AMITY INSULATION GROUP INC.

14715 - 122 Avenue, Edmonton, Alberta Canada T5L 2W4

Bus: (780) 454-8558
Fax: (780) 452-2747

DATA SHEET

PROTHERM CELLULAR GLASS

Characteristics

Amity Protherm Cellular Glass is a rigid insulation used to insulate commercial and industrial pipe and equipment applications above or below ground.

The Cellular Glass is manufactured in an ISO 9001 facility to meet or exceed the minimum requirements ASTM C552-16, the Standard Specification for Cellular Glass Insulation. The Glass can be sold in block form or if required, Amity will fabricate the block into pipe covering, fittings, sidewall segments and other shapes from its facility.

Mechanical Properties

Due to the nature of the material, each cell is an insulating entity which retains its form, is fire resistant, has high compressive strength, and is noncombustible, non-absorbent, corrosion resistant, and impermeable to water. As a result, Protherm Cellular glass is a preferred insulator for long term performance and for minimizing mechanical abuse. When used with a vapour barrier mastic to seal joints along with jacketing, this combination forms a complete vapour barrier system resistant to moisture and corrosion with minimal or no open cells that water can attach to. These characteristics are ideal when working with low temperature pipe, equipment, storage tanks and vessels plus many other mechanical uses such as cryogenic, steam, chemical and underground systems.

Physical Attributes

Protherm cellular glass block operates at a service temperature between -450 to +896º F (-268 to +480º C) and complies with Type I (Grade 6) standards. Block is supplied in 18 inch (457mm) widths and 24 inch (610mm) lengths and fabricated pipe cover is sold in two foot lengths. Protherm Cellular Glass is bonded with asphalt when necessary and bore coating is available upon request, but additional charges will apply. It is the responsibility of the Buyer to understand the application temperatures and the melting points of asphalt. Two Piece pipe cover will be made up to a 14 inch nominal pipe size (NPS) and Amity reserves the right to use curved sidewall segments for any NPS greater than 14 inch outside diameter (OD). Any deviation from this policy will be considered on a case by case basis. Cellular glass is a made to order product, therefore no returns, credits or exchanges will be permitted once fabrication occurs.

Physical and Thermal Properties

Properties	ASTM Requirements Type I Block (Grade 6)	ASTM Method	Result
Compressive Strength	Min 60 psi (414 kPa)	C 165, C 240	Pass
Density	Min 6.12 (98 kg/m3)	C 303	Pass
Flexural Strength	Min 41 psi (283 kPa)	C 203, C 240	Pass
Water Absorption	Max 0.5%	C 240	Pass
Water Vapour Permeability	Max per inch or grains per inch: perm-inch (ng/Pa-s-m)	E 96 Wet Cup	Pass
Hot Surface Performance	Max warpage 0.125 inch (3 mm) No through cracking	E 411	Pass
Non Combustibility Properties	Pass	E136	Pass
Surface burning characteristics	Flame Spread index: Max 5 Smoke Developed index: Max 0	E 84	Pass
Mass Loss Corrosion Rate	<= DI	C 795 using C871	Pass
Thermal Conductivity at Mean Temp º F (º C) of 200º F (93º C) 100º F (38º C) 75º F (24º C) 50º F (10º C) 0º F (-18º C) -50º F (-46º C) -100º F (-73º C)	BTU-in/hr-ft^{2}-º F (Wm-K): 0.40 (0.058) 0.33 (0.048) 0.31 (0.045) 0.29 (0.042) 0.27 (0.039) 0.24 (0.035) 0.21 (0.030)	C 518, C 177	Pass
For specific details and specifications, please refer to ASTM C552-16			

Please contact your sales representative at Amity Insulation Group Inc. for further information if required.