



GREENsulation

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ASTM C518 Test Update...

As Promised, attached is a Dynalene Lab Services report outlining their attempt to analyze Thermal Conductivity/ “R” Value using a Hot Box Apparatus (ASTM C518). Please review the results as well as the attached pictures.

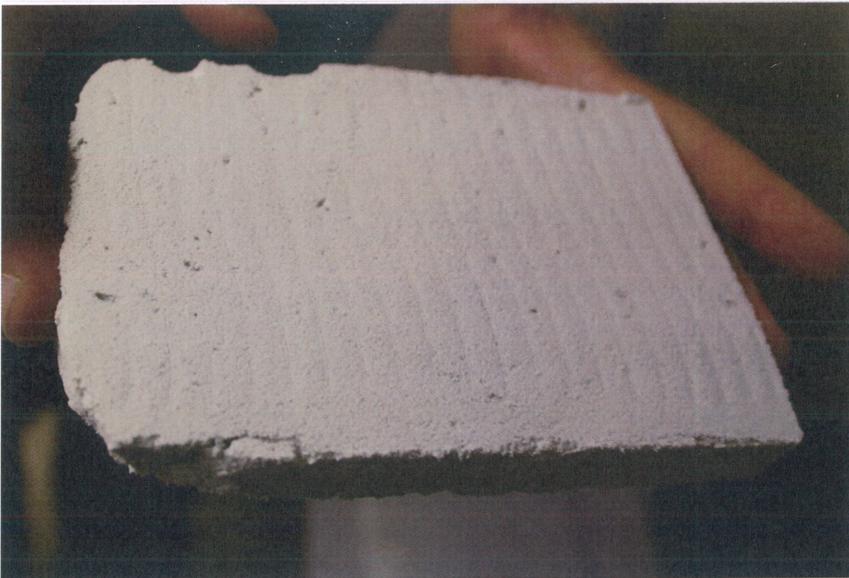
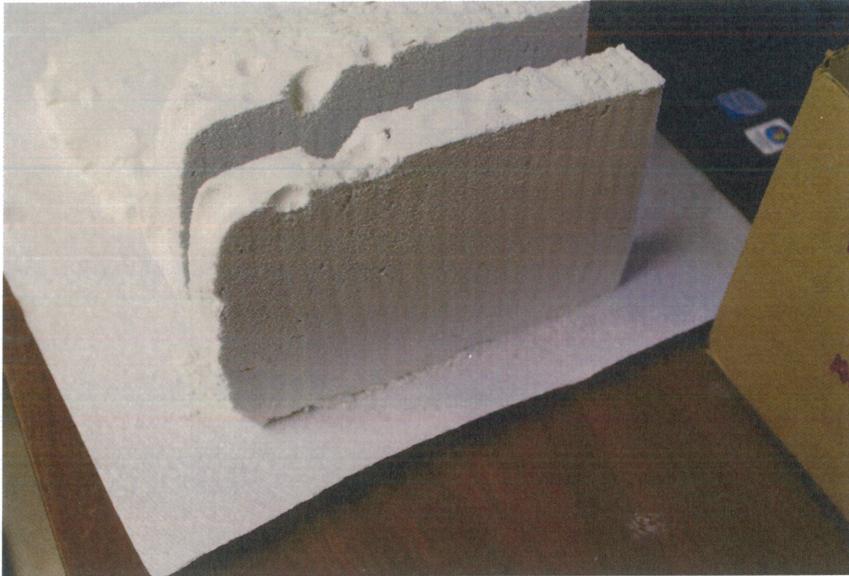
On May 28, 2014, I personally took another Air Krete “Greensulation” Sample from the August 23, 2013 Batch that was previously tested by Dynalene Lab Services on October 22, 2013, which resulted in a R-6 testing result with the intention of having ASTM C518 Testing done on a similar Sample to compare the R Value results of the two different testing methods.

This Test is done in a created vacuum in a “microwave oven” sized assembly inside of which is located a horizontally mounted flat metal “hot plate” on top of which the one inch thick Air Krete “Greensulation” Sample was carefully placed. The upper plate which contained the cooling coils was very carefully, slowly, lowered on top of the one inch Air Krete “Greensulation” Sample. Once the upper plate was completely lowered, we noticed a crack in the Air Krete “Greensulation” Sample through the window of the Apparatus at the edge that was visible to us. The Test was halted abruptly to evaluate the Sample. Upon lifting the top assembly, cracks were noticed throughout the Air Krete “Greensulation” Sample. These cracks in the Sample were due to the weight of the upper plate on top of the “friable” Sample. The Test was aborted because the cracks in the Sample would negatively “skew” the results, resulting in an INACCURATE TEST RESULT. All present concluded that ASTM C518 is not “Friendly” to Air Krete “Greensulation” due to the friability of the Product.

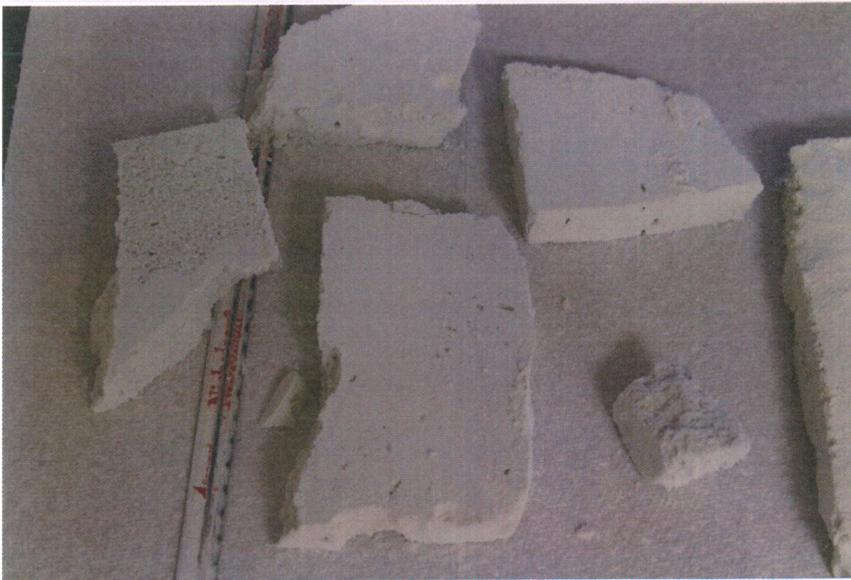
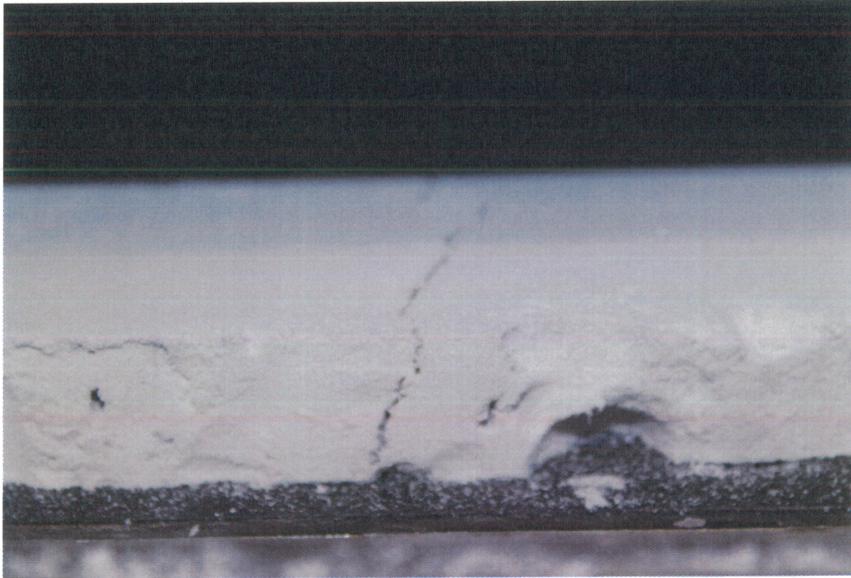
Stay tuned for more upcoming ASTM Testing results...

Thank you,

Bill Szabo









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RE: Building Green's Review

AirKrete® was recently reviewed in a less than positive manner in an article written by Tristan Roberts, Editorial Director of Building Green Inc. Attached find "What About AirKrete® ?" A Deeper Look at the Insulation Alternative. Please review... http://www.airkrete.com/pdf/What_About_AirKrete.pdf

We would like to take this opportunity to respond and comment on the contents of the article. In a continuing effort to improve the AirKrete® Product, research and development has been ongoing for the past several years. Due to Equipment and Product modifications, we developed a "NEW" AirKrete® "Greensulation" Product that looked like a winner to us.

In May 2013, Keene Christopher, CEO, President of AirKrete®, and Co-Inventor of both the Original Patented Product as well as the "NEW" AirKrete® "Greensulation" Product contacted Dynalene Laboratory Services, Inc. of Whitehall, Pa, to perform an "R Value" Test on the "NEW" Product. Dynalene Labs on their own determined that AirKrete® was "not suitable" for the Steady State Thermal Transmission Properties by Means of a Heat Flow Meter Apparatus (ASTM C518) testing method due to the "friability" of AirKrete® and not being able to test the AirKrete® sample without cracking it. The Lab choose to use a new testing device called the KD2 PRO made by Decagon Devices (<http://www.decagon.com/products/thermal/instruments/KD-2-Pro-Thermal-Properties-Analyzer/>) .

The KD2 PRO complies with ASTM D5334-08. http://www.airkrete.com/testResults_files/KD2-Pro-Compliance-to-ASTM-and-IEEE-Standards.pdf

NOTE: ASTM D5334-08 is a significantly updated version of the Standard Test Method for Determination of Thermal Conductivity of soil and rock. It uses the Transient Line Heat Source Method to measure Thermal Conductivity, Resistivity, Diffusivity, and Specific Heat. Sophisticated Data Analysis is based on 30+ years of experience that "Lives" inside the KD2 PRO, including the experience gained working with NASA to develop the thermal properties sensor used in the Mars Phoenix Lander Mission in 2008, and research experience on heat and mass transfer in Soil, Concrete/Grout, and other "porous materials". SINCE AIRKRETE® IS CEMENTITIOUS, THIS TEST IS PERFECTLY SUITED FOR AIRKRETE® .

http://manuals.decagon.com/Application%20Notes/13391_Finding%20R%20Value%20of%20Insulation%20Using%20KD2_Print.pdf

On two different occasions, two different samples, one created on Feb 27,2013, and the other sample created on Aug 23,2013 were sent to Dynalene Labs for testing. BOTH LAB TESTS yielded the SAME RESULTS (See attached) , an "R Value of 18 at a three inch thickness", earning AirKrete® a "R Value" per inch thickness of R-6. Realizing that there are various ASTM Testing Methods for "R Value", we assumed that the testing done by Dynalene was ASTM approved for our AirKrete® Product. We recently learned that ASTM D5334-08 is not an acceptable alternative to the ASTM C518 (Guarded Hot Box) Test. AirKrete® is working diligently in tandem with Dynalene Labs and Decagon Devices to petition ASTM to accept the KD2 PRO's Transient Line Heat Source Method to Measure Thermal Conductivity and Resistivity. In the past, others successful in petitioning for ASTM modifications were Cellulose and Perlite to name a few. ASTM is scheduled to meet this upcoming October...STAY TUNED...

In the meantime, we have made arrangements to have Dynalene Labs test IDENTICAL AIRKRETE® SAMPLES using BOTH the KD2 PRO and the LESS SUITED ASTM C518 Test. Additionally, we are sending the same batch samples to Decagon Devices for their evaluation also. These results will be useful in "pleading our case" with ASTM and we will also share those Test Results as they become available. Further, AirKrete® is in the process of doing additional ASTM Tests needed for an ICC-ES Evaluation Report which documents compliance with the 2012 International Building Code (IBC), the 2012



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International Residential Code (IRC), and the 2012 International Energy Conservation Code (IECC). In doing research on the "What About AirKrete® ?" A Deeper Look at the Insulation Alternative article, Tristan Roberts interviewed David Ober "as an Independent Building Science Consultant based in North Carolina". TO BE FAIR...HE NEVER MENTIONED DAVID OBER'S PAST AFFILIATION AS DIRECTOR OF TECHNOLOGY AT US GREENFIBER CELLULOSE INSULATION ALSO BASED IN NORTH CAROLINA....COINCIDENCE???? According to "LINKEDIN", Mr. Ober in the past has also been affiliated with CertainTeed Corporation as well as Johns Mansville to name a few. These three Companies are Major Players in the Insulation Industry. "One" would think that "One" would interview someone without any bias towards any Insulation Product to consult with in the drafting of this article.

Architects, Specifiers, Inspectors, Contractors, Buyers and occasionally even Manufactures are sometimes unsure about laws, regulations, specifications, and standards that apply to building insulations. I know in writing this response to the article written by Tristan Roberts that it has been a Pain In The ASTM as to all the rules, regulations, and interpretations; and I know that I PERSONALLY HAVE LEARNED A LOT and hope that you too now have a better understanding of where we are at this time. Thank you for your understanding and patience as we work through this process on our "NEW" AirKrete® "GREENsulation" Product.

Sincerely,
Bill Szabo