



DuPont™ Styrofoam™ Brand Highload 40, 60 and 100 Insulation

Tough, Versatile Insulation for Commercial High-Load, Low-Temp and Geotechnical Applications
Low-GWP Formulation

FEATURES/BENEFITS

For Professional Use Only

Description

DuPont™ Styrofoam™ Brand Highload Insulation* is a closed-cell foam insulation designed for use in low-temperature (freezer floor) applications, highways, airport runways, bridge abutments, parking decks, utility lines, and ice rinks.

Available in compressive strengths of 276, 414 and 690 kPa (40, 60 and 100 psi), **Styrofoam™ Brand Highload Insulation** features exceptional moisture resistance and R-value** retention. All three **Styrofoam™ Brand Highload products** resist compressive creep and fatigue, delivering long-term compressive strength.

Like all Styrofoam™ Brand insulation products, **Styrofoam™ Brand Highload 40, 60 and 100 Insulation** are durable, versatile and reusable – making them an ideal choice for a variety of high-load applications.

Sustainable Solutions

Styrofoam™ Brand Highload Insulation uses DuPont™ BluEdge™ technology. **Styrofoam™ Brand Highload Insulation** is designed to be compliant with U.S. state HFC regulations where sold. It uses enhanced level of sustainable blowing agents, and DuPont™ BluEdge™ flame retardant technology. It is hydrochlorofluorocarbon (HCFC) free with zero ozone depletion potential and a GWP <150 and is reusable in many applications.

Available Sizes

Available sizes, RSI, LTTR values and edge treatments for **Styrofoam™ Brand Highload 40, 60 and 100 Insulation** can be found in Table 1. Additional sizes may be stocked on a regional basis. Contact your local DuPont representative for additional information.

Ease of Use

Styrofoam™ Brand Highload Insulation comes in three different compressive strengths to fit any application.

Styrofoam™ Brand Highload:

- Provides superior resistance to water absorption, water vapor transmission and freeze thaw cycling
- Can be used in low-temperature, geotechnical, high-load commercial and other in-ground applications
- Delivers long-term compressive strength in high-load applications
- Features exceptional R-value retention
- Resists compressive creep and fatigue

TABLE 1: Sizes, Thermal Resistance, LTTR values and Edge Treatments for Styrofoam™ Brand Highload 40, 60 & 100 XPS Foam Insulation

Board Thickness ⁽¹⁾ mm (in)	RSI (R-value) ⁽²⁾⁽³⁾	LTTR m2*°C/W ⁽⁴⁾ RSI (R-value)	Board Size mm (in)	Edge Treatment
Highload 40				
25 (1)	0.88 (5.0)	0.86 (4.88)	610 x 2438 (24 x 96)	Butt Edge
38 (1.5)	1.32 (7.5)		610 x 2438 (24 x 96)	Butt Edge
50 (2)	1.76 (10.0)	1.71 (9.71)	610 x 2438 (24 x 96)	Butt Edge
75 (3)	2.64 (15.0)	2.61 (14.82)	610 x 2438 (24 x 96)	Butt Edge
Highload 60				
25 (1)	0.88 (5.0)	0.86 (4.88)	610 x 2438 (24 x 96)	Butt Edge
38 (1.5)	1.32 (7.5)		610 x 2438 (24 x 96)	Butt Edge
50 (2)	1.76 (10.0)	1.71 (9.71)	610 x 2438 (24 x 96)	Butt Edge
75 (3)	2.64 (15.0)	2.61 (14.82)	610 x 2438 (24 x 96)	Butt Edge
Highload 100				
50 (2)	1.76 (10.0)	1.71 (9.71)	610 x 2438 (24 x 96)	Butt Edge
75 (3)	2.64 (15.0)	2.61 (14.82)	610 x 2438 (24 x 96)	Butt Edge

⁽¹⁾ Not all product sizes are available in all regions.
⁽²⁾ RSI or R-value means resistance to heat flow. The higher the RSI (R-Value), the greater the insulating power. RSI values are expressed in m2 °C/W. R-values are expressed in ft2·h·°F/Btu.
⁽³⁾ Thermal values are consistent with the criteria of ASTM C578 and are not assessed by the CCMC. Depending on the product, a 15-, 30- or 50- year limited thermal warranty is available.
⁽⁴⁾ Long Term Thermal Resistance (LTTR) values determined per CAN/ULC-5770.

PROPERTIES

Styrofoam™ Brand Highload 100 Insulation products exhibit the typical physical properties indicated in Tables 2 when tested as represented. Review all instructions and and Safe Handling document on [BeyondBlue.DuPont.com](https://www.beyondblue.dupont.com) before use. Please contact DuPont at 1-866-583-2583 when additional guidance is required for writing specifications that include this product.

*TABLE 2: Physical Properties of Styrofoam™ Brand Highload 40, 60 and 100 XPS Foam Insulation

Property and Test Method	Value ⁽⁴⁾		
	HIGHLOAD 40	HIGHLOAD 60	HIGHLOAD 100
Compressive Strength ⁽¹⁾ , ASTM D1621, kPa (psi)	276 (40)	414 (60)	690 (100)
Water Absorption, ASTM D2842, % by volume		0.1	
Water Vapour Permeance, ASTM E96, ng/Pa·s·m² (perm), max. ⁽²⁾		50 (0.87)	
Maximum Use Temperature, °C (°F)		74 (165)	
Coefficient of Linear Thermal Expansion		6.3 x 10 ⁻² (3.5 x 10 ⁻³)	
ASTM D696, mm/m·°C (in/in·°F)			
Surface Burning Characteristics ⁽³⁾			
Flame Spread		>300	
Smoke Developed		<700	
Flexural Strength, ASTM C203, kPa (psi)	415 (60)	520 (75)	690 (100)
Compressive Modulus (typical), ASTM D 1621, kPa (psi)	9,650 (1,400)	15,170 (2,200)	25,510 (3,700)

* These are typical physical properties. Not to be construed as sales specifications.
¹ Vertical compressive strength is measured at 5 percent deformation or at yield, whichever occurs first. Since Styrofoam insulations are visco-elastic materials, adequate design safety factors should be used to prevent long-term creep. For static loads, 3:1 is suggested. For dynamic loads, call 1-866-583-2583 for safety factor recommendation.
² Based on 1" (25 mm) thickness.
³ Tested per CAN/ULC-S102.2. Refer to UL Directory for details on foam thickness and maximum density evaluated.
⁽⁴⁾ Values are consistent with criteria of CAN/ULC-S7011:2017

TESTING

Applicable Standards

DuPont™ Styrofoam™ Brand Highload 40, 60 and 100 Extruded Polystyrene (XPS) Foam Insulation meets CAN/ULC-S701.1 – STANDARD:2017 FOR THERMAL INSULATION, POLYSTYRENE BOARDS. Applicable standards include:

- **ASTM D1621** – Standard Test Method for Compressive Properties of Rigid Cellular Plastics
- **ASTM E96** – Standard Test Methods for Water Vapour Transmission of Materials
- **ASTM D2842** – Standard Test Method for Water Absorption of Rigid Cellular Plastics
- **CAN/ULC-S770** – Standard Method of Test for Determination of Long-Term Thermal Resistance of Closed-Cell Thermal Insulation Foams

Notice

DuPont™ Styrofoam™ Brand Highload 40, 60 and 100 Extruded Polystyrene (XPS) Foam Insulation complies with the following codes:

- **CCMC Evaluation Listing 04888-L**
- **CAN/ULC S701.1-17 Type 4**

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

Use Conditions

- It is recommended that any masonry irregularities or jagged surfaces on the foundation wall or slab be removed prior to installation.
- Below-grade walls should be protected from moisture leakage and dampness prior to installation of **DuPont™ Styrofoam™ Brand Highload 40, 60 and 100 Extruded Polystyrene (XPS) Foam Insulation**
- Use a polystyrene compatible adhesive to hold boards in place during backfilling. Apply caulk or mastic to the top of boards to prevent water infiltration behind the insulation. To complete the installation, parge the above-grade portions of **DuPont™ Styrofoam™ Brand Highload 40, 60 and 100 Extruded Polystyrene (XPS) Foam Insulation**.

HANDLING

WARNING: For Professional Use Only – Read and follow the entire Handling section carefully before use. The information below is designed to protect the user and allow for safe use and handling of Styrofoam™ Brand products.

Precautionary Statements

- **DuPont™ Styrofoam™ Brand Highload 40, 60 and 100 Extruded Polystyrene (XPS) Foam Insulation** is combustible; protect from high heat sources.
- A protective barrier or thermal barrier is required as specified in the appropriate building code. For more information, consult SDS, call DuPont at 1-866-583-2583 or contact your local building inspector.
- Dispose of any residual DuPont product, coated debris, or solvent in accordance with applicable federal, provincial, territorial and local government regulations.
- Follow all applicable federal, provincial, territorial, local and employer regulations.

Shelf Life and Storage

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



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

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DuPont™ Styrofoam™ Brand 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 call the DuPont Contact Center at 1-866-583-2583 or contact your local building inspector. For emergencies contact Chemtrec 800-424-9300, CCN (Contract Number) 7442.

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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