

## ADVISORY COMMITTEE COMMENT FORM FOR PROPOSED CODE CHANGES

(This form must be submitted electronically)

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### Proposed Code Change - Language

Please provide your proposed code change in strikeout/underline format. Provide the *specific* language you would like to see changed, with new words underlined and words to be deleted should be ~~stricken~~. Also, state whether the language contained in your proposal is from a code book or from an amendment currently found in Minnesota Rule. (You may provide the language (electronically) on a separate, attached sheet).

*IBC Section 2603.5.5 is revised by adding exception number two and renumbering the exceptions as follows:*

**IBC Section 2603.5.5 Vertical and lateral fire propagation.** The exterior wall assembly shall be tested in accordance with and comply with the acceptance criteria of NFPA 285.

#### **Exceptions:**

1. One-story buildings complying with Section 2603.4.1.4.
2. In other than high rise buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1, foam plastic insulation may be installed in compliance with the following conditions:
  - a) The foam plastic insulation shall be applied between a continuous masonry or non-combustible exterior wall sheathing on the building side and a continuous non-combustible substrate or fire resistant treated plywood barrier on the exterior side of the foam plastic insulation.
  - b) Foam insulation shall be limited to a maximum of 3" thickness.
  - c) Wall claddings permitted by this code may be applied to the outside of the exterior substrate barrier.
  - d) Continuous fire blocking shall be provided around all opening head, jamb and sill conditions between continuous masonry or non-combustible exterior wall sheathing on the building side and a continuous substrate barrier on the exterior side of the foam plastic insulation.
  - e) Continuous horizontal metal furring, minimum 16 gauge without perforations, shall be provided at each floor, in line with the slab edge containment fire stopping creating a fire break spanning between the masonry or non-combustible wall sheathing on the building side and a non-combustible substrate barrier on the exterior side of the foam plastic insulation.

## **Proposed Code Change – Need and Reason**

Please provide a thorough explanation of the need for this change and why this proposed code change is a reasonable change. During the rulemaking process, the Agency must defend the need and reasonableness of all its proposed changes. The Agency must submit evidence that it has considered all aspects of the proposal. (You may provide the need and reason (electronically) on a separate attached sheet).

In 1978, the U.S. Department of Energy (DOE) initiated a national program plan to address building enclosure systems. This program evolved into one of the National Institute of Building Science's first councils, the Building Enclosure Technology and Environment Council (BETEC). Today, DOE and more than 125 corporate and individual members support BETEC. An elected Board of Direction guides the Council. Government agency and association personnel, design and construction professionals, researchers and academics serve on BETEC committees and working groups, propose and review research, and organize symposia and publications.

Currently, Section 2603.5 requires all foam plastic exterior insulation materials to conform to the limits of NFPA 285. This test replicates the response of materials to a fire extending through an exterior window of a building. The code does not differentiate as to whether there is a potential for such a fire to occur in a building. Flashover fires which would cause the flame to break out of the building will not occur in a building that has a fully operational sprinkler system. Similar provisions in the code for other materials that are combustibles and may lead to vertical and lateral spread of fire are required to provide fireblocking. In recreating Section 2603.5 we have incorporated an alternative in lieu of mandatory testing to address the risk of fire spreading on the exterior wall of a building where foam plastic insulation is found..

The proposed alternative addresses three concerns:

1. The alternative addresses the prevention of burning embers into the exterior wall cavity that could contact the foam insulation as could come from fireworks or an exterior fire.
2. The alternative addresses the prevention of flame plume entering the exterior wall cavity at the heads, jambs and sills, of openings in the exterior wall cavity.
3. The alternative addresses vertical and lateral movement of flame through the exterior wall cavity should the continuous enclosure of the foam insulation be compromised and the exterior wall cavity be exposed to flame.

Currently, mandatory testing of exterior wall assemblies using foam insulation limit the designer's selection of exterior wall components to proprietary selections especially with regards to non-masonry material claddings.

It is not the intent of the code to limit the designer's selection of exterior wall components to proprietary products, therefore; an alternative to mandatory testing was discussed.

Outboard insulation exterior wall assemblies incorporate strong water management principles and are currently being adopted by designers to meet the need for mold free environments.

The alternative proposed to be used in lieu of mandatory testing allows the designer to incorporate the following:

1. The alternative will allow the use of non-proprietary components in the wall assembly.
2. The alternative will allow the exterior wall design to locate the condensation surfaces to the outside of a Class II vapor retarding moisture control layer virtually eliminating mold and extending building wall service life.

3. The alternative will allow the designer to employ new cladding products without expensive time consuming testing.
4. The alternative will allow the designer to meet the client and contractor's project and construction schedules by avoid time consuming expensive mandatory full scale testing of exterior wall assemblies prior or during construction.

### **Proposed Code Change – Cost/Benefit Analysis**

Please consider whether this proposed code change will increase/decrease costs or indicate that it will not have any cost implications and explain how it will not. If there is an increased cost, will this cost be offset somehow by a life safety or other benefit? If so, please explain. Are there any cost increases/decreases to enforce or comply with this proposed code change? If so, please explain. (You may provide the cost/benefit analysis (electronically) on a separate, attached sheet).

Decrease costs by not requiring fire tests for assemblies specifically incorporating open or closed joint metal panel cladding.

### **Other Factors to Consider Related to Proposed Code Change**

1. Is this proposed code change meant to:

change language contained in a published code book? If so, list section(s).  
2603.5.5 of the 2012 IBC

change language contained in an existing amendment in Minnesota Rule? If so, list Rule part(s).

delete language contained in a published code book? If so, list section(s).

delete language contained in an existing amendment in Minnesota Rule? If so, list Rule part(s).

neither; this language will be new language, not found in the code book or in Minnesota Rule.

2. Is this proposed code change required by a Minnesota Statute or new legislation? If so, please provide the citation to the Statute or legislation.

3. Will this proposed code change impact other sections of a published code book or of an amendment in Minnesota Rule? If so, please list the affected sections or rule parts.

4. Will this proposed code change impact other parts of the Minnesota State Building Code? If so, please list the affected parts of the Minnesota State Building Code.
  
5. Who are the parties affected or segments of industry affected by this proposed code change?  
**Manufacturers of exterior envelop assemblies.**
  
6. Can you think of other means or methods to achieve the purpose of the proposed code change? If so, please explain what they are and why your proposed change is the preferred method or means to achieve the desired result.  
**To require limited materials will affect pricing, and cause potential conflict with the Energy Code.**
  
7. Are you aware of any federal requirement or regulation related to this proposed code change? If so, please list the regulation or requirement.  
**National AIA proposal for the next code cycle, as well as the Energy Code under IEBC 2012.**