

Bubble Foil Insulation Still In The News

The Reflective Insulation Manufacturers Association expresses concerns

Dear Editor,

The Reflective Insulation Manufacturers Association, (RIMA), is writing in response to an article entitled ALUMINUM & BUBBLES, in the November 1999 edition of the Radiant Panel Report. We appreciate the fact that your article calls attention to Reflective Insulation and its many benefits. There are several manufactures of these materials and most of them market their products for use under concrete slabs.

There are a few things that RIMA would like to bring to your attention: There are several statements accredited to a marketer of these products that we feel are incorrect. They are, "it is difficult to rate aluminum insulation products because thickness is not a factor" and "assigning an R-Value to aluminum bubble insulation is tentative at best" and finally, "no universally accepted laboratory method has yet been devised to measure and report the resistance to heat flow of multi-layer foil reflective systems." These statements are very misleading. There have been two standard ASTM test methods for testing reflective insulation for many years. They are ASTM C236 Guarded Hot Box and ASTM C976 Calibrated Hot Box. There is also an ASTM document C1224 that addresses specifically the testing of reflective insulation using the guarded or calibrated hot boxes to determine R-values.

As explained in your article, reflective insulations work best when installed with an air space on both sides of the reflective surfaces. Installing the insulation under a concrete slab

limits any chance of an airspace. The thermal value that one would expect from such an application would be the intrinsic R-value of the bubble pack alone. This will generally fall in the range of R-1 to R-2, assuming that the bubble pack does not collapse from the weight of the concrete - highly unlikely. There are also procedures, (ASTM C1 77 or ASTM C518), for determining the thermal resistance of a bubble pack without an air space. Making a statement that there are no universally recognized tests is just not correct. The FTC, ICBO, BOCA, SBCCI and every state or local building official recognizes these ASTM test methods.

In the article, one of your sources claims an R-10 for their bubble foil product when tested using the thermography method. There is no consensus test for determining R-values by thermography. There is no standard method or procedure for performing a thermography test to determine R-values. In the absence of a standard procedure, there is no basis for making a valid conclusion regarding the R-value of a material by thermography. RIMA is concerned that over zealous marketing claims like this can lead to inappropriate product applications as well as discrediting the industry and value of reflective insulation products when properly applied.

Sincerely,
RIMA

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**Canadian
Home Builders'
Association**

Use of Bubble Foil Insulation Under Slabs Addressed

The Canadian Home Builders Association Technical Research Committee has this to say about bubble wrap insulation under concrete floors, "Foil faced bubble wrap type insulation products are designed for use in assemblies that incorporate an air space on the warm side of the insulation. These materials only work as claimed and evaluated by CCMC when used in wall assemblies with the air space on the inside. Unfortunately, over-zealous sales representatives push the products for applications where they will not work as claimed. One such case is using bubble wraps under concrete slabs-on-grade. Under the slab these bubble wraps do not provide the insulation value claimed."

"If a salesperson makes a pitch for use under slabs, remember that you will not achieve the insulation values claimed. Bubble wrap will offer a stronger moisture barrier than regular 6 mil polyethylene, but nothing else.

European CEN Standard Under Development

Standardization of surface heating and cooling systems is underway which will probably be based on EN1264 for Floor Heating. A proposal has been made by Dr. Bjarne Olesen, President of EURAY, that a similar ASHRAE standard be developed at the same time.