

DuPont™ Styrofoam™ Brand Panel Core 20 XPS Foam Insulation

High-Performance Insulation for Composite Panel Applications

FEATURES/BENEFITS

Description

DuPont™ Styrofoam™ Brand Panel Core 20 Extruded Polystyrene (XPS) Foam Insulation* is a closed-cell high-performance core material. DuPont's proprietary extrusion process enables precise control of parameters such as density, cell size and cell orientation. This yields foam boards that can meet the most demanding composite panel applications. **Styrofoam™ Brand Panel Core 20** is supplied in sheets that have been carefully engineered and planed to precise tolerances for a superior bonding surface.

Applications

Styrofoam™ Brand Panel Core 20 extruded polystyrene foam is used extensively in composite panel applications. The closed cell structure of **Styrofoam™ Brand Panel Core 20** prevents the foam from absorbing water, which helps maintain panel integrity and insulating properties in low-temperature applications and other environments with high humidity and moisture conditions. The foam also resists absorption of adhesives, so less glue is required for effective, long-lasting adhesion of facer materials.

DuPont can provide general guidelines and recommendations for **Styrofoam™ Brand Panel Core 20**. Call 1-866-583-2583 or contact your local DuPont representative for details. Some typical applications include:

- Architectural building panels
- Modular structures
- Incubators
- Conservatories
- Sunrooms
- Recreational vehicle sidewalls
- Exterior door panels
- Insulated roof panels
- Clean-room panels

Available Sizes

Styrofoam™ Brand Panel Core 20 Insulation products are manufactured to customer requirements in lengths up to 96" (244 cm), widths up to 48" (122 cm) and thicknesses up to 5" (12.5 cm). Custom lengths are also available.

Sustainable Solutions

Styrofoam™ Brand Panel Core 20 Insulation uses BluEdge™ technology. It is hydrochlorofluorocarbon (HCFC) free** with zero ozone depletion potential. It is manufactured with HCFC blowing agents, which have 94 percent less ozone depletion potential than standard CFC blowing agents. **Styrofoam™ Brand Panel Core 20** Insulation can be reused in many applications.

* Styrofoam™ Brand Panel Core 20 is a former product of The Dow Chemical Company

** Manufactured without hydrochlorofluorocarbon

PROPERTIES

DuPont™ Styrofoam™ Brand Panel Core 20 Insulation exhibits the properties and characteristics indicated in Table 1 when tested as represented. For chemical resistance properties of Styrofoam™ Brand Panel Core 20 Insulation, see Table 2.

TABLE 1: Typical Physical Properties of Styrofoam™ Brand Panel Core 20 XPS Foam Insulation

Property and Test Method	Typical Value
Density, ASTM D1622, lb/ft ³ (kg/m ³)	1.5 (24)
Compressive Strength, ASTM D1621, lb/in ² (kPa), vertical	20 (140)
Tensile Strength, ASTM D1623, lb/in ² (kPa), vertical	50 (340)
Shear Strength, ASTM C273, lb/in ² (kPa)	25 (170)
Shear Modulus, ASTM C273, lb/in ² (kPa)	330 (2,275)
Flexural Strength, ASTM C203, lb/in ² (kPa), extruded	50 (340)
Flexural Modulus, ASTM C203, lb/in ² (kPa), extruded	1,600 (11,000)
Water Absorption, ASTM C272, % by vol.	0.5
R-Value per inch (25 mm), ASTM C518, °F·ft ² ·h/Btu (m ² ·°C/W), Aged 180 days @ 75°F (24°C)	5.0 (0.88)
Surface Burning Characteristics ¹⁾ , ASTM E84, Flame Spread/Smoke Developed, FS/SD	15/165 up to 4" (10 cm) thickness

¹ For areas outside of the U.S., check your local building code for use of Styrofoam™ Brand Panel Core 20.

TABLE 2: Chemical Resistance⁽¹⁾ of Styrofoam™ Brand Panel Core 20 XPS Foam Insulation

Acid, inorganic, weak	Excellent
Acid, inorganic, strong	Excellent
Acid, organic, weak	Excellent
Acid, organic, strong	Good
Bases	Excellent
Alcohols, including isopropyl alcohol	Excellent
Methyl ethyl ketone	Not recommended
Polyglycols, including propylene glycol	Excellent
Hydrocarbons	Not recommended
Salts	Excellent
Insecticides	Not recommended
Kerosene	Poor
Mineral oil USP	Excellent
Naphtha (VMP)	Not recommended
Turpentine	Not recommended
Beer	Good
Gasoline	Not recommended
Fruit juices	Good

¹ Explanation of ratings:

Excellent = The plastic was unaffected for the duration of the test.

Good = A very slight clouding or discoloration of the plastic.

Poor = Considerable changes in plastic during exposure.

Not recommended = Severe attack of the plastic. Became soft and unusable after a few hours of exposure.

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

HANDLING

WARNING: For Professional Use Only. DuPont™ Styrofoam™ Brand Panel Core 20 Extruded Polystyrene (XPS) Foam Insulation requires care in handling. All persons who work with this material must know and follow the proper handling procedures. Read and follow the entire Handling section and the Safety Data Sheets (SDSs, formerly MSDSs or Material Safety Data Sheets) carefully before use. The information below is designed to protect the user and allow for safe use and handling of Styrofoam™ Brand products. Follow all applicable federal, state, local and employer regulations.

Precautionary Statements

- Styrofoam™ Brand Panel Core 20 is easy to fabricate into various sizes and shapes to meet specific design needs. However, because of the critical design aspects of many of its applications, DuPont recommends that qualified designers or consultants design the total system. Contact a local DuPont representative or access the literature library at styrofoam.com for more specific instructions.
- Like all cellular polymers, this product will degrade upon prolonged exposure to sunlight.
- A covering may be used to block ultraviolet radiation and prevent 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.

Shelf Life and Storage

When stored outdoors, keep insulation boards tarped or covered to protect from weather and weighted down to prevent boards from being blown around by the wind. Store above standing water.

Disposal

Dispose of any residual Styrofoam™ Brand product, coated debris, or solvent in accordance with applicable federal, state, and local government regulations.



**For more information visit us at
styrofoam.com
or call 1-866-583-2583**

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DuPont™ Styrofoam™ Brand Extruded Polystyrene Foam Insulation

CAUTION: This product is combustible. Protect from high heat sources. A protective barrier or thermal barrier may be required as specified in the appropriate building code. For more information, consult (Material) Safety Data Sheet ((M)SDS), call DuPont at 1-866-583-2583 or contact your local building inspector. In an emergency, call 1-989-636-4400 in the U.S. or 1-519-339-3711 in Canada.

WARNING: Rigid foam insulation does not constitute a working walkable surface or qualify as a fall protection product.

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

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43-D100943-enUS-1020 CDP