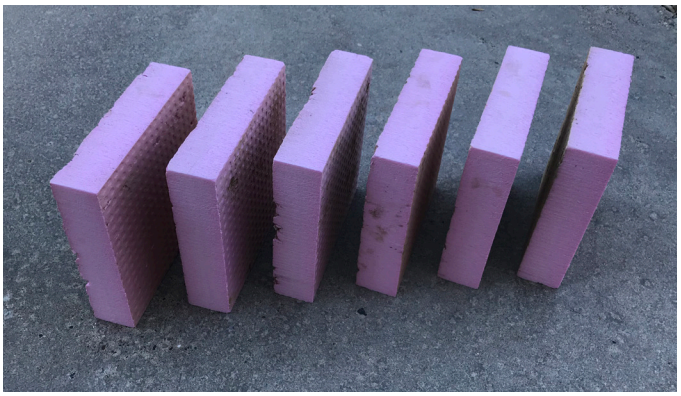
STUDY SUMMARY
Moisture No. 107

In-Situ Water Absorption and R-value of XPS

The impact of moisture absorption and age on the performance of polystyrene foam insulations used for construction applications is an important design consideration. It is known that water absorption into extruded polystyrene (XPS) foam insulations will diminish their R-values. It is also known that XPS will lose R-value over time.

This Study Summary provides the in-situ R-value of 6 random 3-inch thick XPS samples which were removed from above a parking deck in Colorado during renovation. The XPS was protected above and below with concrete slabs. The XPS is believed to be 20 years old.



The samples were tested following the industry standard for R-value, ASTM C518, at a mean temperature of 75°F.

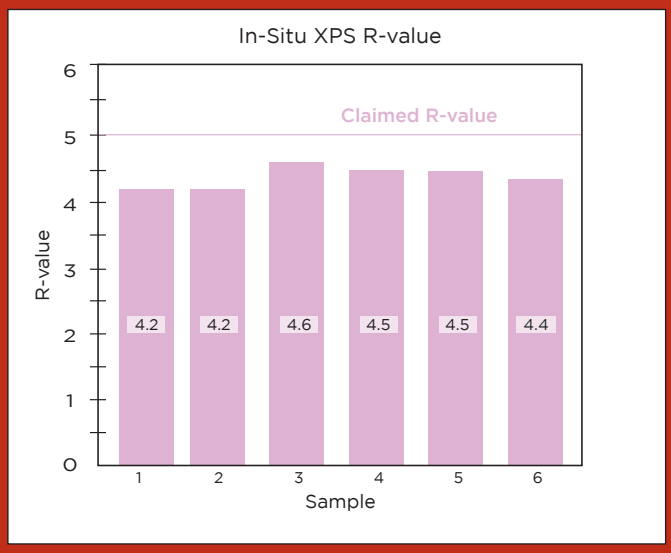
- The lowest R-value was 4.2, over 15% below the claimed R-value of 5.0.
- The average R-value of the samples was 4.4, more than 10% below the claimed R-value of 5.0.

Additional testing is in progress to determine moisture absorption, R-value loss due to moisture absorption, and R-value loss due to aging.

PowerFoam R-CONTROL

FOAM FACTS:

XPS Long Term R-value.



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