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June 6, 2016

Federal Trade Commission
Office of the Secretary
Constitution Center
400 7th Street SW
5th Floor, Suite 5610 (Annex B)
Washington, D.C. 20580

Re: 16 CFR Part 460 – R-value Rule Review, File R811001

Dear Secretary,

I am writing in response the Federal Trade Commission request for public comments on 16 CFR Part 460: Labeling and Advertising of Home Insulation (The "Rule") as published Wednesday April 6, 2016 in the Federal Register.

AFM Corporation represents the interest of 19 expanded polystyrene (EPS) rigid board insulation manufacturing facilities. We have extensive experience with publishing the R-value of our insulation to both home users and commercial markets. In addition, we operate an ISO17025 accredited testing laboratory which regularly conducts R-value testing in accordance with the Rule. We appreciate the opportunity to supply comments on a number of items as requested in the advance notice of proposed rulemaking.

Need and Benefits of the Rule
The Rule since its inception has been instrumental in providing standard conditions for the determination of R-value and thus providing consumers a simple and effective means to compare the R-value of insulations under these standard conditions. The cost of R-value testing for manufacturers is low in proportion to sales revenue and thus does not impose significant cost on either manufacturers or consumers.

However, advances in the insulation industry and consumer understanding of insulations suggest revisions to the Rule should be considered.

Aging of Cellular Plastic
The Rule 460.5(a)(1) recognizes R-value tests for polyurethane, polyisocyanurate, and extruded polystyrene must be done on samples that "fully reflect the effect of aging on the product's R-value". The current Rule requires following GSA Specification HH-I-530A or another reliable procedure. It is imperative the commission remove the reference to HH-I-530A which was canceled in 1985. The commission should provide a requirement for a procedure that fully reflects the effect of aging on the products R-value.

The insulation industry has developed a consensus ASTM procedure, ASTM C1303 "Standard Test Method for Predicting Long-Term Thermal Resistance of Closed-Cell

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Foam Insulation" to address the need to account for aging of foam plastics. ASTM C1303 was first approved in 1995 and since that time has undergone continuous improvement. In May 2012, ASTM published Research Report RR:C16-1038, "An interlaboratory study was conducted by ten laboratories testing three samples to establish a precision statement for test method C1303" and this report has been used to update ASTM C1303 ensure the most reliable results are obtained when testing in accordance with ASTM C1303.

The ASTM C1303 test method is currently referenced in the following ASTM product specifications which clearly demonstrates widespread acceptance of this test method:

- ASTM C578 Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation
- ASTM C591 Standard Specification for Unfaced Preformed Rigid Cellular Polyisocyanurate Thermal Insulation
- ASTM C1029 Standard Specification for Spray-Applied Rigid Cellular Polyurethane Thermal Insulation
- ASTM C1126 Standard Specification for Faced or Unfaced Rigid Cellular Phenolic Thermal Insulation
- ASTM C1289 Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board"
- ASTM C1427 Standard Specification for Extruded Preformed Flexible Cellular Polyolefin Thermal Insulation in Sheet and Tubular Form".

We urge the commission to update 460.5(a)(1) to require ASTM C1303 testing as it will improve the Rule and better protect consumers.

We do have some specific concerns related to ASTM C1303 that should be addressed by the commission upon inclusion of ASTM C1303 into the Rule. ASTM C1303 includes a definition of long-term as "for the purposes on the Prescriptive Method, long term refers to five years". Many manufacturers are promoting Long-Term Thermal Resistance (LTTR) and not clearly informing consumers that the LTTR declaration is a prediction of the R-value only for an age of 5 years. We propose the following to addressing this concern:

a. We suggest the commission require ASTM C1303 testing and prediction of a long-term thermal resistance at a period longer than 5 years. The ASTM C1303 method as it currently exists can be followed to predict an R-value at a time frame the commission considers appropriate for consumer insulation applications. We recommend the commission consider adding a minimum time frame of 25 years as this would fully reflect the effect of aging on the product's R-value during its useful lifetime.

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b. If the commission chooses to accept the Prescriptive Method contained within ASTM C1303 which predicts the R-value at 5-years we suggest a new disclosure such as "This product will have an R-value lower than the stated R-value after 5 years" be added.

In addition to the above, we urge to the commissioners to consider adding appropriate disclosures to manufacturers who publish and use the term LTTR. The term LTTR on face value would be taken by consumers to mean a time frame much longer than 5 years.

Testing Requirements

The Rule 460.5(a) requires that R-value "tests must be done at a mean temperature of 75 degrees Fahrenheit and with a temperature differential of 50 degrees Fahrenheit". These requirements translate into testing an insulation with one side at a temperature of 100 degrees and the opposite side at 50 degrees. It is clear that this type of condition is not representative of conditions commonly associate with residential home heating and cooling needs. A 75 degrees Fahrenheit condition is more typical of common laboratory conditions.

The table below provides examples of representative of climate conditions across the U.S.

Climate Condition	Temperature, degrees F			
	Inside	Outside	Differential	Mean
Cold	70	0	70	35
Cool	70	30	40	50
Warm	74	86	14	80
Hot	74	106	32	90

The current Rule test conditions most closely represent the warm climate condition having a mean temperature of 80 degrees Fahrenheit. It is also clear that the current test conditions do not represent the climate conditions for cold and cool climates.

The consideration of cool and cold climate conditions is something very important to consumers as consumers buy insulation to both protect from a hot summer exterior and a cold winter exterior. This consideration of testing conditions is not critical if insulations perform better at cold conditions than at warm conditions. Recent publications[1,2] have demonstrated that some insulations have much lower R-values at cold conditions. We are concerned that consumers exposed to cold conditions are not getting the R-value performance as expected based on solely the 75 degree Fahrenheit published values.

We propose the following to address this concern and to protect consumers:

a. We suggest that R-value testing be completed at a mean temperature of 40 degrees Fahrenheit in addition to the current mean temperature of 75 degrees

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Fahrenheit for products which lose R-value as temperatures drop and the Rule require the lower of the two values be used.

b. If the commission chooses not to add testing requirements to the Rule, we suggest a new manufacturer disclosure such as "This product has an R-value lower than the stated R-value in cold conditions" be added.

Final Comments

We appreciate the opportunity to provide comments during the commissions review of the R-value rule. As discussed in our comments, we urge the commission to extend the R-value rule in order to provide for accurate determination of long term R-value through appropriate testing or disclosure and to account for the loss of R-value under cold conditions for some insulations.

Sincerely,

Todd Bergstrom, Ph.D.
Technical Director

References

1. http://buildingscience.com/documents/information-sheets/info-502-temperature-dependent-r-value
2. http://docserver.nrca.net/technical/9992.pdf