Dow Building Materials

TRYMER 6000 Rigid Polyisocyanurate Insulation

Product Information

TRYMER* 6000 rigid polyisocyanurate insulation is a polyurethane modified polyisocyanurate cellular polymer supplied in the form of bunstock for fabrication into sheets, pipe, tank and vessel covering, and other shapes for a variety of thermal insulation applications[1]. Although similar in physical form to polyurethane insulation, TRYMER 6000 insulation has improved dimensional stability over a wider range of temperatures. TRYMER 6000 insulation has been specifically formulated to provide excellent thermal insulation properties without the use of CFC blowing agents.

TRYMER 6000 insulation is available as bunstock 48″ (122 cm) wide by 12″ (30 cm) high by 36″ (91 cm), 96″ (244 cm) or 108″ (274 cm) long for further fabrication into various sizes and shapes to meet various end use needs. Custom lengths are also available. Contact your local Dow representative for details.

Applications

TRYMER 6000 rigid polyisocyanurate insulation is used extensively in industrial and commercial applications within the service temperature range of -297°F to +300°F (-183°C to +149°C). Because of the critical technical design aspects of many of these applications, qualified designers or consultants should design the total system. Dow can provide general guidelines and recommendations on many typical applications for TRYMER 6000 insulation. Call 1-800-441-4369 or contact your local Dow representative for details. Some typical applications include:

- Core material for architectural and structural panels
- Core material for factory built panelized constructions
- Pipe, tank and vessel insulation
- Insulation for shipping containers, trucks or rail cars
- Fabricated pipe fitting insulation
- Flat or tapered boardstock for roof insulation

Like all cellular polymers, this product will degrade upon prolonged exposure to sunlight. A covering to block ultra-violet radiation must be used to prevent this degradation. Other coverings to protect the insulation from the elements may also be required. Consultation with local building code officials, design engineers/specifiers or insurance personnel is recommended before application.

Safety Considerations

TRYMER 6000 rigid polyisocyanurate insulation requires some care in handling. All persons who work with these materials must know and follow the proper handling procedures. The current Material Safety Data Sheet contains additional information on the safe handling, storage and use of this material. A copy of the MSDS can be obtained by calling 1-800-441-4369 or by contacting your local Dow representative.

[1]Application-specific testing is often required to determine suitability of the material and/or the final assembly in the specific application. The potential user should perform any pertinent testing to determine the suitability of the product in the intended application since final determination of fitness of the product for any particular use is the responsibility of the buyer.

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TABLE 1

TRYMER 6000 Polyisocyanurate Insulation

Physical Properties[1]	ASTM Method	English Units	English Values[2]	Metric Units	Metric Values[2]
Density[3]	D 1622	lb/ft³	6.0	kg/m³	96
Compressive Strength[3]	D 1621	lb/in²		kPa	
Parallel to Rise (Thickness)			140		970
Perpendicular to Rise (Width)			130		900
Perpendicular to Rise (Length)			130		900
Compressive Modulus	D 1621	lb/in²		kPa	
Parallel to Rise (Thickness)			3100		21400
Perpendicular to Rise (Width)			2800		19300
Perpendicular to Rise (Length)			2800		19300
Shear Strength	C 273	lb/in²		kPa	
Parallel to Rise			80		550
Shear Modulus	C 273	lb/in²		kPa	
Parallel to Rise			800		5500
Tensile Strength	D 1623	lb/in²		kPa	
Parallel to Rise (Thickness)			80		550
Tensile Modulus	D 1623	lb/in²		kPa	
Parallel to Rise (Thickness)			2800		19300
Flexural Strength	C 203	lb/in²		kPa	
Parallel to Rise			160		1100
Flexural Modulus	C 203	lb/in²		kPa	
Parallel to Rise			5800		40000
k-Factor (75°F (24°C) mean temp.)	C 518	BTU•in/hr•ft²•°F		W/m°C	
Initial			0.160		0.023
Aged 180 days @ 75°F (24°C)			0.200		0.029
R-Value/in (75°F (24°C) mean temp.)	C 518	Hr•ft²•°F/BTU		m²•°C/W	
Initial			6.3		1.10
Aged 180 days @ 75°F (24°C)			5.0		0.88
Closed Cell Content	D 2856	%	97	%	97
Water Absorption	C 272	% by Volume	0.3	% by Volume	0.3
Water Vapor Permeability	E 96	Perm-Inch	1.1	(ng/Pa•s•m)	1.6
Dimensional Stability[4]	D 2126				
@ -40°F (-40°C), 7 days					
Length		% Change	-0.1	% Change	-0.1
Volume		% Change	-0.1	% Change	-0.1
@ 158°F (70°C)/97% Relative Humidity, 7 days					
Length		% Change	0.2	% Change	0.2
Volume		% Change	0.5	% Change	0.5
@ -10°F (-23°C), 7 days					
Length		% Change	-0.1	% Change	-0.1
Volume		% Change	-0.1	% Change	-0.1
@ 300°F (149°C), 7 days					
Length		% Change	-0.5	% Change	-0.5
Volume		% Change	-1.1	% Change	-1.1
Service Temperature[5]		°F	-297 to +300	°C	-183 to +149
Surface Burning Characteristics (1" thickness)[6]	E 84	Flame spread/smoke	15/550	Flame spread/smoke	15/550
Color			Tan		Tan

[1] All properties are measured at 74°F, 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 Dow representative.
[3] Average value through insulation cross section.
[4] Frequent and severe thermal cycling can produce dimensional changes significantly greater than those stated here. Special design considerations must be made in systems that cycle frequently.
[5] Above 300°F, discoloration and charring will occur, resulting in an increased k-factor in the discolored area.
[6] This numerical flame spread data is not intended to reflect hazards presented by this or any other material under actual fire conditions.

IN THE U.S.:
- **For Technical Information: 1-800-441-4DOW (4369)**
- **For Sales Information: 1-800-232-2436**

THE DOW CHEMICAL COMPANY
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COMBUSTIBLE. Protect from flame or other high heat sources. For more information, consult MSDS and/or call Dow (1-800-441-4369). In an emergency, call 1-989-636-4400. Local building codes may require a protective or thermal barrier. Contact your local building inspector for more information.

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