

STYROBAR® RIGID INSULATION PROPERTY DATA SHEET

rev. 062618

Masterformat #07 21 13.13 Foam Board Insulation

Product Name

- Styrobar products:
- Styrobar 16
- Styrobar 22
- Styrobar 28
- Styrobar HS-40

Manufacturer

- AMC Foam Technologies Inc.
35 Headingley St.
Headingley Manitoba Canada
R4H 0A8
1-877-789-7622

Product Description

Styrobar is a rigid insulation product made from closed cell expanded polystyrene (EPS).

Sizes

Styrobar products are available in thicknesses starting at 1/2", in 4' x 8' or 2' x 8' sheets. Styrobar products are manufactured with a standard butt edge. Shiplap, or tongue and groove is available upon special order.

Please contact the AMC order desk for all custom inquiries.

Basic Use

Styrobar 16 is suitable for interior and exterior sheathing above-grade, including roofing applications.

Styrobar 22 is suitable for interior and exterior sheathing above-grade, and below-grade applications in Canada such as; under-slab, grade beam, perimeter, radiant floor heating, frost shield protection and back fill.

Styrobar 28 is suitable for all above-grade and below-grade applications in Canada and the United States. These would include the same below-grade applications noted for Styrobar 22.

Styrobar HS-40 is suitable for geotechnical and other below-grade applications where high compressive strengths and high thermal values are needed.

Standards

- ASTM C578 – Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation.
- CAN/ULC-S701 – Standard for Thermal Insulation, Polystyrene, Boards and Pipe Covering.
- ASTM C518 – Standard Test Method for Steady-state Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus.
- ASTM D1621 – Standard Test Method for Compressive Properties of Rigid Cellular Plastics.

- ASTM D1622 – Standard Test Method for Apparent Density of Rigid Cellular Plastics.
- ASTM D2842 – Standard Test Method for Water Absorption of Rigid Cellular Plastics.
- ASTM E96 – Standard Test Methods for Water Vapor Transmission of Materials.
- ASTM C203 – Standard Test Methods for Breaking Load and Flexural Properties of Block-Type Thermal Insulation.
- ASTM D2863 – Standard Test Method for Measuring the Minimum Oxygen Concentration to Support Candle-Like Combustion of Plastics (Oxygen Index).

Code Evaluation Approvals

- Styrobar 16 CCMC Listing No. 13217-L
- Styrobar 22 CCMC Listing No. 13218-L
- Styrobar 28 CCMC Listing No. 14033-L
- Styrobar HS-40 CCMC Listing No. 14034-L
- QAI Certification Listing No. B1088-1

Physical Properties

Styrobar products conform to the physical properties shown in Table 1 and 2.

Environmental Data

Styrobar products are produced without the use of chlorofluorocarbon (CFCs), hydrochlorofluorocarbon (HCFCs) or formaldehyde. As a result, Styrobar products will not produce harmful emissions to the environment.

Styrobar products are non-toxic, will not irritate skin on exposure and contains no nutrients for pests or mould.

Limitations

EPS should not be exposed to volatile hydrocarbons such as fuel oils, gasoline, and some alcohols. Anhydrous acids such as sulfuric and formic acid may also attack EPS.

Styrobar products contain flame retardants. This, however, will not prevent burning when the material is exposed to a large fire source or intense heat.

Observe normal fire precautions and good housekeeping methods during application, and provide a protective barrier, such as a thermal barrier, to protect from high heat sources, as required by local building codes.

Liability

The manufacturer and distributors of this building product shall not be liable for any loss, costs, or damage resulting from uses of this product in systems which are not constructed in the strict compliance with the most exacting design and construction standards (Including appropriate venting, drainage, flashing, etc.) contemplated by the National building Code of Canada or by the more rigorous practices or standards enforced at the place of use.



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Table 1: Physical Properties per CAN/ULC S701

	Styrobar 16	Styrobar 22	Styrobar 28	Styrobar HS-40
EPS Type	1	2	3	3
Thermal Resistance Min. at 25 mm Thickness, m ² C/W	0.65	0.70	0.74	0.74
Water Vapour Permeance Max. at 25 mm Thickness, ng/Pa·s·m ²	300	200	130	130
Compressive Strength Min. at 10% deformation, kPa	70	110	140	276 ¹
Flexural Resistance Min, kPa	170	240	300	300
Water Absorption Max by Volume, %	6	4	2	2
Dimensional Stability Max, %	1.5	1.5	1.5	1.5
Limiting Oxygen Index Min, %	24	24	24	24

1. Styrobar HS-40 has been shown to have a compressive resistance at 10% deformation of 276 kPa (40 psi), as tested by QAI Laboratories.

Table 2: Physical Properties per ASTM C578

	Styrobar 16	Styrobar 22	Styrobar 28	Styrobar HS-40
EPS Type	I	II	IX	XIV
Thermal Resistance Min. at 25 mm Thickness, F·ft ² ·h/Btu	3.7	4	4.2	4.2
Water Vapour Permeance Max. at 25 mm Thickness, perms	5	3.5	2.5	2.5
Compressive Strength Min. at 10% deformation, psi	10	16	25	40 ¹
Flexural Resistance Min, psi	30	35	50	60
Water Absorption Max by Volume, %	4	3	2	2
Dimensional Stability Max, %	2	2	2	2
Limiting Oxygen Index Min, %	24	24	24	24
Density Min., lbs/ft ³	1.15	1.35	1.80	2.40

1. Styrobar HS-40 has been shown to have a compressive resistance at 10% deformation of 276 kPa (40 psi), as tested by QAI Laboratories.

Table 3: Surface Burning Characteristics

	Flame Spread Index Max.	Smoke Developed Index Max.	Thickness Max.	Density
ASTM E84	< 25	< 450	4 in.	2.2 pcf
CAN/ULC S102.2	< 230	> 500	102 mm	32 kg/m ³



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