



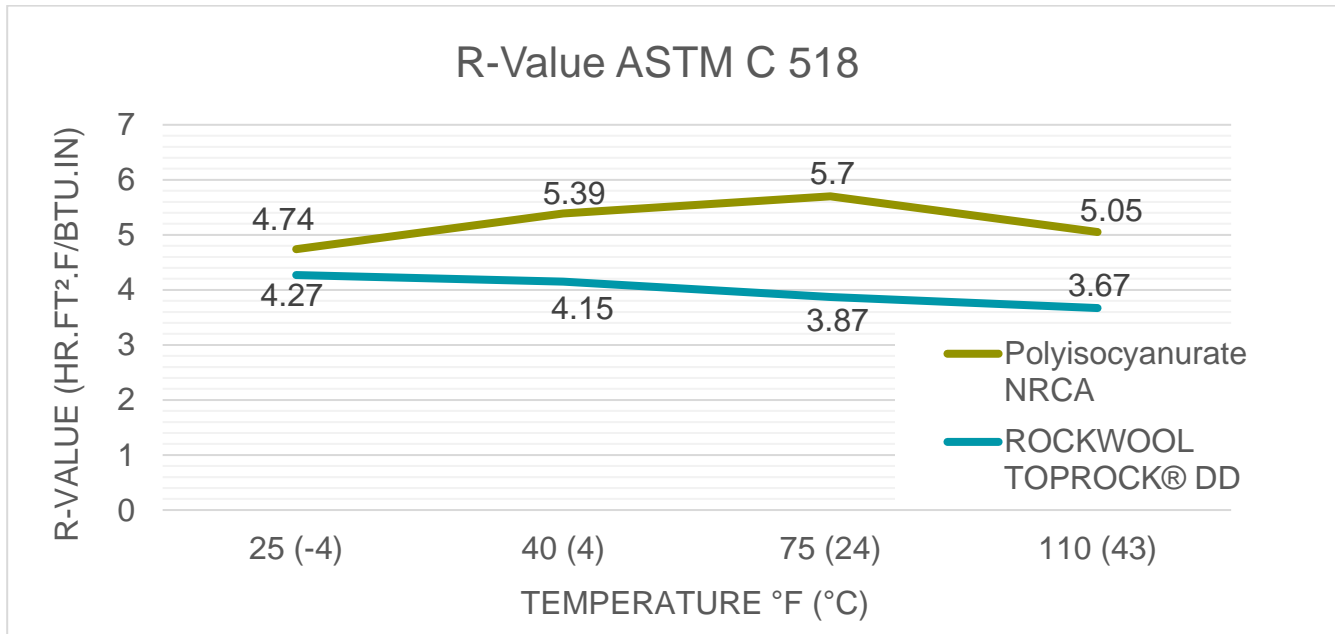
Issued: 02/15/2010  
Re: Technical Bulletin – Stone Wool Delivers Stable R-Values at Extreme Temperatures

## DISCUSSION

Test data from a ten year NRCA sponsored study on aged R-values, reported at the International Roofing Expo in February 2010, show that tested R-values for Polyisocyanurate insulations are lower than the LTTR and somewhat lower than the Polyisocyanurate ASTM standard C 1289.

The NRCA recommends that total in-service thermal resistance be calculated on the basis of an R-value of 5.6/inch and further recommends that “it may be prudent for designers to use an even lower R-value when designing for cold conditions, such as in northern climates or cold-storage applications”.

ASTM C 1289 requires the R-Value to be measured at four temperatures. For Polyisocyanurate, a peak R-value of 5.70 is obtained at 75°F (24°C) and drops to 4.74 at 25°F (-4°C) and 5.05 at 110°F (43°C).



Comparison of Polyisocyanurate R-values with those of ROCKWOOL stone wool at these same temperatures indicates that the R-value for ROCKWOOL is remarkable consistent over extended temperature ranges, increasing from the established value of 3.87 at 75°F (24°C) to 4.27 at 25°F (-4°C) and decreasing slightly from 3.87 to 3.67 at 110°F (43°C). Stone wool performs better at lower temperatures and maintains its R-value as the temperature increases. The stability of stone wool's R-value means that under real life roof temperatures, stone wool will maintain its thermal performance. The specifier can be confident that ROCKWOOL R-value will remain stable throughout all operating conditions.