

# STYROBAR HS-40

## High Strength EPS Insulation



### PRODUCT DESCRIPTION

STYROBAR® HS-40 is an especially rugged, high compressive strength insulation board manufactured from High Density Expanded Polystyrene. It is totally CFC and HCFC free. HS-40 provides excellent thermal insulation effectiveness for many demanding uses and can contribute to several LEED credits.

STYROBAR® HS-40 was developed for geotechnical and other below-grade applications where physical strength and high thermal values are needed, thereby making it an excellent choice for all other applications where high strength helps to ensure positive installed performance.

STYROBAR® HS-40 is at least 33% stronger than “standard” sheathing materials, a good choice when requiring high load compressive strength. AMC's unique production facility produces HS-40 in virtually any thickness and in a wide selection of standard and custom panel sizes, making this product the most construction-friendly and economical of all sheet insulation products available.

STYROBAR® HS-40 is ‘permanent’ insulation; it does not off-gas insulating blowing agents and lose insulation value over time. It is therefore an excellent choice where “Long Term” insulation effectiveness is needed, such as in permafrost applications, preventing thawing under structures that require a continuously frozen subgrade for support. Because of its high density and tightly closed cell structure, STYROBAR® HS-40 can be used for buoyancy in both fresh and sea water.

### TYPICAL APPLICATIONS FOR STYROBAR® HS-40:

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- A photograph showing a construction site where STYROBAR HS-40 insulation is being installed. A worker in a pink shirt is standing next to a large white insulation panel. In the background, a yellow skid steer loader is visible on a dirt mound. The scene is set outdoors with a clear sky.
- **Perimeter and Subgrade Installations.**
  - **Under-Slab Insulation.**
  - **Masonry and Cavity Wall Construction**
  - **Roof Insulation, including tapered modules for Slope-to-Drain.**
  - **External Insulated Finish Systems for Hard Coat equivalence.**
  - **Frost Protected Shallow Foundations Systems**
  - **Ice Arenas and Snow Melt Systems**
  - **Floatation Billets**
  - **Highway and Railroad Bed Construction**
  - **Airport Runways, Taxiways and Aprons**
  - **Large Earth Structures, Ramps, Berms and other H.D. Geofoam Applications**
  - **Isolating Bearing Pads under Heavy Process Equipment and Industrial Traffic**

### COLD CLIMATE PERFORMANCE

Certain soil formations may be extremely susceptible to heaving when frozen. Ice lensing can occur during the freezing process, a result of water migration from unfrozen, moisture laden soil zones to the freezing boundary, sometimes causing many centimeters of ground swell. When considering the construction of roads, buildings and other structures, installing a high load capacity insulation to prevent freezing of underlying soils can be the most practical strategy for preventing subgrade expansion. HS-40 has increased insulating effectiveness at lower temperatures, making it an ideal choice for cold climate applications.

## STYROBAR® HS-40, OUR HEALTH, ENERGY AND ENVIRONMENT

The selection of an insulation product should not be based on the evaluation of any single criteria, but rather, a total score of performance characteristics, energy efficiency and environmental impacts. STYROBAR HS-40 is recommended as "Best Overall", supported by the following.

- STYROBAR HS-40 does not contain CFC or HCFC gases, does not contribute to ozone depletion and supports early compliance with the Montreal Protocol.
- STYROBAR HS-40 contains recycled content, reducing new virgin material requirements.
- STYROBAR HS-40 is manufactured locally in Winnipeg, saving transport cost.
- STYROBAR HS-40 is produced in any thickness, length and width, reducing waste and landfill need.
- STYROBAR HS-40 is 40 psi, 33% stronger than Type 4, providing better physical performance in most applications.
- STYROBAR HS-40 meets ASTM C-578 Type 14, but less expensive than Type 4, for significant savings.
- STYROBAR HS-40 is non toxic, will not irritate skin on exposure and contains no nutrients for pests or mould.

## SPECIFICATIONS

For additional details and specifications click on STYROBAR HS-40 at: [www.amcfoam.com](http://www.amcfoam.com)

STYROBAR HS-40 meets the requirements of ASTM C-578 Type 14 (American Society for Testing and Materials). As of this printing there is no equivalent classification under National Standard of Canada's CAN/ULC S-701. However, for Canadian specification purposes, HS-40 meets and exceeds (by a large margin) CAN/ULC S-701 Type 2. The Canadian Construction Materials Centre evaluated AMC's STYROBAR 22 (Type 2) under CCMC #13218-L, certified by Intertek Testing Services (ITS) Ltd.

## STYROBAR® HS-40 PHYSICAL PROPERTIES

Property	Metric	Imperial	Property	Metric	Imperial
Compressive Strength	276 kPa (min)	40 psi (min)	Water Vapour Permeance	143 (max) ng/Pa.s.m <sup>2</sup>	2.5 (max) perm
Thermal Resistance	RSI .87 @ -10°C	R-5 @ 15°F	Water Absorption	1 % Maximum	1 % Maximum
	RSI .75 @ 24°C	R-4.3 @ 75°F		Dimensional Stability	1 % Maximum
Flexural Strength	414 (min) kPa	60 (min) Psi			

## SHEET SIZES AND CUSTOM PROFILES

Available in 610 x 2440 mm (2' x 8') & 1220 x 2440 mm (4' x 8') panels, but HS-40 is also produced in virtually any width and length, and thickness up to 610 mm (24"). Drainage features, batten slots and other custom profiles can be quickly and efficiently added in AMC's unique manufacturing processes.

# AMC

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