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TECHNICAL DATA SHEET

ID. QT SGI
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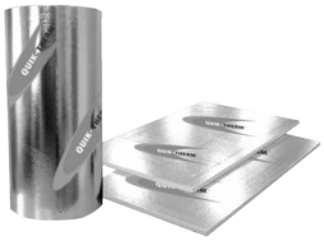
Quik-Therm Sub-Grade Insulation (SGI)



Quik-Therm Sub Grade Insulation (SGI) consists of closed cell, lightweight and resilient expanded polystyrene (EPS) layered on both sides with advanced metallic polymer facers. SGI's facer technology provides superior durability and resiliency. SGI is designed for below grade applications such as exterior concrete walls and beneath concrete slabs and floors. Quik-Therm SGI is available in variable densities and compressive strengths.

- SGI meets code compliancy as a radon, vapour and air barrier when joints and seams are taped.
- SGI retains its thermal characteristics and mechanical properties after being subjected to freeze thaw cycling.
- All SGI products will perform successfully when exposed to soil induced heaving forces.
- SGI was Effective R-value tested to ASTM C1363 and the results were used to model a sub-grade application that could be used to extrapolate an expected effective R-value for the listed thicknesses. See below.

Standard Dimensions

Rolls: 4′ x 48′ (192 ft²) - 11/16″ thick
1.2 m x 14.6 m (17.8 m²) - 17 mm thick

Sheets: 4′ x 8′ (32 ft²) - Variable Thicknesses
1.2 m x 2.4 m (3.0 m²)
(Available in Custom Lengths)

Meets CAN/ULC S701-05 / CCMC #13393-L and 13457-L

Property	Nominal Value			Test Method
Dimensional Stability - Maximum Linear Change, %	1.5			ASTM D2126
Length Tolerance, mm (in)	±3.2 (±0.125)			—
Width Tolerance, mm (in)	±1.6 (±.063)			—
	Type 1	Type II	Type III	
Nominal Density, pcf (kg/m³)	1.0 (16)	1.4 (23)	1.8 (29)	ASTM D1622
Compressive Strength, psi (kPa)	12.6 (87)	19.7 (136)	26.7 (184)	ASTM 1621-04
Flexural Strength, psi (kPa)	29.3 (202)	37.3 (257)	54.5 (376)	ASTM C203-05
Water Vapour Transmission (perms)	<1.0			ASTM E96
Effect of Exposure to Environmental Cycling	See Below			ASTM C1512

ASTM C1512 was developed specifically to determine the freeze-thaw and moisture resistance properties of foam insulation in below grade applications. Test results clearly demonstrate that EPS does not absorb excessive amounts of moisture and there is no loss in R-value or change in compressive strength for EPS even after long-term exposure in northern climates.

Testing and Energy Modeling - ATI / Intertek

SGI Thickness (mm)	SGI Thickness (inches)	Effective R-Value*	RSI
17	11/16″	5.2	0.92
32	1¼″	7.5	1.32
48	2″	10+	1.76+
57	2¼″	11.1	1.95
59	2 5/16″	12.1	2.13
65	2 9/16″	13.2	2.32
76	3″	15.1	2.66
83	3¼″	16.1	2.84

* SGI + 3½" Concrete. Thicker concrete will increase the effective R-Value
* For increased R-value, add R-1 for every additional 6mm (1/4") of SGI thickness

Typical Quik-Therm SGI Below Grade Applications

Type 1
Compressive Strength: 12.6 psi (1815 psf)

Supports a 4 to 8 inch concrete slab. Examples: basement floors, warehouse structures and backfilled vertical foundations.

Type 2
Compressive Strength: 19.7 psi (2835 psf)

Supports a minimum thickness slab of 5.5 inches. Vehicular traffic, heavy vehicles and farm machinery.

Type 3
Compressive Strength: 26.7 psi (3845 psf)

Supports load bearing walls and footings. For these applications a specific geotechnical assessment should be undertaken.