

Technical Data Sheet

TRYMER® 25-50 Polyisocyanurate

TRYMER® 25-50 insulation is a polyurethane modified polyisocyanurate (PIR) cellular plastic. The rigid insulation is supplied in the form of bunstock for fabrication into sheets, pipe shells, tank, and vessel coverings, and other shapes for a variety of thermal insulation applications. TRYMER 25-50 meets the most stringent flame spread and smoke developed rating requirements in most building codes, making it ideal for insulating chilled water piping in commercial buildings. TRYMER 25-50 insulation features improved dimensional stability over a wider range of temperatures than standard polyurethane insulation. TRYMER insulation is not a known nutrient source for mold and mildew.

Applications

TRYMER 25-50 insulation is suitable for applications that require a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less when tested as per ASTM E84. The excellent low flammability as indicated by the performance of TRYMER 25-50 in the ASTM E84 test coupled with other properties including high closed-cell content, water resistance, and very low (good) thermal conductivity, make the TRYMER 25-50 the ideal insulation for use in commercial building chilled water pipe insulation applications, including in plenums. TRYMER 25-50 can be used within the service temperature range of -297°F* to 300°F (-183°C to 149°C).



Physical Properties

TRYMER 25-50 insulation exhibits the properties and characteristics indicated in Table 1 when tested as represented. Consultation with local code officials and design engineers/specifiers is recommended before application. As with all cellular polymers, TRYMER 25-50 insulation will degrade upon prolonged exposure to sunlight. A covering to block ultra-violet radiation must be used to help prevent degradation. Other coverings to protect the insulation from the elements may be required.

Environmental Data

TRYMER 25-50 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 25-50 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.

Safety Considerations

TRYMER 25-50 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 25-50 insulation is specifically formulated for easy fabrication into many shapes, such as pipe coverings, valve and fitting covers, and others to meet specific design needs. Because of the critical technical design aspects in many applications, ITW recommends contacting qualified designers to specify the total system.

Availability

TRYMER 25-50 insulation is distributed through ITWIS's extensive Authorized Fabricator Network.

TRYMER® 25-50 complies with ASTM C591, Grade 2, Type IV.

Physical Properties of TRYMER® 25-50 Polyisocyanurate Foam ¹⁺²			
Property and Test Method	Value	Property ¹ and Test Method ²	Value
Density, ASTM D1622, lb/ft ³ (kg/m ³)	2.0 (32.0)	Closed Cell Content, ASTM D6226, % min.	90
Compressive Strength, ASTM D1621, lb/in ² (kPa), Parallel to rise	24 (165)	Dimensional Stability ⁵ , ASTM D2126 % change, 7 days At -40° F (-40°C)	
Perpendicular to rise - width	18 (124)	<i>Length</i>	-0.3
Perpendicular to rise - length	23 (159)	<i>Volume</i>	-0.2
Shear Strength, ASTM C273, lb/in ² (kPa), Parallel and perpendicular, avg	15 (104)	At 158° F (70°C), 97% relative humidity	
Tensile Strength, ASTM D1623, lb/in ² (kPa), Parallel to rise - thickness	12 (83)	<i>Length</i>	1.3
Flexural Strength, ASTM C203, lb/in ² (kPa), Parallel to rise	33 (228)	<i>Volume</i>	1.1
Service Temperature ³⁺⁴ , °F (°C)	-297 to +300 (-183 to +149)	At 212° F (100°C)	
k-Factor, ASTM C518, 75°F (24° C) Btu-in/hr-ft ² ·°F (W/m ² ·°C)	0.19 (0.027)	<i>Length</i>	0.8
R-Value per inch, ASTM C518, 75°F (24°C) mean temp., °F/Btu (m ² ·°C/W)	5.3 (0.93)	<i>Volume</i>	0.3
Color	Gray	Water Absorption, ASTM C272, 24-hour immersion, % by volume	<1.4
		Water Vapor Permeability, ASTM E96 perm-inch (ng/Pa·s·m)	4 (5.8)
		Surface Burning Characteristics ⁶ , ASTM E84, Flame Spread/Smoke Developed	25/50 up to 1.5" thickness

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

(4) 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.

(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) 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.

