

# WHAT'S THE DIFFERENCE BETWEEN FOAM-CONTROL PLUS+ AND POLYISO INSULATION



**Foam-Control PLUS+ is an ICC-ES and UL recognized insulation which has 50 years of proven performance.**

There are marketplace misconceptions on the performance of Foam-Control PLUS+ compared to Polyiso (polyisocyanurate) insulation.



**AN ARCHITECTURAL  
INSULATION LIKE  
NO OTHER**



There are many myths about the performance of Foam-Control PLUS+ compared to Polyiso insulation.  
- Consider these facts and make an educated decision -



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### **Closed Cell Polystyrene Foam Filled with Air.**

Foam-Control PLUS+ is a closed cell foam. It is manufactured from expanded polystyrene resin which is molded into blocks. Foam-Control PLUS+ contains air within the closed cells.

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### **ASTM C578 Standard Compliance.**

Foam-Control PLUS+ is manufactured in compliance with ASTM C578, "Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation". Foam-Control PLUS+ is recognized in UL ERI11812-01 and ICC-ES ESR-1006 evaluation reports.

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### **R-value: Stable Long-Term.**

The trapped gas in the cells of Foam-Control PLUS+ is air. The air in Foam-Control PLUS+ is in balance with the atmosphere during the life of the foam. The result is Foam-Control PLUS+ has a stable R-value over its lifetime.

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### **R-value: Cold Temperature.**

The R-value of Foam-Control PLUS+ increases as temperatures drop. This means the Foam-Control PLUS+ has improved performance in cold climates.

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### **Versatility.**

Foam-Control PLUS+ is manufactured in any thickness to meet project R-value requirements. Custom taper panels, flute filler, and one piece valleys readily available at low cost.

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### **Dimensional Stability.**

Foam-Control PLUS+ has exceptional dimensional stability when exposed to extreme temperature and moisture conditions.

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### **Vapor Permeance.**

The vapor permeability of Foam-Control PLUS+ ranges from 2.5 to 5.0 perms for a 1 in. thick material. Film faced Foam-Control PLUS+ is available when low permeability is needed.



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### **Closed Cell Polyisocyanurate Foam Filled with an Unknown Gas.**

Polyiso insulation is a closed cell foam. It is manufactured from methylene diphenyl diisocyanate (MDI), polyester-derived polyol, blowing agents, and other additives. Polyiso insulation contain gases other than air within the closed cells.

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### **ASTM C1289 Standard Compliance.**

Polyiso is manufactured in compliance with ASTM C1289, "Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board". There is limited recognition of Polyiso in either UL or ICC-ES evaluation reports.

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### **R-value: Loses R-value over Time.**

The trapped gases in the cells of Polyiso assist to provide an initial high R-value. During the life of the Polyiso, air from the atmosphere diffuses in and the trapped gases diffuse out. The result is Polyiso loses R-value over its lifetime.

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### **R-value: Cold Temperature.**

The R-value of Polyiso has been shown to drop significantly as temperatures drop. This means the performance of Polyiso is well below the claimed performance in cold climates.

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### **Versatility.**

Polyiso is manufactured in limited thicknesses. Tapered panels have limited availability at high cost. Custom flute filler and one piece valleys not available.

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### **Dimensional Stability.**

Shrinkage, curling, and cupping have been observed for Polyiso exposed to extreme temperature and moisture.

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### **Vapor Permeance.**

The vapor permeability of Polyiso generally ranges from 1.5 to 4.0 perms for a 1 in. thick material. Aluminum faced Polyiso is available when low permeability is needed.



is a Great Value.

When purchasing insulation materials, the cost per R-value and strength are critical benchmarks. Foam-Control PLUS+ is available with compressive strengths of 15, 25, 40, and 60 psi. Foam-Control PLUS+ insulation provides more thermal resistance (R-value) per dollar than Polyiso.

**POLYISO** is Expensive.

Products with compressive strengths of 16 to 25 psi are most common. Although Polyiso has a slightly higher R-value, the cost per R-value is much higher making Polyiso a more expensive insulation. In addition, the R-value is not stable for the life of the product.

### Foam-Control PLUS+ Provides a Permanent Lifetime R-value.

The 5 year and 50 year R-values for Foam-Control PLUS+ are the same as the initial R-value since the gas trapped in the cells of Foam-Control PLUS+ is atmospheric air. Unlike Polyiso, Foam-Control PLUS+ does not lose R-value over time.

	Initial R-value/inch	5 year R-value/inch	50 year R-value/inch	Cost
<b>FOAM-CONTROL PLUS+ 150</b>	4.2	4.2	4.2	\$
<b>FOAM-CONTROL PLUS+ 250</b>	4.4	4.4	4.4	\$\$
<b>Polyiso</b>	approximately 7.2	5.6 <sup>2</sup>	4.5 <sup>3</sup>	\$\$\$

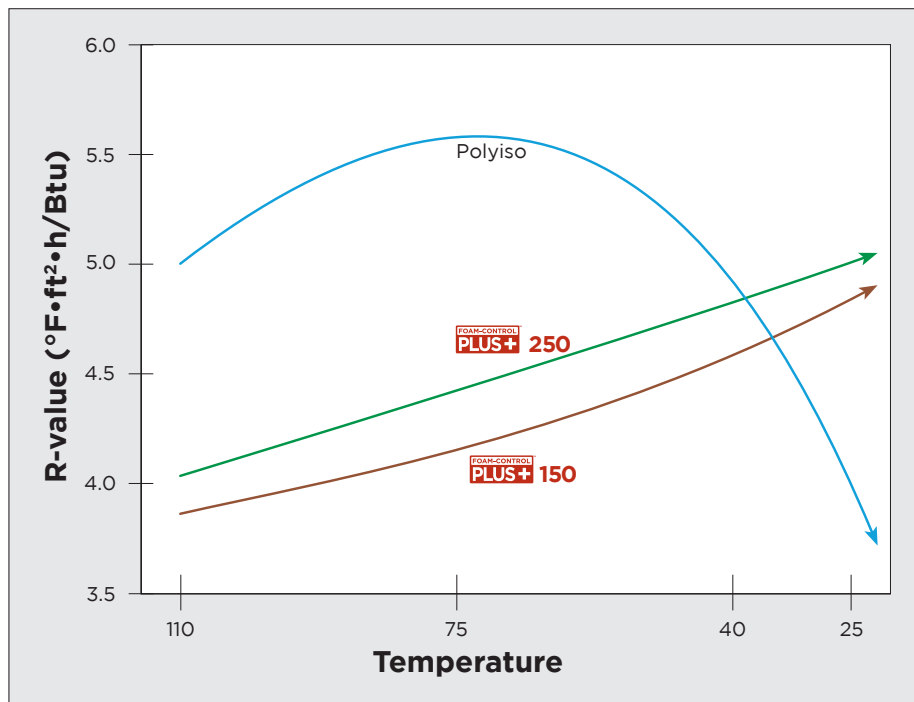
<sup>1</sup> R-values at 75°F, units are °F·ft<sup>2</sup>·h/Btu

<sup>2</sup> The LTTR value commonly published from testing to ASTM C1303 or CAN/ULC-S770 is an estimate for the R-value of the insulation after 5 years.

<sup>3</sup> Estimate based on 80% of published R-value

### Foam-Control PLUS+ Powers Up at Cold Temperatures.

The R-value of Foam-Control PLUS+ increases as the temperature gets colder. In contrast, the R-value of Polyiso drops when temperature conditions are cold.



## Foam face-off: Foam-Control PLUS+ outperforms Polyiso.

- Foam-Control PLUS+ provides more R-value at a lower cost
- Polyiso uses blowing agents that cause R-value loss over time
- Polyiso loses R-value during cold and extreme high temperature exposure
- Foam-Control PLUS+ has a stable long term R-value
- Foam-Control PLUS+ available in 15, 25, 40, and 60 psi strengths at a lower cost
- Foam-Control PLUS+ has a superior drying potential
- Foam-Control PLUS+ is more vapor permeable to help avoid moisture problems

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

Foam-Control PLUS+ is manufactured under an industry leading quality control program monitored by UL and further recognized in UL Evaluation Report UL ER11812-04.



Foam-Control PLUS+ meets ASTM C578, "Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation".

## Performance Value.

When you consider all performance characteristics and cost, Foam-Control PLUS+ has the best performance value of any commercially available foam insulation.

Foam-Control PLUS+ has a wide range of compressive strengths to meet specific project requirements.

Foam-Control PLUS+ has air in its closed cells and therefore has a stable R-value. Many other insulations use blowing agents that cause R-value loss and are harmful to the environment.

Foam-Control PLUS+ is manufactured to resist moisture absorption in wetting conditions and release absorbed moisture quickly during drying periods, which means Foam-Control PLUS+ maintains R-value.

## Ready to take control? Start here.

If you're ready to have Foam-Control PLUS+ contribute to your next project, just contact your nearest Foam-Control PLUS+ manufacturer and Technical Sales Representative. We will be happy to give you design consultation, information about Foam-Control PLUS+ products, pricing, and answers to all of your questions.

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