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Mr. Kent C Howerton, Attorney
Federal Trade Commission
601 Pennsylvania Avenue NW
Washington, DC 20580

Dear Mr. Howerton:

Our personal/ professional responses to your department's proposed rule revision on labeling and advertising of home insulation have been delayed to this deadline date in anticipation that these actions would reflect the positions also endorsed by one or more industry segments that we have worked with since parting my employment by the Celotex research/Jim Walter Research Corp laboratory . While these responses may also agree with comments your office receives from others, these positions are our own and are not made to the FTC as a paid representative of any other corporation or industry.

1. We note the intensive effort on the part of ORNL in ASTM C16 on Thermal Insulation, to enlarge upon the acceptances of the technology currently detailed in ASTM C1303-95 of the 1998 Annual Book of ASTM Standards ,"Standard Test Method for **ESTIMATING THE LONG TERM CHANGE IN THE THERMAL RESISTANCE OF RIGID CLOSED CELL PLASTIC FOAMS** by Slicing and Scaling Under Controlled Laboratory Conditions" (editorial emphasis supplied by consultMORTinc.)And, we presume that your request for comments will elicit a similar lobbying effort from ORNL as well.

The text of this standard is found on pages 705 to 712 of the current Vol. 04.06. Permit us to call your attention to Section 1. of this document.

Paragraph 1.1 *This test method covers a procedure for **estimating the long term change in thermal resistance of unfaced rigid closed cell plastic foams by reducing the material thickness to accelerate aging under controlled laboratory conditions.***

Paragraph 1.6 *This test method should be used to measure and describe the relative change in thermal resistance of rigid plastic foams under controlled laboratory conditions. **It should not be used to describe or appraise the performance of these materials or products under actual use conditions.** With continuing development, results from this test method **may** be used as an element in an assessment which takes into account **all of the factors** that are pertinent to an estimation of the thermal performance of these materials. **Critical elements of this assessment are presently not available.** See (Par) 1.2.*

Note that Par 1.2 , third sentence, states "*No specific procedures are detailed in this test method to address the effects of .....**manufactured thickness**..(.etc.).*
The last sentence of Par 1.2, states "***The user of this test method shall consider if these parameters limit the use of this test method for a specific application***".

On March 19, 1998 , soon after your office flood, George Sievert and I met with you and your associate to discuss an ongoing study of three R-value modes for spray-applied polyurethane foam insulation conducted by consultMORTinc. A copy of our status report was left for your information, and a copy of its abstract is attached hereto.

In brief, our study showed that center core foams of **thicker** polyurethane foams were essentially protected from air gas permeation for one year or more, while common lot foam specimens of one inch thickness demonstrated logarithmic Primary Stage R-value decay as expected.

This full product thickness benefit cannot be measured by ASTM C1303, which mandates the slicing of the foam specimen into one-half inch thick slices or less, thus voiding the protective surface thicknesses of foam and exposing inner core material to surface permeation and decay as if all of the specimen were unprotected.

Data contained in our report reinforces our concern that thick foam applications may be significantly de-rated as to their insulating characteristics if ASTM C1303 is made a part of the revised rule. Foam applications of three to six or more inches thickness are common in commercial roof installations, storage tank and process equipment insulation and of growing interest in residential and light commercial construction. A de-rated R-value requires more material thickness to meet job-specified thermal resistance levels ; Such hidden over-design can result in greatly inflated user costs which act as a competitive deterrent to the growth of plastic foam thermal insulation systems in the marketplace

We are currently working on draft texts intended to revise ASTM C1029-96, " Standard Specification for Spray-applied Rigid Cellular Polyurethane Thermal .Insulation", which will require full-product thickness testing and R-value reporting after 180 days conditioning. We propose to offer the following language for consensus balloting in Committee C16:

As a practical matter benefiting both suppliers and purchasers, it has become a common industry practice within ASTM material specifications for such cellular materials to utilize 180 day conditioned (six month laboratory aged) R-values as a common point of comparison between alternative foam insulation products for use in commerce. Reference standards include C578, Sect.11.1.2 ; C591, Sect.13.2 ;C984 and C1013 (see C 1289) ; C1029, Sect.10.1 ; C1126, Sect. 1351 ; C1289, Sect.11.1.2

It is understood that ASTM standards and material specifications are intended for common point comparisons between competing materials, and are not intended for use directly for engineering or design purposes. When agreed upon between purchaser and supplier, and at purchaser's expense, one estimate of the long-term change in the thermal resistance of unfaced rigid closed cell plastic foams can be made using laboratory- controlled slicing and scaling techniques described in Test Method C1303. It is understood that this scaling estimate does not include the effects of service-related factors or full product thickness benefits.

We believe that trade regulation criteria should not be based upon "estimated" property values unless both supplier and purchaser are agreed upon their limitations . Full product thickness testing for R-value by C518 **Heat Flow Meter Apparatus** has been used and accepted in the marketplace for glass fiber thermal insulation, and is appropriate as well for plastic foam products.

2.It has recently come to my attention that concrete masonry units (concrete blocks) in a range of material densities, have been marketed and installed utilizing the parallel paths R-value methodology detailed in the 1993 ASHRAE HANDBOOK OF FUNDAMENTALS, pages 22.4 and 22.5. in order to satisfy the prescriptive requirements of energy codes when thermal insulation is used to fill the core spaces. This calculated method is also accepted by the National Concrete Masonry Association on an equivalent basis with ASTM C236 Guarded Hot Box testing, a more costly but more accurate option.

Block walls are notorious in their ability to receive and contain weather-generated water, both as wind-driven rain and as thermal gradient condensate. Costlier options for protecting block walls include board insulations as air barriers/weather barriers installed over the block faces; paint applications are usually too thin to afford protection, but are generally lower cost and poorly maintained in service.

Mineral core-fill materials such as treated vermiculite and perlite granules have been used as core fill materials with mixed success. The latest materials in our local central Florida market are various low-density (less than one pound per cubic foot), open-cell plastic foams injected into the core spaces as the wall rises.

Our concern centers around the great potential for water entry and accumulation within the sponge-like plastic foams, as the precursor of mold growth within the wall. Until these new systems are proven to deal with moisture retention satisfactorily, we would recommend that parallel paths calculations **not** be considered as an acceptable alternative to system testing by ASTM hot box procedures. In climates such as ours in Florida, the use of air conditioning year-around with hot and very humid outside conditions is a prime source for condensation moisture within the walls, and the calculation method does not correct for R-value loss due to moisture.

Best personal wishes for a happy holiday season,

Morton Sherman
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