


R-Shield® PLUS is a film-faced air barrier and weather resistive insulation used for all types of construction applications. R-Shield PLUS conforms to ASTM C578, “Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation”.

R-Shield PLUS 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.



PRODUCT						
		100	130	150	250	
Compressive Strength ^{1,2} @ 10% deformation, min. ASTM D1621	psi (kPa)	10 (69)	13 (90)	15 (104)	25 (173)	
R-value ¹ , Thermal Resistance, per inch, ASTM C518	25°F ³	°F·ft ² ·h/Btu (°K·m ² /W)	4.4 (0.77)	4.5 (0.80)	4.8 (0.84)	5.0 (0.88)
	40°F ⁴	°F·ft ² ·h/Btu (°K·m ² /W)	4.2 (0.74)	4.3 (0.76)	4.6 (0.81)	4.8 (0.85)
	75°F ⁵	°F·ft ² ·h/Btu (°K·m ² /W)	3.9 (0.69)	3.9 (0.69)	4.2 (0.74)	4.4 (0.77)
Density, Nominal ASTM C303	lb/ft ³ (kg/m ³)	1.0 (16)	1.25 (20)	1.5 (24)	2.0 (32)	
Flexural Strength ¹ , min. ASTM C203	psi (kPa)	25 (173)	30 (208)	35 (242)	50 (345)	
Water Vapor Permeance ¹ of 1.0 in. thickness, max., perm ASTM E96		0.3	0.3	0.3	0.3	
Water Absorption ¹ by total immersion, max., volume % ASTM C272		<1.0	<1.0	<1.0	<1.0	
Flame Spread ASTM E84		<25	<25	<25	<25	
Smoke Developed ASTM E84		<450	<450	<450	<450	
ASTM C578 Compliance, Type		I	VIII	II	IX	

¹ Please refer to ASTM C578 specification for complete information.

² 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.

³ Recommended for design in EXTREME COLD climates.

⁴ Recommended for design in COLD climates.

⁵ Recommended for design in WARM climates.

Thermal Performance.

The R-value of R-Shield PLUS remains constant and does not suffer from R-value loss. The closed cell structure of R-Shield PLUS contains air and not blowing agents which deplete over time.

Exposure to Water and Water Vapor.

The mechanical properties of R-Shield PLUS are unaffected by moisture. Exposure to water or water vapor does not cause swelling.

Temperature Exposure/Flame Retardants.

R-Shield PLUS is able to withstand the rigors of temperature cycling, assuring long-term performance.

Although flame retardants used in the manufacture of R-Shield PLUS provide an important margin of safety, all R-Shield PLUS products must be considered combustible.

The maximum recommended long-term exposure temperature for R-Shield PLUS is 165°F (74°C).

Weathering.

Long-term exposure to sunlight causes yellowing and a slight embrittlement of the surface due to ultraviolet light. This has little effect on mechanical properties. If stored outdoors, cover R-Shield PLUS with opaque polyethylene film, tarps, or similar material.

Termite Resistant.

Foam plastic insulations have been shown to become termite infested under certain exposure conditions. R-Shield PLUS with a termite treatment provides resistance to termite infestation. Please review literature on R-Shield PLUS with termite treatment for complete information.

Resistance to Mold and Mildew.

R-Shield PLUS will not decompose and will not support mold or mildew growth. R-Shield PLUS provides no nutrient value to plants or animals.

Adhesives, Coatings, and Chemicals.

Solvents which attack R-Shield PLUS include esters, ketones, ethers, aromatic, and aliphatic hydrocarbons and their emulsions, among others. If R-Shield PLUS is to be placed in contact with materials (or their vapors) of unknown composition, pretest for compatibility at maximum exposure temperature.

Do not install or use R-Shield PLUS with coal tar pitch, highly solvent-extended mastics, or solvent-based adhesives without adequate separation.

Warranty.

Premier Building Systems offers a product warranty ensuring thermal performance, physical properties, and termite resistance.

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