

TRYMER™ 1800

Polyisocyanurate Insulation

TRYMER™ 1800 insulation is a polyurethane modified polyisocyanurate 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™ 1800 insulation features improved dimensional stability over a wider range of temperatures than standard polyurethane foam insulation. TRYMER™ insulation is not a known nutrient source for mold and mildew.

Applications

TRYMER™ 1800 insulation is used extensively in industrial and commercial applications with moderate density/strength requirements, within the service temperature range of -297°F to +300°F (-183°C to +149°C).

Typical applications for TRYMER™ 1800 insulation include:

- industrial and commercial pipe insulation, including elbows and fittings
- tank and vessel insulation
- core material for architectural and structural panels
- insulation for shipping containers, trucks or railcars
- core material for factory-built panelized constructions
- flat or tapered board stock for roof insulation

ITW can provide general guidelines and recommendations for TRYMER™ 1800 insulation. For additional information, visit www.itwinsulation.com, call 1-800-231-1024 or contact your local ITW representative.

SIZE

Height:	24" (61 cm)
Width:	48" (122 cm)
Length:	36" (91 cm) 96" (244 cm)

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

PHYSICAL PROPERTIES

TRYMER™ 1800 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™ 1800 insulation will degrade upon prolonged exposure to sunlight. A covering to block ultraviolet radiation must be used to prevent degradation. Other coverings to protect the insulation from the elements may be required.

ENVIRONMENTAL DATA

TRYMER™ 1800 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™ 1800 insulation is manufactured with hydrocarbon blowing agents, which have no ozone depletion potential.

SAFETY CONSIDERATIONS

TRYMER™ 1800 insulation requires care in handling. All persons working with this material must know and follow

the proper handling procedures. The current Material Safety Data Sheet (MSDS) and General Handling Recommendations for TRYMER™ contains information on the safe handling, storage and use of this material. For copies of these documents, visit the literature library at www.itwinsulation.com, call 1-800-231-1024 or contact your local ITW representative.

Installation

TRYMER™ 1800 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. For more specific instructions, contact a local ITW representative or access the literature library at www.itwinsulation.com.

Availability

TRYMER™ 1800 insulation is distributed through ITW's extensive Authorized Fabricator Network. For more information, call: 1-800-231-1024

Technical Services

ITW can provide technical information to help address questions when using TRYMER™ 1800 insulation. Technical personnel are available at: 1-800-231-1024

Product Information

TRYMER™ 1800 complies with ASTM C591, Grade 1, Type I

TABLE 1

Physical Properties of TRYMER™ 1800 Polyisocyanurate Insulation			
Property ⁽¹⁾ and Test Method ⁽²⁾	Value	Property ⁽¹⁾ and Test Method ⁽²⁾	Value
Density ⁽³⁾ , ASTM D1622, lb/ft ³ (kg/m ³)	1.8 (28.8)	Water Absorption, ASTM C272, 24-hr immersion, % by volume	<0.7
Compressive Strength ⁽³⁾ , ASTM D1621, lb/in ² (kPa)		Water Vapor Permeability, ASTM E96, perm-inch (ng/Pa*s*m)	4 (5.8)
Parallel to rise – thickness	25 (172)	Dimensional Stability ^{(3), (5)} , ASTM D2126	
Perpendicular to rise – width	21 (144)	At -40°F (-40°C), 7 days	
Perpendicular to rise – length	29 (200)	Length, % change	-0.5
Compressive Modulus, ASTM D1621, lb/in ² (kPa)		Volume, % change	-1.0
Parallel to rise – thickness	600 (4,130)	At -10°F (-23°C), 7 days	
Perpendicular to rise – width	450 (3,100)	Length, % change	0.2
Perpendicular to rise – length	600 (4,130)	Volume, % change	0.5
Shear Strength, ASTM C273, lb/in ² (kPa)		At 158°F (70°C), 7 days	
Parallel and perpendicular, avg	13 (90)	Length, % change	1.5
Shear Modulus, ASTM C273, lb/in ² (kPa)		Volume, % change	3.0
Parallel and perpendicular, avg	200 (1,380)	At 158°F (70°C)/97% R.H., 7 days	
Tensile Strength, ASTM D1623, lb/in ² (kPa)		Length, % change	2.5
Parallel to rise – thickness	20 (138)	Volume, % change	3.5
Flexural Strength, ASTM C203, lb/in ² (kPa)		At 300°F (149°C), 7 days	
Parallel to rise	30 (207)	Length, % change	4.5
Flexural Modulus, ASTM C203, lb/in ² (kPa)		Volume, % change	5.0
Parallel to rise	700 (4,820)	Service Temperature ⁽⁶⁾ , °F (°C)	-297 to +300 (-183 to +149)
k-factor, ASTM C518, Btu•in/hr•ft ² •°F (W/m•°C)		Surface Burning Characteristics ⁽⁷⁾ , ASTM E84	25/450 up to 6" (15 cm) thickness
Aged 180 days @ 75°F (24°C)	0.19 (0.027)	Flame Spread/Smoke Developed, FS/SD	
R-Value ⁽⁴⁾ /in., ASTM C518, hr•ft ² •°F/Btu (m ² •°C/W)		Color	Light Grey
Aged 180 days @ 75°F (24°C)	5.3 (0.93)		
Closed Cell Content, ASTM D2856, %, min.	90		

- (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 (149°C), discoloration and charring will occur, resulting in an increased k-factor in the discolored area.
- (7) This numerical flame spread data is not intended to reflect hazards presented by this or any other material under actual fire conditions.

- For Technical Information: 1-800-231-1024
- For Sales Information: 1-800-231-1024
- ITW Insulation Systems
- 1370 East 40th Street, Building 7, Suite 1, Houston, TX 77022-4104
- 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 MSDS, call ITW at 1-800-231-1024 or contact your local building inspector.

Building and/or construction practices unrelated to insulation could greatly affect moisture and the potential for mold formation. No material supplier including ITW can give assurance that mold will not develop in any specific system.

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