

Technical Data Sheet

TRYMER® 2500 Polyisocyanurate

TRYMER® 2500 insulation is a modified polyisocyanurate cellular material 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. Although similar in physical form to polyurethane insulations, TRYMER 2500 has better dimensional stability over a wider range of temperatures. TRYMER™ 2500 has been specifically formulated to provide excellent thermal insulation properties without the use of CFC or HCFC blowing agents.

Applications

TRYMER 2500 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. ITW can provide general guidelines and recommendations on many typical applications for TRYMER 2500. Typical applications for TRYMER 2500 insulation include:

- fabricated pipe insulation, including elbows and fittings
- 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 railcars
- flat or tapered board stock for roof insulation



Physical Properties

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

Environmental Data

TRYMER 2500 insulation is specifically formulated to provide excellent thermal insulation properties without the use of chlorofluorocarbon (CFC) or hydrochlorofluorocarbon (HCFC) blowing agents. In compliance with the Montreal Protocol and the Clean Air Act, TRYMER 2500 insulation is manufactured with hydrocarbon blowing agents, which have no ozone depletion potential.

Size

Height: 24" (61 cm)
Width: 48" (122 cm)
Length: 36" (91 cm)

Custom lengths are also available.

Fire Protection & Safety Considerations

Consideration should be given to the benefits of and costs of additional fire protection gained by installing automatic fire detection, alarm and suppression systems. Consultation with local building code officials, design engineers/specifiers or insurance personnel is recommended before application.

TRYMER 2500 insulation 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 TRYMER contain information on the safe handling, storage and use of this material, and can be found at www.itwinsulation.com.

*TRYMER PIR can be used at temperatures below -297°F but certain system design precautions may be necessary. Please consult ITW Insulation Systems for more information

Installation

TRYMER 2500 insulation is easy to fabricate into various sizes and shapes to meet specific design needs. However, because of the critical technical design aspects of many of its applications, ITW recommends that qualified designers or consultants design the total system.

Availability

TRYMER 2500 insulation is distributed through ITWIS's extensive Authorized Fabricator Network.

TRYMER® 2500 complies with ASTM C591, Grade 2, Type II.

Table 1			
Physical Properties of TRYMER® 2500 Polyisocyanurate Foam			
Property ¹ and Test Method ²	Value	Property ¹ and Test Method ²	Value
Density ³ , ASTM D1622, lb/ft ³ (kg/m ³)	2.5 (40.0)	Water Absorption, ASTM C272, 24-hour immersion, % by volume	<0.7
Compressive Strength, ASTM D1621, lb/in ² (kPa), Parallel to rise - thickness	39 (268)	Water Vapor Permeability, ASTM E96 perm-inch (ng/Pa•s•m)	3 (4.6)
Perpendicular to rise - width	30 (206)	Dimensional Stability ⁵ , ASTM D2126	
Perpendicular to rise - length	40 (275)	At -40° F (-40°C), 7 days	
Compressive Modulus, ASTM D1621, lb/in ² (kPa), Parallel to rise - thickness	790 (5,446)	Length, % change	-0.1
Perpendicular to rise - width	490 (3,377)	Volume, % change	-0.2
Perpendicular to rise - length	1,000 (6,894)	At -10° F (-23°C), 7 days	
Shear Strength, ASTM C273, lb/in ² (kPa), Parallel and perpendicular, avg	17 (117)	Length, % change	0.1
Shear Modulus, ASTM C273, lb/in ² (kPa), Parallel and perpendicular, avg	285 (1,967)	Volume, % change	0.1
Tensile Strength, ASTM D1623, lb/in ² (kPa), Parallel to rise - thickness	35 (241)	At 158° F (70°C), 7 days	
Flexural Modulus, ASTM C203, lb/in ² (kPa), Parallel to rise	780 (5,377)	Length, % change	0.4
Flexural Strength, ASTM C203, lb/in ² (kPa), Parallel to rise	42 (289)	Volume, % change	0.6
k-Factor, ASTM C518, Btu-in/hr-ft ² •°F (W/m ² •°C) Aged 180 days @ 75°F (24° C)	0.19 (0.027)	At 158° F (70°C), 97% R.H. 7 days	
R-Value ⁴ per inch, ASTM C518, hr-ft ² •°F/Btu Aged 180 days @ 75°F (24° C)	5.3 (0.93)	Length, % change	1.5
Closed Cell Content, ASTM D6226, % min.	95	Volume, % change	3.0
		At 300° F (149°C), 7 days	
		Length, % change	2.6
		Volume, % change	3.6
		Service Temperature ⁶⁺⁷ , °F (°C)	-328 to +300 (-200 to +149)
		Surface Burning Characteristics ⁸ , ASTM E84, 1" through 6" (2.5 cm through 15 cm)	up to 6" (15 cm) thickness ≤25
		Smoke Developed	≤295
		Color	Tan

(1) All properties are measured at 74° (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 ITW representative.

(3) Average value through insulation cross section

(4) R means resistance to heat flow. The higher the R-value, the greater the insulating power.

(5) Frequent and severe thermal cycling can produce dimensional changes significantly greater than those stated here. Special design consideration must be made in systems that cycle frequently.

(6) Above 300°F, discoloration and charring will occur, resulting in an increased k-factor in the discolored area.

(7) TRYMER PIR can be used at temperatures below this but certain system design precautions may be necessary. Please consult ITW Insulation Systems for more information.

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

For where to buy and further technical information, contact us at **1-800-231-1024** or www.itwinsulation.com.

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COMBUSTIBLE: Protect from high heat sources. Local building codes may require a protective or thermal barrier. For more information, consult SDS, call ITW at 1-800-231-1024 or contact your local building inspector.

