

# **TECH DATA**

## **Expanded Polystyrene Insulation.**

R-Shield® expanded polystyrene insulation is a cost effective, durable, and energy efficient solution for all types of insulation applications. R-Shield Insulation is an insulation manufactured to provide architects, specifiers, distributors, and contractors all the features and benefits inherent in a quality insulation.

R-value - R-Shield 400 has an R-value that never changes over time.

Strength - R-Shield 400 has a compressive strength of 40 psi.

Moisture Resistance - R-Shield 400 is a closed cell polystyrene insulation and is resistant to moisture gain.

Vapor Permeable - R-Shield 400 allows moisture vapor to move through its structure.

Drying Potential - R-Shield 400 rapidly releases absorbed moisture.

## Applications.

- · Cavity Wall
- · Wall Sheathing
- Precast Concrete Core
- Flat/Tapered Roofing
- Plaza Deck/Vegetative Green Roof
- Perimeter/Underslab
- Drainage Board
- · Waterproofing Protection

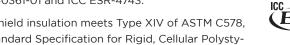
#### Proven to meet, or exceed, building codes.

R-Shield insulation is manufactured under an industry leading quality control program monitored by UL and further recognized in UL Evaluation Report UL ER40361-01 and ICC ESR-4743.





R-Shield insulation meets Type XIV of ASTM C578, "Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation".





R-SHIELD 400			
Compressive Strength <sup>1,2</sup> @ 10% deformation, min. ASTM D1621		psi (kPa)	40 (276)
R-value <sup>1</sup> , Thermal Resistance, per inch, ASTM C518	25°F	°F·ft²·h/Btu (°K·m²/W)	5.0 (0.88)
	40°F	°F·ft²·h/Btu (°K·m²/W)	4.8 (0.85)
	75°F	°F·ft²·h/Btu (°K·m²/W)	4.4 (0.77)
k-value Thermal Conductivity ASTM C518	25°F	Btu·in/ºF·ft²·h (W/ºK·m)	0.20 (0.029)
	40°F	Btu·in/ºF·ft²·h (W/ºK·m)	0.21 (0.030)
	75°F	Btu·in/ºF·ft²·h (W/ºK·m)	0.23 (0.033)
Density, Nominal ASTM C303		lb/ft³ (kg/m³)	2.5 (40)
Flexural Strength <sup>1</sup> , min. ASTM C203		psi (kPa)	60 (414)
Water Vapor Permeance <sup>1</sup> of 1.0 in. thickness, max., perm ASTM E96			2.5
Water Absorption <sup>3</sup> , volume % ASTM C272			0.3
Flame Spread Index ASTM E84			<25
Smoke Developed Index ASTM E84			<450
Maximum long term use temperature			165°F (74°C)
ASTM C578 Compliance, Type			XIV

<sup>&</sup>lt;sup>1</sup> Please refer to ASTM C578 specification for complete information.



<sup>&</sup>lt;sup>2</sup> Compressive strength is measured at 10 percent in accordance with ASTM C578. A safety factor is required to prevent long-term creep for sustained loads. For static loads, a safety factor of 3:1 is recommended.

<sup>&</sup>lt;sup>3</sup> ASTM C272 24 hour immersion followed by 24 hour storage in 75°F/50%RH air.