

# ELFOAM<sup>®</sup> P200X

## POLYISOCYANURATE FOAM

October 2009

### Product Description

ELFOAM P200X is a 2.0 lb/ft<sup>3</sup> (32 kg/m<sup>3</sup>), rigid, unfaced, closed cell polyisocyanurate foam supplied as blocks, sheets, and custom fabricated parts for use as thermal insulation, composite cores and CNC/carving media. Polyisocyanurate (*polyiso*) foam is similar to polyurethane foam but offers greater dimensional stability over a wider service temperature range.

ELFOAM P200X is manufactured in bunstock form 26" (66cm) thick with a 48" (122cm) width in 36", 96" and 108" (91cm, 244cm and 274cm) lengths. Contact the Indianapolis Sales Office for additional information.

### Design Considerations

ELFOAM P200X is designed for use in environments where temperatures range from -297°F to +300°F (-183°C to +149°C). However, in non-laminated applications where P200X is exposed to temperatures exceeding 250°F (121°C) and/or relative humidity in excess of 80%, allowances for foam expansion may need to be incorporated into the engineering design. Regardless of operating conditions, a qualified design engineer should review all foam applications.

ELFOAM, like all cellular plastics, will degrade upon prolonged exposure to sunlight. Cover foam material in order to block ultraviolet radiation and prevent degradation. Other coverings to protect exposed foam surfaces from the elements and to meet applicable fire regulations may also be required.

### Applications\*

- Pipe, tank and vessel insulation
- Refrigerated food service equipment
- Laminated wall and roof panels
- Commercial and industrial doors
- Truck/Trailer bodies, shipping containers and railcars
- Plugs, patterns and carved products

### Environmental Data

ELFOAM P200X is specifically formulated to provide excellent physical properties without the use of chlorofluorocarbon (CFC) or hydrochlorofluorocarbon (HCFC) blowing agents. In compliance with the Montreal Protocol and the Clean Air Act, ELFOAM P200X is manufactured with hydrocarbon blowing agents which have no ozone depletion and no global warming potential.

### Safety

All persons who work with ELFOAM products should follow proper handling procedures. The ELFOAM Material Safety Data Sheet (MSDS) contains information on the proper handling, storage and use of this material. A copy of this MSDS may be downloaded at [elliottfoam.com](http://elliottfoam.com) or obtained by calling the Indianapolis Sales Office.

### Availability

All ELFOAM product support, samples, pricing and orders are coordinated by the Indianapolis Sales Office. Please call **(800) 545-1213** for details. Additional ELFOAM product data sheets may also be downloaded at [elliottfoam.com](http://elliottfoam.com).

\* Application testing is often required to determine suitability of the foam for a specific application. The potential user should perform pertinent testing to determine the suitability of the product for the intended application. Final determination of fitness of the product for any particular use is the responsibility of the buyer.

NOTE: Elliott Company of Indianapolis Inc. (Elliott) believes the information and recommendations herein to be accurate and reliable as of date of publication. However, since any assistance furnished by Elliott with reference to the proper use and disposal of its products is provided without charge and since use conditions are not within its control, Elliott assumes no obligation or liability for such assistance. No warranty, expressed or implied, regarding accuracy or correctness is given and Elliott expressly disclaims any implied warranties including the implied warranties of merchantability or fitness for a particular use. Since use conditions and government regulations may vary from one location to another and may change with time, it is the buyer's responsibility to determine whether Elliott products are appropriate for buyer's use, and to assure the buyer's workplace and disposal procedures are in compliance with law, regulations, ordinances, and other government enactments applicable in the jurisdiction having authority over the buyer's operations.



Family Owned Since 1958  
OF INDIANAPOLIS INC.

Manufacturer/Fabricator of ELFOAM Polyiso & Polyurethane Products

**Product Description**

ELFOAM P200X is a rigid, unfaced, closed cell polyisocyanurate (polyiso) foam material. This CFC and HCFC free product provides outstanding physical properties at service temperature environments between -297°F to +300°F (-183°C to 149°C). ELFOAM P200X is supplied in standard and custom blocks, sheets and fabricated shapes.

| Physical Properties (1)(2)(3)         | ASTM Method | Typical Values (4)                  |                           |
|---------------------------------------|-------------|-------------------------------------|---------------------------|
|                                       |             | English                             | Metric                    |
| Density, Average                      | D1622       | 2.0 lb/ft <sup>3</sup>              | 32 kg/m <sup>3</sup>      |
| k-factor(5)                           | C518        |                                     |                           |
| Initial at 75°F (24°C)                |             | 0.170 BTU•in/hr•ft <sup>2</sup> •°F | .025 W/m°C                |
| Aged 10 days at 158°F (70°C)          |             | 0.190 BTU•in/hr•ft <sup>2</sup> •°F | .028 W/m°C                |
| R-value/inch                          |             |                                     |                           |
| Aged 10 days at 158°F (70°C)          |             | 5.3 Hr•ft <sup>2</sup> •°F/BTU      | 0.93 m <sup>2</sup> •°C/W |
| Compressive Strength                  | D1621       |                                     |                           |
| Parallel                              |             | 27 lb/in <sup>2</sup>               | 186 kPa                   |
| Perpendicular                         |             | 17 lb/in <sup>2</sup>               | 117 kPa                   |
| Compressive Modulus                   | D1621       |                                     |                           |
| Parallel                              |             | 700 lb/in <sup>2</sup>              | 4,823 kPa                 |
| Perpendicular                         |             | 368 lb/in <sup>2</sup>              | 2,535 kPa                 |
| Shear Strength                        | C273        |                                     |                           |
| Parallel                              |             | 22 lb/in <sup>2</sup>               | 151 kPa                   |
| Perpendicular                         |             | 14 lb/in <sup>2</sup>               | 97 kPa                    |
| Shear Modulus                         | C273        |                                     |                           |
| Parallel                              |             | 212 lb/in <sup>2</sup>              | 1,461 kPa                 |
| Perpendicular                         |             | 152 lb/in <sup>2</sup>              | 1,047 kPa                 |
| Tensile Strength                      | D1623       |                                     |                           |
| Parallel                              |             | 51 lb/in <sup>2</sup>               | 351 kPa                   |
| Perpendicular                         |             | 47 lb/in <sup>2</sup>               | 323 kPa                   |
| Tensile Modulus                       | D1623       |                                     |                           |
| Parallel                              |             | 1,395 lb/in <sup>2</sup>            | 9,611 kPa                 |
| Perpendicular                         |             | 1,134 lb/in <sup>2</sup>            | 7,813 kPa                 |
| Closed Cell Content(6)                | D2856       |                                     | 90%                       |
| Water Absorption (by volume)          | C272        |                                     | 1.30%                     |
| Water Vapor Transmission              | E96         | 4.0 perms/in                        | 5.8 ng/Pa•S•m             |
| Dimensional Stability (volume change) | D2126       |                                     |                           |
| 158°F (70°C) + 97% R.H./7 days        |             |                                     | +3.0%                     |
| 212°F (100°C) + Ambient R.H./7 days   |             |                                     | +1.0%                     |
| -40°F (-40°C) + Ambient R.H./7 days   |             |                                     | -0.5%                     |
| Surface Burning Characteristics(7)    | E84         |                                     |                           |
| Flame Spread up to 6" (15.23 cm) .    |             |                                     | <25                       |
| Smoke Developed up to 6" (15.23 cm)   |             |                                     | <185                      |
| Smoke Developed up to 1" (2.5 cm)     |             |                                     | 50                        |

- (1) Data shown are average values obtained from representative production samples, unless otherwise indicated.
- (2) The suitability of this product for any particular application is the responsibility of the user. The potential user is responsible for performing any pertinent test required to determine the product's suitability for the intended application.
- (3) All properties measured at 74°F (23°C) unless otherwise indicated.
- (4) To be used only as a guide for engineering.
- (5) k-factors will vary with age and use conditions.
- (6) Freeze-thaw cycling in wet environments may cause destruction of unprotected foam's closed cell structure, resulting in the deterioration of physical properties.
- (7) Numerical "Flame Spread" and "Smoke Developed" ratings are not intended to reflect hazards presented by this or any other material under actual fire conditions. This material is combustible and will burn when exposed to large fire sources.

NOTE: The information presented herein is offered in good faith as accurate, but without warranty, expressed or implied, regarding accuracy or correctness. Conditions of use and suitability of the product for particular uses are beyond the control of Elliott Company of Indianapolis Inc., therefore all risks of the use of this product are assumed by the user.

FOR MORE INFORMATION OR PRODUCT SAMPLES CALL

(800) 545-1213

OR VISIT

elliottfoam.com



OF INDIANAPOLIS INC.

Family Owned Since 1958

9200 Zionsville Road in Indianapolis, Indiana 46268  
 Phone: (317) 291-1213 • Fax: (317) 291-1219