

## DESCRIPTION

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).

## SIZE\*

Height: 24" (41cm)  
Width: 48" (122 cm)  
Length: 36" (91cm)

Custom lengths are also available. Contact your local JM representative for details.

\*Listed are bunstock sizes, pipe can be procured in standard ASTM C585 sizes via the fabricator network.

## 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.

## AVAILABILITY

Trymer 25-50 insulation is distributed through JM's extensive Authorized Fabricator Network.



## 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 ultraviolet radiation must be used to help prevent degradation. Other coverings to protect the insulation from the elements may be required.

## 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 species design needs. Because of the critical technical design aspects in many applications, JM recommends contacting qualified designers to specify the total system.

## 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.jm.com](http://www.jm.com).

**TRYMER® 25-50**  
POLYISOCYANURATE FOAM INSULATION

**PHYSICAL PROPERTIES OF TRYMER 25-50** <sup>(1,2)</sup>

ASTM C591, Grade 2, Type IV	Complies		
Density, ASTM D1622	2.0 lb/ft <sup>3</sup> (32.0 kg/m <sup>3</sup> )		
Compressive Strength, ASTM D1621	24 lb/in <sup>2</sup> (165 kPa) parallel to rise 18 lb/in <sup>2</sup> (124 kPa) perpendicular to rise - width 23 lb/in <sup>2</sup> (159 kPa) perpendicular to rise - length		
Shear Strength, ASTM C273	15 lb/in <sup>2</sup> (104 kPa) parallel and perpendicular avg.		
Tensile Strength, ASTM D1623	12 lb/in <sup>2</sup> (83 kPa) parallel to rise - thickness		
Flexural Strength, ASTM C203	33 lb/in <sup>2</sup> (228 kPa) parallel to rise		
Closed cell Content, ASTM D6226	90%		
k-Factor, ASTM C518, @75°F (24°C) mean temp Aged 180 Days <sup>4</sup>	0.19 Btu•in/hr•ft <sup>2</sup> •°F 0.027 W/m°C		
R-value per Inch, ASTM C518, @75°F (24°C) mean temp Aged 180 Days <sup>4</sup>	5.3 hr•ft <sup>2</sup> •°F/Btu 0.93 m <sup>2</sup> •°C/W		
Water Absorption, ASTM C272	0.93 m <sup>2</sup> •°C/W		
Water Vapor Permeability, ASTM E96	4 perm-inches (5.8 ng/Pa•s•m)		
Service Temperature <sup>(3,4)</sup>	-297°F to 300°F (-183°C to 149°C)		
Dimensional Stability <sup>(5)</sup> , ASTM D2126 (%Change)		Length	Volume
	At -40°F (-40°C), 7 days	-0.3%	-0.2%
	At 158°F (70°C), 97% R.H. 7 days	1.3%	1.1%
	At 300°F (149°C), 97% R.H. 7 days	0.8%	0.3%
Surface Burning Characteristics <sup>(6)</sup> , ASTM E84	≤ 25 Flame Spread ≤ 50 Smoke Developed (up to 1.5" thickness)		
Color	Gray		

(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 JM 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 JM 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.



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Technical specifications as shown in this literature are intended to be used as general guidelines only. Please refer to the Safety Data Sheet and product label prior to using this product. The physical and chemical properties of the product listed herein represent typical, average values obtained in accordance with accepted test methods and are subject to normal manufacturing variations. They are supplied as a technical service and are subject to change without notice. Any references to numerical flame spread or smoke developed ratings are not intended to reflect hazards presented by these or any other materials under actual fire conditions. Check with the Regional Sales Office nearest you for current information.

**All Johns Manville products are sold subject to Johns Manville's standard Terms and Conditions, which includes a Limited Warranty and Limitation of Remedy. For a copy of the Johns Manville standard Terms and Conditions or for information on other Johns Manville thermal insulation and systems, visit [www.jm.com/terms-conditions](http://www.jm.com/terms-conditions) or call (800)654-3103.**