

Film-Faced Expanded Polystyrene Insulation.

R-Shield® PLUS is a film-faced air barrier and weather resistive insulation used for all types of construction applications. Typical applications for R-Shield PLUS 100 include commercial roofing, exterior sheathing, building perimeters, under concrete slabs, garage doors, coolers and freezers, industrial piping and tanks, and protective packaging.

Proven to meet, or exceed, building codes.

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. R-Shield PLUS complies with Building Code requirements for:



- ASTM C578, Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation
- ASTM E331, Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference
- ASTM E2178, Standard Test Method for Air Permeance of Building Materials.

Advantages.

- Film-faced for toughness
- Air Barrier
- Weather Resistive Barrier
- Superior moisture resistance
- Low water vapor permeability
- No CFC, HCFC, HFC, or formaldehyde
- No long-term R-value loss or thermal drift.

Stands up to the weather.

When tested in accordance with ASTM C1512, “Standard Test Method for Characterizing the Effect of Exposure to Environmental Cycling on Thermal Performance of Insulation Products,” EPS maintains its R-value and strength after severe exposure to freeze-thaw cycles.

Compressive Strength ^{1,2} @ 10% deformation, min. ASTM D1621	psi (kPa)	10 (69)
R-value ¹ , Thermal Resistance, per inch, ASTM C518	25°F	°F·ft ² ·h/Btu (°K·m ² /W) 4.4 (0.77)
	40°F	°F·ft ² ·h/Btu (°K·m ² /W) 4.2 (0.74)
	75°F	°F·ft ² ·h/Btu (°K·m ² /W) 3.9 (0.69)
k-value Thermal Conductivity ASTM C518	25°F	Btu·in/°F·ft ² ·h (W/°K·m) 0.23 (0.033)
	40°F	Btu·in/°F·ft ² ·h (W/°K·m) 0.24 (0.035)
	75°F	Btu·in/°F·ft ² ·h (W/°K·m) 0.26 (0.037)
Density, Nominal ASTM C303	lb/ft ³ (kg/m ³)	1.0 (16)
Flexural Strength ¹ , min. ASTM C203	psi (kPa)	25 (173)
Water Vapor Permeance ¹ of 1.0 in. thickness, max., perm ASTM E96		0.3
Water Absorption ¹ by total immersion, max., volume % ASTM C272		<1.0
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		I

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.

Film-Faced Expanded Polystyrene Insulation.

R-Shield® PLUS is a film-faced air barrier and weather resistive insulation used for all types of construction applications. Typical applications for R-Shield PLUS 130 include commercial roofing, exterior sheathing, building perimeters, under concrete slabs, garage doors, coolers and freezers, industrial piping and tanks, and protective packaging.

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- ASTM E2178, Standard Test Method for Air Permeance of Building Materials.

Advantages.

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- Weather Resistive Barrier
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- Low water vapor permeability
- No CFC, HCFC, HFC, or formaldehyde
- No long-term R-value loss or thermal drift.

Stands up to the weather.

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Compressive Strength ^{1,2} @ 10% deformation, min. ASTM D1621	psi (kPa)	13 (90)
R-value ¹ , Thermal Resistance, per inch, ASTM C518	25°F	°F·ft ² ·h/Btu (°K·m ² /W) 4.5 (0.80)
	40°F	°F·ft ² ·h/Btu (°K·m ² /W) 4.3 (0.76)
	75°F	°F·ft ² ·h/Btu (°K·m ² /W) 3.9 (0.69)
k-value Thermal Conductivity ASTM C518	25°F	Btu·in/°F·ft ² ·h (W/°K·m) 0.22 (0.032)
	40°F	Btu·in/°F·ft ² ·h (W/°K·m) 0.24 (0.034)
	75°F	Btu·in/°F·ft ² ·h (W/°K·m) 0.26 (0.037)
Density, Nominal ASTM C303	lb/ft ³ (kg/m ³)	1.25 (20)
Flexural Strength ¹ , min. ASTM C203	psi (kPa)	30 (208)
Water Vapor Permeance ¹ of 1.0 in. thickness, max., perm ASTM E96		0.3
Water Absorption ¹ by total immersion, max., volume % ASTM C272		<1.0
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		VIII

¹ Please refer to ASTM C578 specification for complete information.

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Film-Faced Expanded Polystyrene Insulation.

R-Shield® PLUS is a film-faced air barrier and weather resistive insulation used for all types of construction applications. Typical applications for R-Shield PLUS 150 include commercial roofing, exterior sheathing, building perimeters, under concrete slabs, garage doors, coolers and freezers, industrial piping and tanks, and protective packaging.

Proven to meet, or exceed, building codes.

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 SER-4743. R-Shield PLUS complies with Building Code requirements for:




- ASTM C578, Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation
- ASTM E331, Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference
- ASTM E2178, Standard Test Method for Air Permeance of Building Materials.

Advantages.

- Film-faced for toughness
- Air Barrier
- Weather Resistive Barrier
- Superior moisture resistance
- Low water vapor permeability
- No CFC, HCFC, HFC, or formaldehyde
- No long-term R-value loss or thermal drift.

Stands up to the weather.

When tested in accordance with ASTM C1512, “Standard Test Method for Characterizing the Effect of Exposure to Environmental Cycling on Thermal Performance of Insulation Products,” EPS maintains its R-value and strength after severe exposure to freeze-thaw cycles.

		
Compressive Strength ^{1,2} @ 10% deformation, min. ASTM D1621	psi (kPa)	15 (104)
R-value ¹ , Thermal Resistance, per inch, ASTM C518	25°F	°F·ft ² ·h/Btu (°K·m ² /W) 4.8 (0.84)
	40°F	°F·ft ² ·h/Btu (°K·m ² /W) 4.6 (0.81)
	75°F	°F·ft ² ·h/Btu (°K·m ² /W) 4.2 (0.74)
k-value Thermal Conductivity ASTM C518	25°F	Btu·in/°F·ft ² ·h (W/°K·m) 0.21 (0.030)
	40°F	Btu·in/°F·ft ² ·h (W/°K·m) 0.22 (0.032)
	75°F	Btu·in/°F·ft ² ·h (W/°K·m) 0.24 (0.035)
Density, Nominal ASTM C303	lb/ft ³ (kg/m ³)	1.5 (24)
Flexural Strength ¹ , min. ASTM C203	psi (kPa)	35 (242)
Water Vapor Permeance ¹ of 1.0 in. thickness, max., perm ASTM E96		0.3
Water Absorption ¹ by total immersion, max., volume % ASTM C272		<1.0
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		II

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.

Film-Faced Expanded Polystyrene Insulation.

R-Shield® PLUS is a film-faced air barrier and weather resistive insulation used for all types of construction applications. Typical applications for R-Shield PLUS 250 include commercial roofing, exterior sheathing, building perimeters, under concrete slabs, garage doors, coolers and freezers, industrial piping and tanks, and protective packaging.

Proven to meet, or exceed, building codes.

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. R-Shield PLUS complies with Building Code requirements for:




- ASTM C578, Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation
- ASTM E331, Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference
- ASTM E2178, Standard Test Method for Air Permeance of Building Materials.

Advantages.

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- Air Barrier
- Weather Resistive Barrier
- Superior moisture resistance
- Low water vapor permeability
- No CFC, HCFC, HFC, or formaldehyde
- No long-term R-value loss or thermal drift.

Stands up to the weather.

When tested in accordance with ASTM C1512, “Standard Test Method for Characterizing the Effect of Exposure to Environmental Cycling on Thermal Performance of Insulation Products,” EPS maintains its R-value and strength after severe exposure to freeze-thaw cycles.

		
Compressive Strength ^{1,2} @ 10% deformation, min. ASTM D1621	psi (kPa)	25 (173)
R-value ¹ , Thermal Resistance, per inch, ASTM C518	25°F	°F·ft ² ·h/Btu (°K·m ² /W) 5.0 (0.88)
	40°F	°F·ft ² ·h/Btu (°K·m ² /W) 4.8 (0.85)
	75°F	°F·ft ² ·h/Btu (°K·m ² /W) 4.4 (0.77)
k-value Thermal Conductivity ASTM C518	25°F	Btu·in/°F·ft ² ·h (W/°K·m) 0.20 (0.029)
	40°F	Btu·in/°F·ft ² ·h (W/°K·m) 0.21 (0.030)
	75°F	Btu·in/°F·ft ² ·h (W/°K·m) 0.23 (0.033)
Density, Nominal ASTM C303	lb/ft ³ (kg/m ³)	2.0 (32)
Flexural Strength ¹ , min. ASTM C203	psi (kPa)	50 (345)
Water Vapor Permeance ¹ of 1.0 in. thickness, max., perm ASTM E96		0.3
Water Absorption ¹ by total immersion, max., volume % ASTM C272		<1.0
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		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.