2 Lb. Polyisocyanurate Foam Blocks

Part # - 445

Full Scale Building Has Never Been Easier!
Polyisocyanurate foam has been a favorite material of pattern builders for years. Available in multiple sizes so you can cut, carve, sand, and sculpt any shape imaginable without gluing numerous sheets together or pouring your own block. Although this foam can be easily CNC machined, it should not be hot wired. Professional results can be achieved when working by hand. With the variety of tools available on our site, you can saw, carve, plane and smooth out your shape. You will then lay layers of fiberglass and resin to protect and strengthen your shape. Finally, you will spray Duratec® Surfacing Primer and buff to a perfect shine. A perfect plug allows for a perfect mold which makes the high gloss, perfect part you want.

Design Considerations

This foam is designed for use in environments where temperatures range from -60°F to +300°F (-51°C to +149°C). However, in non-laminated applications where this foam is exposed to temperatures exceeding 140°F (60°C) and/or relative humidity in excess of 70%, allowances for foam expansion may need to be incorporated into the engineering design. Regardless of operating conditions, a qualified design engineer should review all foam applications.
This foam, like all cellular plastics, will degrade upon prolonged exposure to sunlight. Cover foam material in order to block ultraviolet radiation and prevent degradation. Other coverings to protect exposed foam surfaces from the elements and to meet applicable fire regulations may also be required.

Applications

- Refrigerated food service equipment
- Laminated wall and roof panels
- Commercial and industrial doors
- FRP panels, tanks and shelters
- Truck/Trailer bodies, shipping containers and railcars
- Plugs, patterns and carved products

Environmental Data

This foam is specifically formulated to provide excellent physical properties without the use of chlorofluorocarbon (CFC) or hydrochlorofluorocarbon (HCFC) blowing agents. In compliance with the Montreal Protocol and the Clean Air Act, this foam is manufactured with hydrocarbon blowing agents which have no ozone depletion and no global warming potential.

Safety and Handling

Polyisocyanurate Foam Sheets contain ingredients which could be harmful if mishandled. Contact with skin and eyes should be avoided and necessary protective equipment and clothing should be worn. Individuals should wash with soap and water before eating or drinking. Individuals should observe conditions of good industrial hygiene and safe working practice. For more detailed instructions on handling, please see the MSDS.

Information present herein has been compiled from sources considered to be dependable and is accurate and reliable to the best of our knowledge and belief but is not guaranteed to be so. Nothing herein is to be construed as recommending any practice or any product violation of any patent or in violation of any law or regulation. It is the user's responsibility to determine for himself the suitability of any material for a specific purpose and to adopt such safety precautions as may be necessary. We make no warranty as to the results to be obtained in using any material and, since conditions of use are not under our control, we must necessarily disclaim all liability with respect to the use of any material supplied by us.
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Physical Properties (1)(2)(3)	ASTM Method	Typical Values (4)	
		English	Metric
Density, Average	D1622	2.0 lb/ft^3	31.9 kg/m3
Thermal Conductivity, k-factor (5) Initial at 75°F (24°C) Aged 10 days at 158°F (70 °C)	C518	 0.165 BTU·in/hr·ft^2·°F 0.185 BTU·in/hr· ft^2·°F	 .024 W/m·°C .027 W/m·°C
Thermal Conductivity,R-value/inch Aged 10 days at 158 °F (70 °C)		 5.4 Hr·ft^2·°F/BTU	 0.96 m^2·°C/W
Compressive Strength/Modulus Parallel to rise Perpendicular to Rise	D1621	 27/700 lb/in^2 18/334 lb/in^2	 186/4,823 kPa 124/2,301 kPa
Shear Strength/ Modulus Parallel to Rise Perpendicular to Rise	C273	 25/300 lb/in^2 18/220 lb/in^2	 172/2,067 kPa 124/1,515 kPa
Tensile Strength/Modulus Parallel Perpendicular	D1623	 36/1,200 lb/in^2 26/463 lb/in^2	 248/8,268 kPa 179/3,190 kPa
Flexural Strength/Modulus Parallel to Rise Perpendicular to Rise	C203	 40/760 lb/in^2 28/513 lb/in^2	 275/5,236 kPa 193/3,535 kPa
Closed Cell Content (6)	D6226	95%	
Water Absorption (by volume)	C272	1.27%	
Water Vapor Transmission	E96	4.0 perms/in	5.8 ng/Pa·s·m
Dimensional Stability (volume change) 158 °F (70 °C)+97% R.H./7 days 212 °F (100 °C)+Ambient R.H./7 days -40 °F (-40 °C)+Ambient R.H./7 days	D2126	 +0.6/+2.6% -0.5/-0.2% +0.0/+0.8%	
Surface Burning Characteristics (7) Flame Spread up to 6"(15.23 cm) Smoke Developed up to 6"(15.23 cm)	E84	 25 <250	

(1) Data shown are average values obtained from representative production samples, unless otherwise indicated.
(2) The suitability of this product for any particular application is the responsibility of the user. The potential user is responsible for performing any pertinent test required to determine the product's suitability for the intended application.
(3) All properties measured at 74°F (23°C) unless otherwise indicated.
(4) To be used only as a guide for engineering.
(5) K-factors will vary with and and use conditions.
(6) Freeze-thaw cycling in wet environments may cause destruction of unprotected foam's closed cell structure, resulting in the deterioration of physical properties.
(7) Numerical "Flame Spread" and "Smoke Developed" ratings are not intended to reflect hazards presented by this or any other material under actual fire conditions. This material is combustible and will burn when exposed to large fire sources.

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