


**TRYMER**  
 pipe insulation


# TRYMER 4000 Polyisocyanurate Insulation

TRYMER\* 4000 polyisocyanurate insulation is a polyurethane modified polyisocyanurate cellular plastic. It is supplied in the form of bunstock for fabrication into sheets, pipe, tank and vessel coverings, and other shapes for a variety of thermal insulation applications.

## Applications

TRYMER 4000 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 4000 insulation. Call 1-866-583-BLUE (2583) or contact your local Dow representative for details.

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
- insulation for elbows and fittings
- pipe supports for external hangers and saddles
- flat or tapered board stock for roof insulation

## SIZE

Height:	16" (40 cm)
Width:	48" (122 cm)
Length:	36" (91 cm) 96" (244 cm) 108" (274 cm)

Custom lengths are also available. Contact your Dow representative for details.

## PHYSICAL/CHEMICAL PROPERTIES

TRYMER 4000 insulation exhibits the properties and characteristics indicated in Table 1 when tested as represented. TRYMER 4000 insulation also has improved dimensional stability over a wide range of service temperatures.

As with all cellular materials, TRYMER 4000 insulation 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 foam 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 4000 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 4000 insulation is manufactured with hydrocarbon blowing agents, which have no ozone depletion potential.

## FIRE PROTECTION

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.

## Safety Considerations

TRYMER 4000 insulation requires care in handling. All persons working with this material must know and follow the proper handling procedures. The current MSDS and handling guide contain information on the safe handling, storage and use of this insulation. This information can be obtained by calling 1-866-583-BLUE (2583) or contacting your local Dow representative.

TABLE 1

Physical Properties of TRYMER 4000 Polyisocyanurate Insulation			
Property <sup>(1)</sup> and Test Method <sup>(2)</sup>	Value	Property <sup>(1)</sup> and Test Method <sup>(2)</sup>	Value
Density <sup>(3)</sup> , ASTM D1622, lb/ft <sup>3</sup> (kg/m <sup>3</sup> )	4.0 (64.0)	R-Value <sup>(4)</sup> /in., ASTM C518, aged 180 days, hr•ft <sup>2</sup> •°F/BTU (m <sup>2</sup> •°C/W)	5.3 (0.93)
Compressive Strength <sup>(3)</sup> , ASTM D1621, lb/in <sup>2</sup> (kPa)		Closed Cell Content, ASTM D2856, %	95.0
Parallel to rise – thickness	95.0 (655)	Water Absorption, ASTM C272, % by volume	0.6
Perpendicular to rise – width	80.0 (550)	Water Vapor Permeability, ASTM E96, perm-inch (ng/Pa•s•m)	2.9 (4.4)
Perpendicular to rise – length	100.0 (690)	Dimensional Stability <sup>(5)</sup> , ASTM D2126	
Compressive Modulus, ASTM D1621, lb/in <sup>2</sup> (kPa)		At -40°F (-40°C), 7 days	
Parallel to rise – thickness	2,100 (14,470)	Length, % change	-0.4
Perpendicular to rise – width	1,800 (12,400)	Volume, % change	-0.9
Perpendicular to rise – length	2,600 (17,900)	At 158°F (70°C)/97% R.H., 7 days	
Shear Strength, ASTM C273, lb/in <sup>2</sup> (kPa)		Length, % change	-1.5
Parallel to rise	42.0 (290)	Volume, % change	-1.5
Shear Modulus, ASTM C273, lb/in <sup>2</sup> (kPa)		At -10°F (-23°C), 7 days	
Parallel to rise	650 (4,480)	Length, % change	-1.6
Tensile Strength, ASTM D1623, lb/in <sup>2</sup> (kPa)		Volume, % change	-2
Parallel to rise – thickness	55.0 (380)	At 300°F (149°C), 7 days	
Tensile Modulus, ASTM D1623, lb/in <sup>2</sup> (kPa)		Length, % change	-1.3
Parallel to rise – thickness	2,300 (15,850)	Volume, % change	-1.1
Flexural Strength, ASTM C203, lb/in <sup>2</sup> (kPa)		Service Temperature <sup>(6)</sup> , °F (°C)	-297 to +300 (-183 to +149)
Parallel to rise	150.0 (1,030)	Surface Burning Characteristics <sup>(7)</sup> , ASTM E84	25/450 up to 6" thickness
Perpendicular to rise – width	128.0 (880)	Flame Spread/Smoke Developed (FS/SD)	
Flexural Modulus, ASTM C203, lb/in <sup>2</sup> (kPa)		Color	Tan
Parallel to rise	3,850 (26,540)		
Perpendicular to rise – width	3,300 (22,750)		
k-Factor, ASTM C518, aged 180 days, BTU•in/hr•ft <sup>2</sup> •°F (W/m•°C)	0.19 (0.027)		

(1) All properties are measured at 74°F, unless otherwise indicated.  
 (2) Unless otherwise indicated, data shown are typical values obtained from representative samples. These 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 foam 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 considerations 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) Meets U.S. building code requirements for industrial insulation applications. For areas outside the U.S., check your local building code for the use of TRYMER 4000 insulation.

## Installation

TRYMER 4000 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, Dow recommends that qualified designers or consultants design the total system. Contact a local Dow representative or

access the literature library at [www.dowpipe.com](http://www.dowpipe.com) for more specific instructions.

## Availability

TRYMER 4000 insulation is distributed through an extensive network of fabricators and distributors. For more information, call 1-800-232-2436.

## Technical Services

Dow can provide technical information to help address questions when using TRYMER 4000 insulation. Technical personnel are available at 1-866-583-BLUE (2583).

### IN THE U.S.:

- For Technical Information: **1-866-583-BLUE (2583)**
- For Sales Information: **1-800-232-2436**

### THE DOW CHEMICAL COMPANY

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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 Dow at 1-866-583-BLUE (2583) or contact your local building inspector. In an emergency, call 1-989-636-4400.



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