



STYROFOAM™ PANEL CORE 40 EXTRUDED POLYSTYRENE FOAM INSULATION

1. PRODUCT NAME

STYROFOAM™ Panel Core 40 Extruded Polystyrene Foam 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.dowbuildingsolutions.com
www.dowlowtempolutions.com

3. PRODUCT DESCRIPTION

BASIC USE

STYROFOAM™ Panel Core 40 Extruded Polystyrene Foam Insulation is a closed-cell high-performance core material. Dow's proprietary extrusion process enables precise control of parameters such as density, cell size and cell orientation. This yields foam boards that can stand up to the most demanding composite panel applications. STYROFOAM Panel Core 40 is supplied in sheets that have been carefully engineered and planed to precise tolerances for a superior bonding surface.

STYROFOAM™ Panel Core 40 Extruded Polystyrene Foam Insulation is used extensively in composite panel applications. The closed-cell structure of STYROFOAM 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.

Dow can provide general guidelines and recommendations for STYROFOAM Panel Core 40. Call 1-866-583-BLUE (2583) or contact your local Dow representative for details. Some typical applications 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

4. TECHNICAL DATA

APPLICABLE STANDARDS

STYROFOAM™ Panel Core 40 Insulation complies with ASTM D578 Type VI.

CODE COMPLIANCES

STYROFOAM™ Panel Core 40 Insulation complies with the following codes:

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

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

PHYSICAL PROPERTIES

STYROFOAM™ Panel Core 40 Extruded Polystyrene Foam Insulation exhibits the properties and characteristics indicated in Table 2 when tested as represented.

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.

ENVIRONMENTAL DATA

STYROFOAM™ Panel Core 40 Insulation is hydrochlorofluorocarbon (HCFC) free with zero ozone-depletion potential. STYROFOAM™ Brand Panel Core 40 Insulation is reusable in many applications.

FIRE INFORMATION

STYROFOAM™ 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. For more information, consult MSDS, call Dow at 1-866-583-BLUE (2583) or contact your local building inspector.

TABLE 1: SIZES, R-VALUES AND EDGE TREATMENTS FOR STYROFOAM™ PANEL CORE 40 EXTRUDED POLYSTYRENE FOAM INSULATION

NOMINAL BOARD THICKNESS ⁽¹⁾ , IN.	BOARD LENGTH, IN.	BOARD WIDTH, IN.	EDGE TREATMENT
Up to 4.0	Up to 216"	Up to 50"	Straight Edge

(1) Not all product sizes are available in all regions.

5. INSTALLATION

STYROFOAM™ Panel Core 40 Extruded Polystyrene Foam Insulation is strong, yet lightweight and 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 your system. Contact a local Dow representative for more specific information.

6. AVAILABILITY

STYROFOAM™ Panel Core 40 Extruded Polystyrene Foam Insulation is available through select distributors and laminators or may be ordered direct from Dow. For more information, call 1-800-232-2436.

7. WARRANTY

In the United States, a 50-year thermal limited warranty is available on STYROFOAM™ Insulation products 1.5 inches and greater. For thickness less than 1.5 inches, other warranties may apply. Warranties are available as described at <http://building.dow.com/na/en/tools/warranty.htm>

TABLE 2: TYPICAL PHYSICAL PROPERTIES OF STYROFOAM™ PANEL CORE 40 EXTRUDED POLYSTYRENE FOAM INSULATION

PROPERTY AND TEST METHOD	VALUE
Density, ASTM D1622, lb/ft ³	2.0
Compressive Strength ⁽¹⁾ , ASTM D1621, psi, min., vertical	40
Tensile Strength, ASTM D1623, lb/in ² (kPa), vertical	75
Shear Strength, ASTM C273, lb/in ² (kPa)	40
Shear Modulus, ASTM C273, lb/in ² (kPa)	550
Flexural Strength, ASTM C203, lb/in ² (kPa), extruded	60
Flexural Modulus, ASTM C203, lb/in ² (kPa), extruded	2,000
Water Absorption, ASTM C272, % by vol.	0.3
Water Vapor Permeance ⁽²⁾ , ASTM E96, perm, max.	1.5
R-Value ⁽³⁾ per inch (25 mm), ASTM C518, °F•ft ² •h/Btu (m ² •°C/W), Aged 180 days @ 75°F (24°C)	5.0
Surface Burning Characteristics ⁽⁴⁾ , ASTM E84, Flame Spread Index	15
Smoke Developed Index	165

(1) 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 Dow 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.

(2) Based on 1" thickness

(3) R means resistance to heat flow. The higher the R-value, the greater the insulating power.

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

8. MAINTENANCE

Not applicable.

9. TECHNICAL SERVICES

Dow can provide technical information to help address questions when using STYROFOAM™ Panel Core 40 Extruded Polystyrene Foam Insulation. Technical personnel are available at 1-866-583-BLUE (2583).

10. FILING SYSTEMS

- www.dowbuildingsolutions.com
- www.sweets.com

www.dowbuildingsolutions.com

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

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

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 Dow can give assurance that mold will not develop in any specific system.

