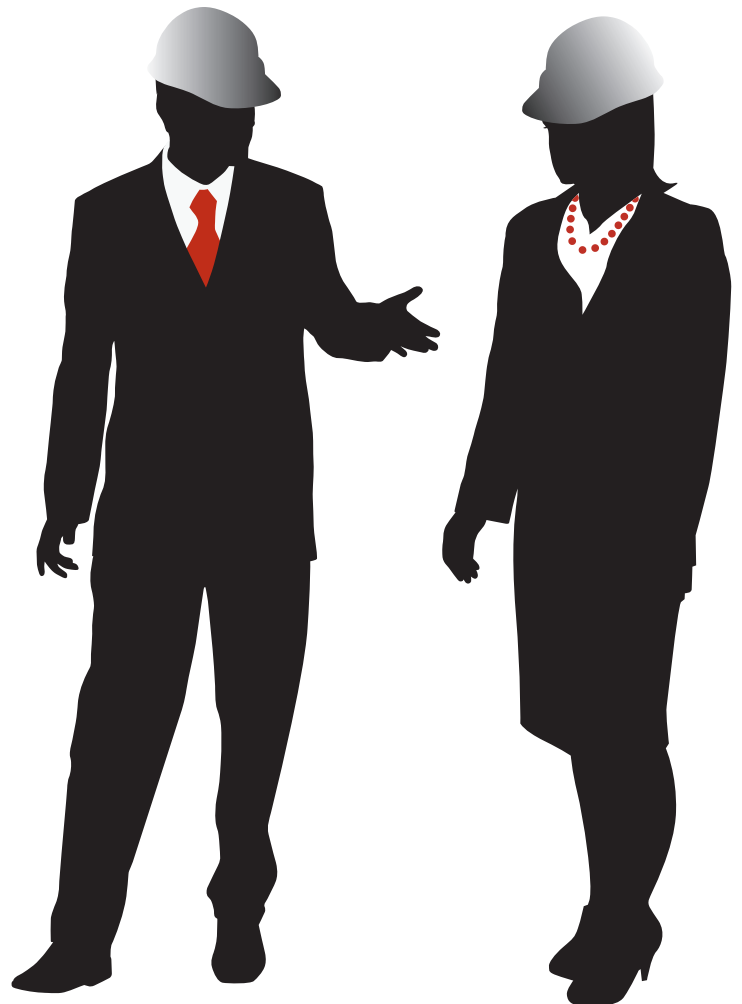


WHAT'S THE DIFFERENCE BETWEEN POWERFOAM R-CONTROL AND XPS INSULATION



PowerFoam R-Control Insulation is a UL recognized insulation which has 50 years of proven performance.

There are marketplace misconceptions on the performance of molded polystyrene compared to XPS (extruded polystyrene) insulation.



There are marketplace misconceptions on the performance of PowerFoam R-Control insulation compared to XPS insulation.
- Consider these facts and make an educated decision -



ASTM C578 Standard Compliance.

PowerFoam R-Control insulation is manufactured in full compliance with ASTM C578, "Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation".

UL Recognition.

PowerFoam R-Control insulation is recognized in UL ER40338-01 evaluation reports.



Closed Cell Polystyrene Foam Filled with Air.

PowerFoam R-Control insulation is a closed cell foam. It is manufactured from polystyrene resin which is molded into blocks. PowerFoam R-Control insulation contains air within the closed cells.

R-value: Stable Long-Term.

PowerFoam R-Control insulation is stable and the R-value will not change with time.

Excellent Water Resistance.

PowerFoam R-Control insulation is a closed cell polystyrene foam which is naturally water resistant. Don't be fooled by comparisons using short term laboratory test which are conducted for only 24 hours. PowerFoam R-Control insulation has been demonstrated to have lower water absorption than XPS in a number of long-term exterior exposure studies.

R-value: Water Exposure.

Insulations lose R-value when exposed to moisture. Long-term in-situ testing has shown PowerFoam R-Control insulation maintains a serviceable R-value.

Vapor Permeance.

The vapor permeability of PowerFoam R-Control insulation ranges from 2.5 to 5.0 perms for a 1 in. thick material. This is approximately 2-3 times better than XPS.

XPS

ASTM C578 Standard Compliance.

XPS is usually manufactured in compliance with ASTM C578, "Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation".

Limited Recognition.

Code reports for XPS are not available from UL. Some, but not all manufacturers have ICC-ES reports.

Closed Cell Polystyrene Foam Filled with an Unknown Gas.

XPS insulation is a closed cell foam. It is manufactured from polystyrene, blowing agents, and dyes which are extruded into boards. XPS insulation contain gases other than air within the closed cells.

R-value: Loses R-value over Time.

XPS is not stable and the R-value will drop over time as the cell gases escape.

Excellent Water Resistance.

XPS is a closed cell polystyrene foam which is naturally water resistant. The water resistance of XPS is published for exposure to water in a laboratory after only 24 hours. Short term laboratory results do not correlate to long-term performance of XPS in exterior exposure conditions.

R-value: Water Exposure.

Insulations lose R-value when exposed to moisture. Long-term in-situ testing has shown XPS will trap water which enters the cells and lower its R-value.

Vapor Permeance.

The vapor permeability of XPS is typically 1.5 perms for a 1 in. thick material. XPS over 1.5 in. thick will act as a vapor retarder which may trap moisture in some climate zones.



XPS

A Great Value.

When purchasing insulation materials, the cost per R-value and strength are critical benchmarks. PowerFoam R-Control insulation is available in various types which comply with ASTM C578. Products with compressive strengths of 10, 13, 15, 25, 40, and 60 psi are available. The wide range of PowerFoam R-Control insulation types makes selecting the best product for your application easy. The cost per R-value for PowerFoam R-Control insulation is much less than XPS.

Expensive.

XPS is available in a limited number of types which comply with ASTM C578. The most common product has a compressive resistance of 25 psi. Although XPS has a slightly higher R-value, the cost per R-value is much higher making XPS a more expensive insulation. In addition, the R-value is not fully warranted nor stable for the life of the product.

Don't Compromise, PowerFoam R-Control insulation provides more thermal resistance (R-value) per dollar.

Selecting Comparable PowerFoam R-Control insulation and XPS Insulations.

Insulation	Compressive Strength (psi)	Density ¹ (lbs/ft ³)	50 Year R-value ² °F·ft ² ·h/Btu
150	15	1.5	4.2
vs XPS Type X	15	1.3	4.3 ³
250	25	2.0	4.4
vs XPS Type IV	25	1.45	4.3 ³
400	40	2.5	4.4
vs XPS Type VI	40	1.8	4.3 ³
600	60	3.0	4.5
vs XPS Type VII	60	2.2	4.3 ³

¹ Nominal

² R-value at 75°F

³ Based on available testing and published research

When comparing the performance of PowerFoam R-Control insulation to XPS insulation, PowerFoam R-Control insulation is the clear winner.

Foam face-off:

Choosing PowerFoam R-Control insulation over XPS.

- PowerFoam R-Control provides a stable long-term R-value at a lower cost
- PowerFoam R-Control uses a blowing agent with 10 x lower global warming potential and 10,000 x lower ozone depletion
- PowerFoam R-Control meets strength requirements at a lower cost
- PowerFoam R-Control and XPS have resistance to moisture. PowerFoam R-Control has a higher vapor permeance leading to superior drying potential
- PowerFoam R-Control with borate treatment available to provide termite resistance

Proven to meet, or exceed, building codes.

PowerFoam R-Control is manufactured under an industry leading quality control program monitored by UL and further recognized in UL Evaluation Report UL ER40338-01. PowerFoam R-Control meets ASTM C578, "Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation".



Ready to take control? Start here.

If you're ready to have PowerFoam R-Control contribute to your next project, just contact your PowerFoam Technical Sales Representative. They will be happy to give you design consultation, information about PowerFoam R-Control products, pricing, and answers to all of your questions.

NEED INFORMATION OR A QUOTE



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