from which individual pipe insulation parts can be cut.

Features

- Compressive strength of 25 psi
- Exceptional thermal efficiency
- Long service life
- Reduced overall installation costs
- Manufactured in the U.S.A.
- Available in several sizes:
  - Thickness: 8", 16", 20", 24"
  - Width: 24", 48"
  - Length: 37" to 120"
  - Standard Stock: 24" x 48" x 74"

Applications

- High Humidity and High Moisture Conditions
- Industrial Pipe Insulation (Non-plenum) Typical Uses
  - Ammonia/liquid refrigeration lines
  - Chilled water piping
  - Cold storage systems
  - Freezer rooms
  - Pharmaceutical plants
  - Refrigeration equipment
  - Transport pipelines
  - Direct burial applications
  - Saddle supports in fiberglass pipe insulation systems
- Low temperature or cryogenic piping systems (limited to -320° F) containing:
  - Nitrogen
  - Oxygen
  - Argon
  - Krypton
  - Xenon

NOTE: Temperatures below -297° F can result in oxygen rich environments. Special design considerations should be taken in these temperature ranges.

Physical Properties

Property	Test Method[1]	Value
Thermal Conductivity[2,3], maximum, Btu•in/ft²•hr•°F 180 days @ 75°F mean temperature	ASTM C518	0.200 (0.029)
Compressive Strength[2,4], minimum, psi (kPa)	ASTM D1621	25 (173)
Water Absorption[2,5], maximum, % by volume	ASTM C272	.15
Water Vapor Permeance[2,6] maximum, perm (ng/Pa•s•m²)	ASTM E96	1.1
Dimensional Stability[2], % linear change	ASTM D2126	2.0
Flame Spread[2,7,8]	ASTM E84	10
Smoke Developed[2,7,8]	ASTM E84	175
Service Temperature, maximum, °F (°C)		-320 to 165 (-196 to 74)
Linear Coefficient of Thermal Expansion[2], in/in•°F	ASTM E228	3.5×10^{-5} (6.3×10^{-5})

1. Sample modified as required to meet applicable test method.
2. XPS foam core values meet ASTM C578 TYPE IV.
3. k means the apparent thermal conductivity. The lower the value, the greater the insulation power.
4. Values at yield or 10% deflection, whichever occurs first.
5. Data ranges from 0.00 to value shown due to the level of precision of the test method.
6. Water vapor permeance decreases as thickness increases.
7. These laboratory tests are not intended to describe the hazard presented by this material under actual fire conditions.
8. Fire performance of FOAMULAR® 4" thick product only. Thicker products may have different fire performance characteristics. Due to limits on the equipment used to test per ASTM E84, Owens Corning® FOAMULAR® XPS Fabrication Billets have not been tested.

Technical Information

Owens Corning has developed an Installation Guide for Low Temperature Pipe Insulation to assist engineers, architects, and contractors with the proper installation of pipe insulation made from FOAMULAR® XPS Fabrication Billets. This guide is available at www.owenscorning.com/xpspipe.

FOAMULAR® XPS Fabrication Billets are available to Owens Corning Certified Fabricators. To learn more about becoming an Owens Corning Certified Fabricator, contact your local area sales manager. For more information, call 1-800-GET-PINK®.

Technical questions can be submitted to: GETTECH@owenscorning.com.

Limitations

- Fire performance of products fabricated using FOAMULAR® XPS Pipe Fabrication Billets may vary in the field depending on facings and adhesives used in the fabrication process. Fabricators should be consulted if composite fire performance is required.
- FOAMULAR® XPS Fabrication Billets and the subsequent parts and pipe sections that are fabricated from it are subject to deterioration from prolonged exposure to ultraviolet light and sun exposure. Procedures should be established during fabrication, shipment, storage, and eventual product use that limit total direct exposure to ultraviolet light to a maximum of 30 days over the life of the material.
- This product or subsequent parts or pipe sections that are fabricated from it will ignite if exposed to fire of sufficient heat and intensity. During shipping, installation and use, this product should not be exposed to temperatures above 165° F, open flames or other ignition sources.
- This product or subsequent parts or pipe sections that are fabricated from it are not recommended for use in piping systems that contain flammable liquids such as hydrocarbons.
- This product or subsequent parts or pipe sections that are fabricated from it should not be packaged or covered with clear (non-opaque) wrap and left exposed to direct sunlight.

Warranty

FOAMULAR® XPS Fabrication Billets are made from FOAMULAR® XPS insulation. FOAMULAR® XPS insulation limited lifetime warranty maintains 90% of its R-value for the lifetime of the building and covers all ASTM C578 properties. See actual warranty for complete details, limitations and requirements at www.owenscorning.com/xpspipe or http://sustainability.owenscorning.com.

Environmental and Sustainability

Owens Corning is a worldwide leader in building material systems, insulation and composite solutions, delivering a broad range of high-quality products and services. Owens Corning is committed to driving sustainability by delivering solutions, transforming markets and enhancing lives. More information can be found at www.owenscorning.com.

Certifications and Sustainable Features[9]

- Certified by SCS Global Services to contain a minimum of 20% recycled content pre-consumer
- GREENGUARD Certified products are certified to GREENGUARD standards for low chemical emissions into indoor air during product usage. For more information, visit ul.com/gg
- Environmental Product Declaration (EPD) has been certified by UL Environment
- Utilizing FOAMULAR® XPS insulation can help builders achieve green building certifications including the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED®) certification

9. The above certifications apply only to pre-laminated FOAMULAR® Extruded Polystyrene (XPS) Boards that make up Fabrication Billets.

AVERAGE 20% RECYCLED CONTENT PRE-CONSUMER

Disclaimer of Liability

SCS Global Services provides independent verification of recycled content in building materials and verifies recycled content claims made by manufacturers. For more information, visit www.SCSglobalservices.com.

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