

# Styrofoam™ Brand Panel Core 40 Extruded Polystyrene Foam Insulation

High Performance Insulation for Composite Panel Applications

## FEATURES/BENEFITS

### Description

**Styrofoam™ Brand Panel Core 40 Insulation\*** is a closed-cell, high performance core material featuring a proprietary extrusion process facilitating precise control of parameters like density, cell size and cell orientation. This process yields foam boards that can stand up to the most demanding and extensive array of composite panel applications.

**Styrofoam™ Brand Panel Core 40** is supplied in sheets that have been carefully engineered and planed to precise tolerances for an exceptional bonding surface. The closed-cell structure of **Styrofoam™ Brand Panel Core 40** resists absorption of 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.

Typical applications for **Styrofoam™ Brand Panel Core 40** include:

- Architectural building panels
- Walk-in coolers
- Modular structures
- Incubators
- Conservatories
- Sunrooms
- Recreational vehicle sidewalls
- Exterior door panels
- Insulated roof panels
- Clean-room panels
- Garage and entry doors

### Ease of Use

**Styrofoam™ Brand Panel Core 40** is strong, yet lightweight and easy to fabricate into various sizes and shapes to meet specific design needs. **Styrofoam™ Brand Panel Core 40** sheets:

- Have been carefully engineered and planed to precise tolerances
- Provide an exceptional bond surface
- Resist water absorption
- Help maintain panel integrity and insulating properties in low-temperature, high-humidity and high-moisture conditions
- Consist of foam that resists absorption of adhesives, meaning they require less glue

### Available Sizes

**Styrofoam™ Brand Panel Core 40** is available with straight edge treatment in nominal board thicknesses up to 4", board lengths up to 216" and board widths up to 50". Not all product sizes are available in all regions.

### Sustainable Solutions

**Styrofoam™ Brand Panel Core 40** is reusable in many applications and is hydrochlorofluorocarbon (HCFC) free\*\* with zero ozone depletion potential. Styrofoam™ Brand insulation products produced in North America contain an average of 20% pre-consumer recycled content certified by UL Environment Inc.

\* Styrofoam™ Brand Panel Core 40 is a former product of The Dow Chemical Company

\*\* manufactured without hydrochlorofluorocarbon

## PROPERTIES

Styrofoam™ Brand Panel Core 40 Insulation exhibits physical properties as indicated in Table 1 when tested as represented. Review all instructions and (Material) Safety Data Sheet ((M)SDS) before use. Please contact DuPont at 1-866-583-2583 when additional guidance is required for writing specifications that include this product.

**TABLE 1: Typical Physical Properties of Styrofoam™ Panel Core 40 Extruded Polystyrene Foam Insulation**

Test Method	Property	Typical Value	Units
ASTM D1621	Compressive Strength <sup>1</sup>	40	psi, min., vertical
ASTM D1623	Tensile Strength	75	lb/in <sup>2</sup> , min., vertical
ASTM C273	Shear Strength	40	lb/in <sup>2</sup> (kPa)
ASTM C273	Shear Modulus	500	lb/in <sup>2</sup> (kPa)
ASTM C203	Flexural Strength	60	lb/in <sup>2</sup> (kPa), extruded
ASTM C203	Flexural Modulus	1,700	lb/in <sup>2</sup> (kPa), extruded
ASTM C272	Water Absorption	0.3	% by vol., max.
ASTM E96	Water Vapor Permeance <sup>2</sup>	1.5	perm, max.
ASTM C518	R-Value <sup>3</sup> per inch (25 mm), °F·ft <sup>2</sup> ·h/Btu (m <sup>2</sup> ·°C/W), 180 days aged @ 75°F (24°C) min.	5.0	-
ASTM E84	Surface burning characteristics <sup>4</sup> Flame Spread Index Smoke Developed Index	15 165	- -

<sup>1</sup> Vertical compressive strength measured at 10 percent deformation or at yield, whichever occurs first. Adequate design safety factors should be used to prevent long-term creep. Contact DuPont for design recommendations. When placing a load over the surface of the product, the compressive strength should be multiplied by 0.52 to account for the surface area lost due to channels cut into the foam surface.

<sup>2</sup> Based on 1" thickness

<sup>3</sup> R means resistance to heat flow. The higher the R-value, the greater the insulating power.

<sup>4</sup> This numerical flame spread rating is not intended to reflect hazards presented by this or any other material under actual fire conditions.

## TESTING

### Applicable Standards

Styrofoam™ Brand Panel Core 40 Insulation complies with ASTM C578 Type X.

### Code Compliances

Styrofoam™ Brand Panel Core 40 complies with the following codes:

- Meets IBC/IRC requirements for foam plastic insulation. See International Code Council evaluation report ICC-ES ESR 2142
- UL Classified, See Classification Certificate D369

Contact your local DuPont sales representative or local authorities for state and local building code requirements and related acceptance.

### Warranty

In the United States, a 50-year thermal limited warranty is available on Styrofoam™ Brand insulation products 1.5 inches and greater. For thickness less than 1.5 inches, other warranties may apply. Visit [building.dupont.com/warranties](http://building.dupont.com/warranties) or contact your DuPont representative for details.

## HANDLING

**WARNING: For Professional Use Only.** 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 40 Insulation is combustible; protect from high heat sources. A protective barrier or thermal barrier may be required as specified in the appropriate building code.
- 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.
- Due to the critical technical design aspects of many of its applications, DuPont recommends that qualified designers or consultants design your system.

- For more information on codes and compliances, consult SDS, call DuPont at 1-866-583-2583 or contact your local building inspector. DuPont can also offer general guidelines and recommendations for Styrofoam™ Brand Panel Core 40.

### 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/panelcore](http://styrofoam.com/panelcore)  
or call 1-866-583-2583**

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**Styrofoam™ 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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