



1 PRODUCT NAME

ISOCAST™ R Polyisocyanurate Insulation

2 Manufacturer

The Dow Chemical Company
 Dow Building Solutions
 200 Larkin
 Midland, MI 48674
 1-866-583-BLUE (2583)
 Fax 1-989-832-1465
 www.dowstyrofoam.com/architect

3 Product Description

ISOCAST™ R insulation combines a patented high-performance polyisocyanurate foam core with a trilaminate aluminum/poly/kraft facer on both sides to achieve strength, high R-value* and moisture resistance.

BASIC USE

ISOCAST™ R insulation is designed for use in concrete panel walls (precast, tilt-up or poured in place), where it is sandwiched between two layers of concrete with connectors holding together the finished panel. The polyisocyanurate core provides superior insulation, while the facer makes the board virtually moisture resistant. Because it has no exposed metal facings, ISOCAST R will not corrode or react chemically with the concrete in sandwich panel applications.

SIZES

Square Edge

Width and length:
 4' x 8'

Thickness:
 1", 1.5", 2"

4 Applicable Standards

ISOCAST™ R insulation meets ASTM C1289 – Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board, Type I, Class 1 or 2 (varies with thickness). Applicable standards include:

- C203 – Standard Test Methods for Breaking Load and Flexural Properties of Block-Type Thermal Insulation
- C209 – Standard Test Methods for Cellulosic Fiber Insulating Board
- C518 – Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus
- D1621 – Standard Test Method for Compressive Properties of Rigid Cellular Plastics

- D2126 – Standard Test Method for Response of Rigid Cellular Plastics to Thermal and Humid Aging
- E96 – Standard Test Methods for Water Vapor Transmission of Materials
- D1623 – Standard Test Method for Tensile and Tensile Adhesion Properties of Rigid Cellular Plastics

PHYSICAL/CHEMICAL PROPERTIES

ISOCAST™ R insulation exhibits the properties and characteristics indicated in Table 1 when tested as represented. For chemical resistance properties of ISOCAST R, see Table 2.

TABLE 1

Physical Properties of ISOCAST™ R Insulation	
Property and Test Method	Value
Thermal Resistance ⁽¹⁾ , per inch, ASTM C518 @ 75°F mean temp., ft ² •°F/Btu, R-value, min.	6.5
Compressive Strength ⁽²⁾ , ASTM D1621, psi, min.	25.0
Flexural Strength, ASTM C203, psi, min.	55.0
Water Absorption, ASTM C209, % by volume, max.	0.05
Water Vapor Permeability, ASTM E96, perms, max.	<0.03
Maximum Use Temperature, °F	190

(1) R-values are consistent with criteria of ASTM C578 and the requirements of the FTC R-value rule (16 CFR Part 460).
 (2) Vertical compressive strength is measured at 10 percent deformation or at yield, whichever occurs first.

TABLE 2

Chemical Resistance of ISOCAST™ R Insulation			
Acid, inorganic	Not recommended	Hydrocarbons	Excellent
Acid, organic	Excellent	Insecticides	Excellent
Alcohol	Excellent	Kerosene	Excellent
Asphalt, water-based	Good	Mineral oil USP	Excellent
Bases (caustics)	Poor	Naphtha	Excellent
Brines and other salts	Excellent	Paints, alcohol-based	Excellent
Cements and mortar	Poor	Paints, water-based	Excellent
Gases, carbon dioxide (CO ₂)	Excellent	Polyglycols, including propylene glycol	Excellent
Gasoline	Excellent	Water	Excellent

NOTE: This table should be used as a guide only. For design purposes, specific test data on the intended application may be needed.

®™Trademark of The Dow Chemical Company ("Dow") or an affiliated company of Dow

*R means resistance to heat flow. The higher the R-value, the greater the insulating power. R-value determined by ASTM C518.

ISOCAST R Polyisocyanurate Insulation

ENVIRONMENTAL DATA

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

FIRE PROTECTION

ISOCAST™ R insulation is 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.

CODE COMPLIANCES

ISOCAST™ R insulation complies with the following codes:

- International Residential Code 2003 (IRC) Section 314
- International Building Code (IBC) Section 2603
- National Evaluation Services (NES) NER-616

Application and system code requirements vary. Contact your Dow sales representative or local authorities for state and local building code requirements and acceptances.

5 Installation

Boards of ISOCAST™ R insulation are lightweight and easy to handle, cut and install. In concrete panel applications, the insulation boards are sandwiched between two layers of concrete and the assembly is held together with connectors.

6 Availability

ISOCAST™ R insulation is distributed through an extensive network. For more information, call 1-800-232-2436.

7 Warranty

15-year limited thermal warranty. Contact your Dow representative for details.

8 Maintenance

Not applicable.

9 Technical Services

Dow can provide technical information regarding the physical properties of ISOCAST™ R insulation. Technical personnel are available to assist with any insulation project. For technical assistance, call 1-866-583-BLUE (2583).

10 Filing Systems

- www.dowstyrofoam.com/architect
- www.sweets.com

IN THE U.S.:

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

THE DOW CHEMICAL COMPANY

- Dow Building Solutions • 200 Larkin • Midland, MI 48674 • www.dowstyrofoam.com/architect

NOTICE: No freedom from any patent owned by Dow or others is to be inferred. Because use conditions and applicable laws may differ from one location to another and may change with time, Customer is responsible for determining whether products and the information in this document are appropriate for Customer's use and for ensuring that Customer's workplace and disposal practices are in compliance with applicable laws and other government enactments. Dow assumes no obligation or liability for the information in this document. NO WARRANTIES ARE GIVEN; ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE EXPRESSLY EXCLUDED.

COMBUSTIBLE: Protect from high heat sources. Local building codes may require a protective or thermal barrier. For more information, consult MSDS and/or call Dow at 1-866-583-BLUE (2583). In an emergency, call 1-989-636-4400.

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

a proud partner of

