

# STYROBAR HS-40

## Expanded Polystyrene Insulation



### STYROBAR HS-40 HIGH STRENGTH EPS INSULATION

#### Product Description

Styrobar HS-40 is manufactured from close cell High Density Expanded Polystyrene. HS-40 does not off gas insulating blowing agents and therefore will not lose insulation value. Styrobar HS-40 was developed for geotechnical and other below-grade applications where superior physical properties are required. HS-40 can be used for buoyancy in both sea and fresh water, and also in permafrost applications to prevent thawing under structures that require a continuously frozen subgrade for support.

#### Cold Climate Performance

Certain soil formations may be extremely susceptible to heaving when frozen. Ice lensing occurs 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 low temperatures, making an ideal choice for cold climate applications.

#### Typical Applications for Styrobar HS-40

- perimeter and under-slab insulation
- highway and railroad bed construction
- airport runways, taxiways and aprons
- large earth structures, ramps and berms, geofoam applications
- isolating bearing pads under heavy process equipment and industrial traffic
- frost protected shallow foundations
- ice arenas and snow melt systems
- buoyancy billets

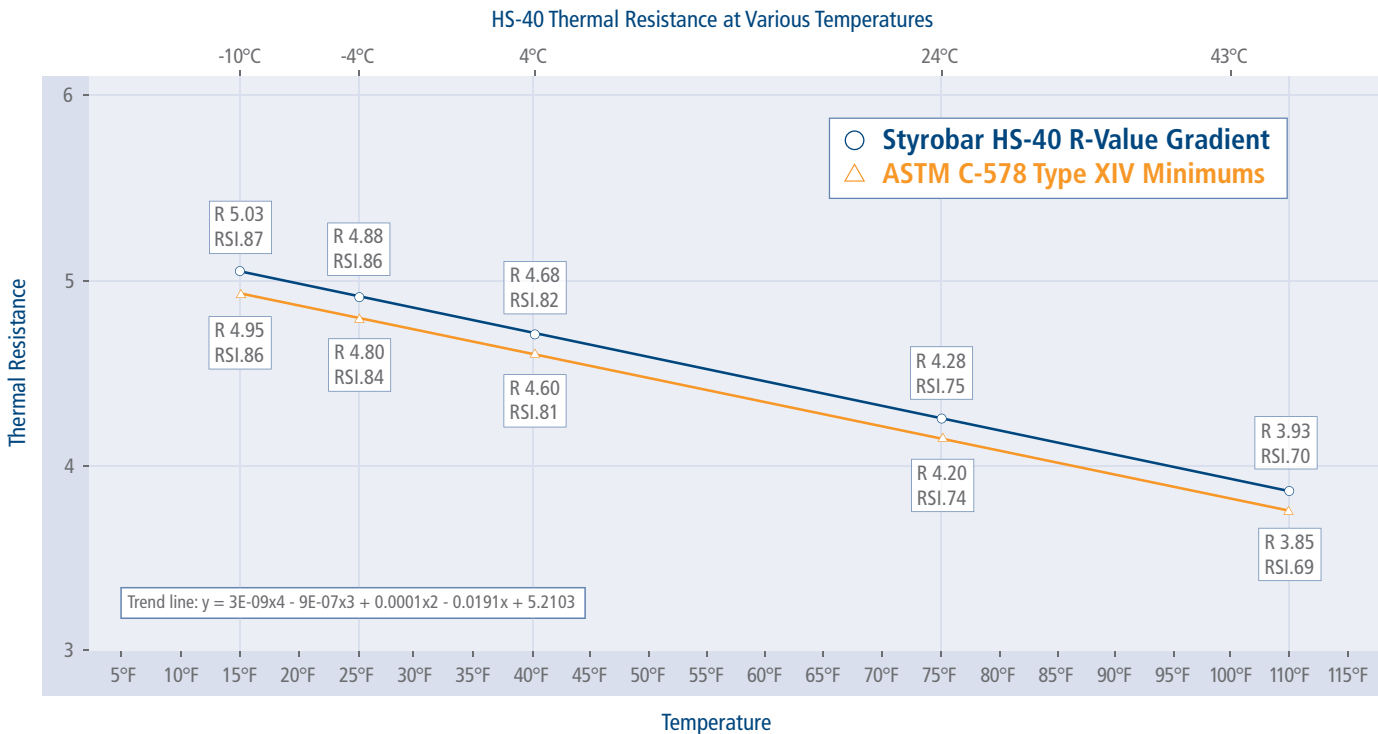
#### Styrobar HS-40 Physical Properties

PHYSICAL	METRIC	IMPERIAL
Comprehensive Strength	276 kPa (min)	40 psi (min)
Thermal Resistance	0.87 @-10°C	5 @15°F
Flexural Strength	414 kPa (min)	60 psi (min)
Water Vapour Permeance	90 ng/Pa.s.m <sup>2</sup> (max)	1.6 perm (max)
Water Absorption	1% (max)	1% (max)
Dimensional Stability	1% (max)	1% (max)

#### Specifications/Compliances

Styrobar HS-40 exceeds the requirements of the American Society for Testing and Materials Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation ASTM C-578 Type XIV. For Canadian specification purposes, HS-40 exceeds (by a large margin) CAN/ULC S-701 Type 2. The Canadian Construction Materials Centre evaluated Styrobar 22 (Type2) under CCMC #13218-L, certified by Intertek Testing Services (ITS) Ltd. AMC Foam Technologies Inc. is registered and has adopted the ISO 9001:2000 registered company Quality Management Standard.





### Health and the Environment

Styrobar HS-40 has reduced environmental impact using no CFC or HCFC ozone depleting blowing agents. It is non-toxic, will not irritate skin on exposure and contains no nutrients for pests or mould.

### Chemical Properties

Expanded Polystyrene 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 expanded polystyrene.

### Flammability Characteristics

Styrobar contains a chemical additive to inhibit accidental ignition from a small fire source. This additive, 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. Cover insulation with a finish acceptable to local building codes.

### Sheet Size and Configuration

Available in 610x2440 mm (2'x8') and 1220x2440 mm (4'x8') panels, HS-40 is produced in any thickness up to 610 mm (24"). Shiplapped edges, batten slots and other custom profiles can be quickly and efficiently produced in AMC Foam Technologies unique manufacturing processes.

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