


R-Shield® MAX graphite enhanced expanded polystyrene is for all types of industrial, packaging, and construction uses. R-Shield MAX conforms to ASTM C578, “Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation”.

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



PRODUCT					
		100	150	250	
Compressive Strength <sup>1,3</sup> @ 10% deformation, min. ASTM D1621	psi (kPa)	10 (69)	15 (104)	25 (173)	
R-value <sup>1,2</sup> , Thermal Resistance, ASTM C518	40°F	°F·ft <sup>2</sup> ·h/Btu (°K·m <sup>2</sup> /W)	5.2 (0.92)	5.2 (0.92)	5.3 (0.93)
	75°F	°F·ft <sup>2</sup> ·h/Btu (°K·m <sup>2</sup> /W)	5.0 (0.88)	5.0 (0.88)	5.0 (0.88)
Density, Nominal ASTM C303	lb/ft <sup>3</sup> (kg/m <sup>3</sup> )	1.0 (16)	1.5 (24)	2.0 (32)	
Flexural Strength <sup>1</sup> , min. ASTM C203	psi (kPa)	25 (173)	35 (242)	50 (345)	
Water Vapor Permeance <sup>1</sup> of 1.0 in. thickness, max., perm ASTM E96		5.0	3.5	2.5	
Water Absorption <sup>4</sup> volume % ASTM C272		0.3	0.3	0.3	
Flame Spread ASTM E84		<25	<25	<25	
Smoke Developed ASTM E84		<450	<450	<450	
ASTM C578 Compliance, Type		Type I	Type II	Type IX	

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

<sup>2</sup> R-values are based on 1-1/16" thickness.

<sup>3</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>4</sup> ASTM C272 24 hour immersion followed by 24 hour storage in 75°F/50%RH air.

## Design Options.

Cost effective design is among the highest priorities for industrial, packaging, and construction applications. R-Shield MAX products are available in a range of Types necessary to provide control of structural integrity, thermal resistance (R-value), and cost effectiveness.

## Thermal Performance.

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

## Powered by graphite®

R-Shield MAX is comprised of many small pockets of air within a polymer matrix containing graphite. The graphite reflects radiant heat energy like a mirror, increasing the material's resistance to heat flow or R-value.

## Exposure to Water and Water Vapor.

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

## Temperature Exposure/Flame Retardants.

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

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

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

## Adhesives, Coatings, and Chemicals.

Solvents which attack R-Shield MAX include esters, ketones, ethers, aromatic, and aliphatic hydrocarbons and their emulsions, among others. If R-Shield MAX 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 MAX with coal tar pitch, highly solvent-extended mastics, or solvent-based adhesives without adequate separation.

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

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## Termite Resistant.

One of the most destructive forces anywhere is termites. R-Shield can be manufactured with a proven and safe additive, that effectively resists termites.

R-Shield is treated to meet ICC ES AC239, "Acceptance Criteria for Termite-Resistant Foam Plastics".

## Resistance to Mold and Mildew.

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

## Product Protection.

R-Shield MAX can be damaged by prolonged direct sunlight exposure or by reflected sunlight. R-Shield MAX must be protected during storage, transportation, and at the project with a light colored opaque material. Please refer to the R-Shield MAX Handling Instructions.

## Warranty.

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

A PRODUCT OF  
**PREMIER**  
BUILDING SYSTEMS



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