

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 50 has an R-value that never changes over

Strength - R-Shield 50 has a compressive strength of 10 psi.

Moisture Resistance - R-Shield 50 is a closed cell polystyrene insulation and is resistant to moisture gain.

Vapor Permeable - R-Shield 50 allows moisture vapor to move through its structure.

Drying Potential - R-Shield 50 rapidly releases absorbed moisture.

Applications.

- Precast Concrete Core
- Void Fill
- Flotation
- · Protective Packaging

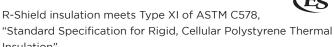
R-Shield insulation is manufactured under an industry leading quality control program monitored by UL and further recognized in UL Evaluation Report UL ER40361-01 and ICC ESR-4743.

Proven to meet, or exceed, building codes.

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Insulation".





R-SHIELD 50			
Compressive Strength ^{1,2} @ 10% deformation, min. ASTM D1621		psi (kPa)	5 (35)
R-value ¹ , Thermal Resistance, per inch,	25°F	°F·ft²·h/Btu (°K·m²/W)	3.6 (0.63)
	40°F	°F·ft²·h/Btu (°K·m²/W)	3.4 (0.60)
ASTM C518	75°F	°F·ft²·h/Btu (°K·m²/W)	3.2 (0.56)
k-value Thermal Conductivity ASTM C518	25°F	Btu·in/ºF·ft²·h (W/ºK·m)	0.28 (0.040)
	40°F	Btu·in/ºF·ft²·h (W/ºK·m)	0.29 (0.042)
	75°F	Btu·in/ºF·ft²·h (W/ºK·m)	0.31 (0.045)
Density, Nominal ASTM C303		lb/ft³ (kg/m³)	0.75 (12)
Flexural Strength ¹ , min. ASTM C203		psi (kPa)	10 (69)
Water Vapor Permeance ¹ of 1.0 in. thickness, max., perm ASTM E96			5.0
Water Absorption ³ , 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			ΧI

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 ASTM C272 24 hour immersion followed by 24 hour storage in 75°F/50%RH air.



Expanded Polystyrene Insulation.

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R-value - R-Shield 100 has an R-value that never changes over time.

Strength - R-Shield 100 has a compressive strength of 10 psi.

Moisture Resistance - R-Shield 100 is a closed cell polystyrene insulation and is resistant to moisture gain.

Vapor Permeable - R-Shield 100 allows moisture vapor to move through its structure.

Drying Potential - R-Shield 100 rapidly releases absorbed moisture.

Applications.

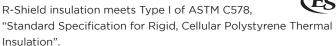
- · Cavity Wall
- · Wall Sheathing
- Precast Concrete Core
- Flat/Tapered Roofing
- Plaza Deck/Vegetative Green Roof
- Drainage Board
- · Waterproofing Protection

Proven to meet, or exceed, building codes.

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"Standard Specification for Rigid, Cellular Polystyrene Thermal



R-SHIELD 100			
Compressive Strength ^{1,2} @ 10% deformation, min. ASTM D1621		psi (kPa)	10 (69)
R-value ¹ ,	25°F	°F·ft²·h/Btu (°K·m²/W)	4.4 (0.77)
Thermal Resistance, per inch,	40°F	°F·ft²·h/Btu (°K·m²/W)	4.2 (0.74)
ASTM C518	75°F	°F·ft²·h/Btu (°K·m²/W)	3.9 (0.69)
k-value Thermal Conductivity ASTM C518	25°F	Btu·in/ºF·ft²·h (W/ºK·m)	0.23 (0.033)
	40°F	Btu∙in/°F∙ft²·h (W/°K·m)	0.24 (0.035)
	75°F	Btu·in/ºF·ft²·h (W/ºK·m)	0.26 (0.037)
Density, Nominal ASTM C303		lb/ft³ (kg/m³)	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			5.0
Water Absorption ³ , 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			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.

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



Expanded Polystyrene Insulation.

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R-value - R-Shield 130 has an R-value that never changes over time.

Strength - R-Shield 130 has a compressive strength of 13 psi.

Moisture Resistance - R-Shield 130 is a closed cell polystyrene insulation and is resistant to moisture gain.

Vapor Permeable - R-Shield 130 allows moisture vapor to move through its structure.

Drying Potential - R-Shield 130 rapidly releases absorbed moisture.

Applications.

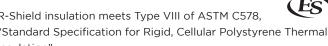
- · Cavity Wall
- · Wall Sheathing
- Precast Concrete Core
- Flat/Tapered Roofing
- Plaza Deck/Vegetative Green Roof
- Drainage Board
- · Waterproofing Protection

Proven to meet, or exceed, building codes.

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



R-SHIELD 130			
Compressive Strength ^{1,2} @ 10% deformation, min. ASTM D1621		psi (kPa)	13 (90)
R-value ¹ , Thermal Resistance, per inch,	25°F	°F·ft²·h/Btu (°K·m²/W)	4.5 (0.80)
	40°F	°F·ft²·h/Btu (°K·m²/W)	4.3 (0.76)
ASTM C518	75°F	°F·ft²·h/Btu (°K·m²/W)	3.9 (0.69)
k-value Thermal Conductivity ASTM C518	25°F	Btu·in/ºF·ft²·h (W/ºK·m)	0.22 (0.032)
	40°F	Btu·in/ºF·ft²·h (W/ºK·m)	0.24 (0.034)
	75°F	Btu·in/ºF·ft²·h (W/ºK·m)	0.26 (0.037)
Density, Nominal ASTM C303		lb/ft³ (kg/m³)	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			3.5
Water Absorption ³ , 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			VIII

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 ASTM C272 24 hour immersion followed by 24 hour storage in 75°F/50%RH air.



Expanded Polystyrene Insulation.

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R-value – R-Shield 150 has an R-value that never changes over time.

Strength - R-Shield 150 has a compressive strength of 15 psi.

Moisture Resistance - R-Shield 150 is a closed cell polystyrene insulation and is resistant to moisture gain.

Vapor Permeable – R-Shield 150 allows moisture vapor to move through its structure.

Drying Potential - R-Shield 150 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

rene Thermal Insulation".

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.



ER40361-01 and ICC ESR-4743.

R-Shield insulation meets Type II of ASTM C578,

"Standard Specification for Rigid, Cellular Polysty-





R-SHIELD 150			
Compressive Strength ^{1,2} @ 10% deformation, min. ASTM D1621		psi (kPa)	15 (104)
R-value ¹ , Thermal Resistance, per inch,	25°F	°F·ft²·h/Btu (°K·m²/W)	4.8 (0.84)
	40°F	°F·ft²·h/Btu (°K·m²/W)	4.6 (0.81)
ASTM C518	75°F	°F·ft²·h/Btu (°K·m²/W)	4.2 (0.74)
k-value Thermal Conductivity ASTM C518	25°F	Btu·in/ºF·ft²·h (W/ºK·m)	0.21 (0.030)
	40°F	Btu·in/ºF·ft²·h (W/ºK·m)	0.22 (0.032)
	75°F	Btu·in/ºF·ft²·h (W/ºK·m)	0.24 (0.035)
Density, Nominal ASTM C303		lb/ft³ (kg/m³)	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			3.5
Water Absorption ³ , 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			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.
- 3 ASTM C272 24 hour immersion followed by 24 hour storage in 75° F/50%RH air.





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 $\emph{R-value}$ – R-Shield 250 has an R-value that never changes over time.

Strength - R-Shield 250 has a compressive strength of 25 psi.

Moisture Resistance - R-Shield 250 is a closed cell polystyrene insulation and is resistant to moisture gain.

Vapor Permeable - R-Shield 250 allows moisture vapor to move through its structure.

Drying Potential – R-Shield 250 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.

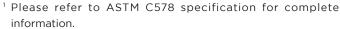
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R-Shield insulation meets Type IX of ASTM C578, "Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation".

R-SHIELD 250			
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·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)	2.0 (32)
Flexural Strength ¹ , min. ASTM C203		psi (kPa)	50 (345)
Water Vapor Permeance ¹ of 1.0 in. thickness, max., perm ASTM E96			2.5
Water Absorption ³ , 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			IX



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 ASTM C272 24 hour immersion followed by 24 hour storage in 75°F/50%RH air.



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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.

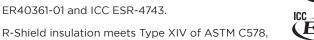
Applications.

- · 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.

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"Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation".







R-SHIELD 400			
Compressive Strength ^{1,2} @ 10% deformation, min. ASTM D1621		psi (kPa)	40 (276)
R-value ¹ , 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 ¹ , min. ASTM C203		psi (kPa)	60 (414)
Water Vapor Permeance ¹ of 1.0 in. thickness, max., perm ASTM E96			2.5
Water Absorption ³ , 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

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 ASTM C272 24 hour immersion followed by 24 hour storage in 75°F/50%RH air.



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R-value - R-Shield 600 has an R-value that never changes over time.

Strength - R-Shield 600 has a compressive strength of 60 psi.

Moisture Resistance - R-Shield 600 is a closed cell polystyrene insulation and is resistant to moisture gain.

Vapor Permeable - R-Shield 600 allows moisture vapor to move through its structure.

Drying Potential - R-Shield 600 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

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





R-SHIELD 600			
Compressive Strength ^{1,2} @ 10% deformation, min. ASTM D1621		psi (kPa)	60 (414)
R-value ¹ , Thermal Resistance, per inch,	25°F	°F·ft²·h/Btu (°K·m²/W)	5.1 (0.90)
	40°F	°F·ft²·h/Btu (°K·m²/W)	4.9 (0.86)
ASTM C518	75°F	°F·ft²·h/Btu (°K·m²/W)	4.5 (0.79)
k-value Thermal Conductivity ASTM C518	25°F	Btu·in/ºF·ft²·h (W/ºK·m)	0.20 (0.028)
	40°F	Btu·in/ºF·ft²·h (W/ºK·m)	0.21 (0.030)
	75°F	Btu·in/ºF·ft²·h (W/ºK·m)	0.22 (0.032)
Density, Nominal ASTM C303		lb/ft³ (kg/m³)	3.0 (48)
Flexural Strength ¹ , min. ASTM C203		psi (kPa)	75 (517)
Water Vapor Permeance ¹ of 1.0 in. thickness, max., perm ASTM E96			2.5
Water Absorption ³ , 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			XV

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 ASTM C272 24 hour immersion followed by 24 hour storage in 75°F/50%RH air.