

# WeatherBond Polyiso

## 2014 Polyiso Insulation LTR R-values – Frequently Asked Questions

### **Q: What is ASTM C1289-11A?**

A: In order to provide a comprehensive approach to predicting Long-Term Thermal Resistance (LTR) R-value throughout North America, the updated C1289-11 standard now incorporates two test methods, ASTM C1303-11 and CAN/ULC-S770-09. These tests offer a similar approach to predicting the long-term thermal performance for foam insulation materials that exhibit air and blowing agent diffusion or aging over time. Both test methods employ a technique called “slicing and scaling” to accelerate the aging process and provide an accurate and consistent prediction of product R-value after five years, which is equivalent to a time-weighted thermal design R-value for 15 years.

### **Q: When does this change become effective?**

A: The change becomes effective January 1, 2014.

### **Q: Have the physical properties of Polyiso changed?**

A: No. Polyiso remains the highest R-value per inch of any insulation. The only change is the test methodology, which determines the calculation of LTR.

### **Q: Why is this change occurring?**

A: In 2011, ASTM has required all Polyiso manufacturers to retest their products with the new, more precise methodology by January 1, 2014. With the 2011 version (ASTM C1289-11A), the Polyiso standard specification was changed to reflect improved test methods to better predict long-term thermal behavior of foams.

### **Q: Does this change affect all Polyiso manufacturers and all Polyiso products?**

A: This change affects all Polyiso manufacturers that are members of PIMA and all Polyiso roofing products.

### **Q: Were the old R-values wrong?**

A: No, old R-values are not wrong, they were simply calculated using a different test method. With the evolution of newer test methods and updated science, this new test method provides better data.

### **Q: Are the R-values increasing or decreasing?**

A: Based on results from the new test method, R-values will be decreasing. We recommend that design professionals use a 5.7 R/inch as a design specification for its foam products. Prior to the change, 6.0 R/inch was the design specification for Polyiso.

### **Q: How will jobs that are scheduled to ship in 2014 be quoted?**

A: If a job requires a specific R-value for a post January 1, 2014 job, it will be quoted according to the new R-values.

### **Q: If I have already received a quote on a job for Q1 2014, what do I need to do?**

A: It is recommended that you get a new quote for all jobs.

### **Q: Does this testing change affect other types of foam insulations?**

A: LTR determines R-values for insulations that utilize blowing agents other than air. Each industry makes independent decisions, and these changes only affect the Polyiso industry.

### **Q: What standard thicknesses should I now stock?**

A: Each distributor will need to make that determination depending on the R-value or thickness requirements for the codes in their area.

### **Q: How does this affect tapered panels?**

A: Individual tapered panel R-values will change based on their average thickness. Quotes on tapered projects will be adjusted internally to reflect what the average R-value of a project will be.

### **Q: If I have a job that started shipping in 2013, and I need more material in 2014, what do I do?**

A: During this transition period, NRCA recommends that you submit requests for information (RFIs) to clarify whether the existing or new LTR values are applicable.

### **Q: I am a distributor, what do I do with my existing inventory?**

A: Existing inventory purchased prior to January 1, 2014 can be sold with the 2013 R-values displayed on the bundle.



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**Q: Will this change architects' preference from specifying two layers of 2-inch Polyiso, to now specifying one layer of 4-inch Polyiso?**

A: With proper education we do not feel this will be an issue. NRCA recommends a two-layer system to eliminate thermal bridging by staggering joints of the insulation panels.

**Q: Do we know what the R-values of our competitors will be?**

A: No, but we do know that because they participate in the PIMA QualityMark<sup>CM</sup> Program, they will be required to meet the following chart:

**Flat Polyiso LTTR R-values**

| Thickness | Old 2010 R-value<br>(Per ASTM C1289-08) |        | New 2014 R-value<br>(Per ASTM C1289-11) |        |
|-----------|---|--------|---|--------|
|           | LTTR Value                              | R/Inch | LTTR Value                              | R/Inch |
| 1.5"      | 9                                       | 6      | 8.6                                     | 5.7    |
| 2"        | 12.1                                    | 6      | 11.4                                    | 5.7    |
| 2.5"      | 15.3                                    | 6.1    | 14.4                                    | 5.8    |
| 2.6"      | 15.9                                    | 6.1    | 15                                      | 5.8    |
| 3"        | 18.5                                    | 6.2    | 17.4                                    | 5.8    |
| 4"        | 25                                      | 6.2    | 23.6                                    | 5.9    |



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