



*Celebrating 75 Years
of Energy Efficiency*



VIA REGULAR MAIL

August 16, 2010

Mr. Tim Carter
Ask the Builder
P.O. Box 887
Meredith, NH 03253

RE: "Cellulose vs. Fiberglass" Article

Dear Mr. Carter:

Your column on "Cellulose vs. Fiberglass" has come to the attention of the North American Insulation Manufacturers Association ("NAIMA"), a trade association for North American manufacturers of fiber glass, rock wool, and slag wool insulation products. NAIMA promotes energy efficiency and environmental preservation through the use of fiber glass, rock wool, and slag wool insulation. NAIMA also provides accurate and complete information on its members' products.

This letter transmits important information on the health and safety and performance attributes of fiber glass insulation that you may find useful in responding to future questions.

In your column, you identify fiber glass as "a suspected carcinogen." An update on this topic may be helpful. In October 2001, an international expert review by the International Agency for Research on Cancer ("IARC") re-evaluated the 1988 IARC assessment of glass fibers and removed glass, rock, and slag wool fibers from its list of substances "possibly carcinogenic to humans." All fiber glass and rock and slag wools that are commonly used for thermal and acoustical insulation are now considered not classifiable as to carcinogenicity to humans (Group 3). IARC noted specifically:

Epidemiologic studies published during the 15 years since the previous IARC Monographs review of these fibres in 1988 provide no evidence of increased risks of lung cancer or mesothelioma (cancer of the lining of the body cavities) from occupational exposures during manufacture of these materials, and inadequate evidence overall of any cancer risk.

IARC's 1988 listing was the basis for the National Toxicology Program's ("NTP") listing of fiber glass in 1994 that you refer to in your column.

The IARC change is consistent with the conclusion reached by the U.S. National Academy of Sciences, which in 2000 found “no significant association between fiber exposure and lung cancer or nonmalignant respiratory disease in the MVF [man-made vitreous fiber] manufacturing environment.”

IARC’s comprehensive review of the extensive studies developed over the past 15 years indicates that some of the prior reviews need to be updated. The Agency for Toxic Substances and Disease Registry’s (“ATSDR”) Profile on Synthetic Vitreous Fibers (which includes fiber glass) specifically stated that:

Much of the evidence was collected in the 1990s and was not available for earlier assessments made by the U.S. Department of Health and Human Services (DHHS).¹

The U.S. Department of Health and Human Services, National Toxicology Program . . . classified glass wool (respirable size) as *reasonably anticipated to be a human carcinogen*, based on sufficient evidence of carcinogenicity in experimental animals. This assessment was originally prepared in 1993-1994 for the 7th *Report on Carcinogens* (NTP 1994), but has not been updated since then.²

The fiber glass insulation industry is engaged in an ongoing effort to update the U.S. Department of Health and Human Services classification that began when the industry filed a petition to delist in 2002. NTP has stated that they will complete their update by the end of the year.

Cellulose insulation has not been subjected to health effect testing like fiber glass insulation has been. Untested does not mean safe. It has been recognized that “there is a need for full toxicological testing of dust from cellulose building insulation and indeed dust from pure cellulose fibre as well.”³ An untested product should not be assumed to be without health and safety issues.⁴ I have attached material safety data sheets (“MSDSs”) for boric acid and borates which as your column points out is one of the fire retardants used on cellulose. The MSDSs provide cautionary language on the use of borates.

With respect to settling of loose-fill insulation, NAIMA encloses recent and historic studies that demonstrate a stronger performance from fiber glass insulation than suggested in your column. NAIMA hopes you will consider these studies in future responses to your readers.

¹ *Toxicological Profile for Synthetic Vitreous Fibers* (U.S. Department of Health and Human Services, Public Health Services, Agency for Toxic Substances and Disease Registry), September 2004, p. 7.

² *Ibid.* at p. 217.

³ J.M.G. Davis, “The need for standardized testing procedures for all products capable of liberating respirable fibres; the example of materials based on cellulose,” *British Journal of Industrial Medicine* 1993; 50: 187-190, p. 189.

⁴ *Ibid.* at p. 188.

Mr. Tim Carter
August 16, 2010
Page 3

As to fiber glass insulation's performance in extreme temperatures, the paragraph in your column likely relies upon a 1992 Oak Ridge National Laboratory ("ORNL") study that, given the facts, does not support a blanket condemnation of fiber glass loose-fill insulation in extreme temperatures. The fact is that the ORNL study only analyzed low-density loose-fill fiber glass attic insulation in cold climates. The study did not consider the performance of fiber glass insulation batts or high-density fiber glass loose-fill. Therefore, any findings or conclusions derived from the ORNL study should not and cannot be assigned to high-density loose-fill fiber glass or fiber glass batts.

More importantly, the results of the ORNL study conclusively showed that despite considerable loss of R-value at very cold temperatures due to air convection, the overall annual performance of the low-density products is not significantly different from high-density loose-fill or batt insulation, which do not suffer from convection.⁵ Specifically, these test results were based on Owens Corning Advanced ThermaCube Plus insulation that was installed at relatively low density (0.5 pounds per cubic foot). As noted above, with "higher density material, such as Owens Corning Standard Blend or Manville Rich-R, convection should have even less of an effect."⁶ The same would be true of comparable products from NAIMA members CertainTeed and Knauf.

As with the other issues discussed herein, NAIMA hopes you will keep the facts of this study in mind for future columns.

NAIMA sincerely appreciates your consideration of this information.

With best regards,



Angus E. Crane
Executive Vice President, General Counsel

Enclosures

⁵ Energy Design Update, "Fiberglass Convection Problem – Much Ado About Nothing?" December 1992.

⁶ *Ibid.*