

PIMA I Public Policy Position



December 19, 2003

Michigan Department of Consumer & Industrial Services
Bureau of Construction Codes & Fire Safety
Office of Administrative Services
P.O. Box 30254
Lansing, Michigan 48909

RE: Proposed Michigan Uniform Energy Code Rules (MUEC) (ORR#2003-015 CI)

Dear Sir or Madam;

The Polyisocyanurate Insulation Manufacturers Association (PIMA) would like to take this opportunity to comment on the proposed Michigan Uniform Energy Code Rule. We support your efforts to improve Michigan's energy code for residential buildings, but we believe Michigan should adopt a much stronger code that incorporates cost effective building techniques that will provide significant savings to Michigan homeowners. PIMA supports adoption of the International Energy Conservation Code (IECC) (or the energy chapter (Chapter 11) of the International Residential Code (IRC)).

Below are some of the many reasons adoption of the IECC would be beneficial for Michigan.

- The IECC would increase residential energy efficiency by approximately 30 percent compared to the October 8th proposed Michigan Uniform Energy Code.
- The U.S. Department of Energy has determined that the IECC is cost-effective and achieves superior energy savings compared to previous model energy codes.
- The U.S. Department of Energy provides extensive support and financial assistance for states adopting and implementing the IECC. This support includes training, implementation, and enforcement documents and software that can be of great assistance to state and local code officials and people in the home construction business. This same level of support is not available with other codes.
- The improved energy efficiency achieved under the IECC not only saves consumers money, it has a positive impact on air pollution, natural gas prices, energy infrastructure, and energy security.
- Nearly 50 percent of the states have already claimed these benefits for their residents by adopting codes based on either the 2000 or 2003 versions of the IECC, including two of Michigan's neighbors, Wisconsin and Ohio.

Steel Framing in Residential Construction

If you choose not to adopt the IECC or the IRC, then PIMA would urge you not to overlook the issue of thermal bridging that occurs when steel framing is used in exterior walls. Because steel is a much better conductor of heat than wood, walls framed with steel lose more heat than a similar wood wall. As a result, for a steel-frame wall to achieve the same thermal performance it must use insulated sheathing in combination with cavity insulation. / For example, a home using steel frame construction in exterior walls and R-15 cavity insulation with no insulated sheathing would have an effective R-value of only 6.4. The problem of thermal bridging and the resulting loss in insulating value of walls using steel framing is widely recognized and reflected in most

modern building energy codes (e.g., section N1102.1.1.2 of the IRC and section 602.1.1.2 of the IECC).

To correct this problem, we propose that the following section and table be added. The proposed new language below is based on the wall R-values proposed in the October 8, 2003 proposed rule, which are R-13, R-15, and R-19 for zones 1, 2, and 3, respectively. If the stringency of these R-values is increased (which we believe they should be) then the equivalent cavity and sheathing R-values for steel-framed walls should be increased accordingly.

Following section N1102.4 add:

N1102.4.1 Steel-frame walls. The minimum required R-values for steel-frame walls shall be in accordance with Table N1102.4.1.

Table N1102.4.1 Steel-Frame Wall Minimum Performance Requirements (R-Value)

Zones Equivalent Steel-Frame Wall Cavity and Sheathing R-Value^a

1 R-11+R-5, R-15+R-4, R-21+R-3

2 R-11+R-6, R-15+R-5, R-19+R-4

3 R-11+R-10, R-13+R-9, R-19+R8, R-25+R-7

a. The cavity insulation R-value requirement is listed first, followed by the sheathing R-value requirement.

Although steel framing in exterior walls is currently used in only a small percentage of total residential construction in this country, those who live in these homes should not have to suffer the negative consequences of inadequately insulated homes. There are many advantages to using steel frame construction and, depending on the future price of lumber and other factors, its use could increase significantly. However, the advantages of steel framing should not be undermined by a decrease in home energy-efficiency that would result without provisions in the code addressing the issue of thermal bridging.

PIMA is the trade association for manufacturers of rigid polyiso foam insulation, a product that is used in over 60 percent of new commercial roof construction, in a significant amount of new residential construction, and in most re-insulation of existing commercial building roofs. PIMA members have a nationwide presence with 26 polyiso manufacturing facilities in 16 states and in Canada.

Please feel free to call me with any questions regarding these comments.

Sincerely,

Jared O. Blum
President