

## ADVISORY COMMITTEE COMMENT FORM FOR PROPOSED CODE CHANGES

(This form must be submitted electronically)

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IECC RE- 13

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### **Proposed Code Change - Language**

#### **R403.2.2 Sealing (Mandatory).**

Ducts, air handlers, and filter boxes shall be sealed. Joints and seams shall comply with either the *International Mechanical Code* or *International Residential Code*, as applicable.

#### **Exceptions:**

1. Air-impermeable spray foam products shall be permitted to be applied without additional joint seals.
2. Where a duct connection is made that is partially inaccessible, three screws or rivets shall be equally spaced on the exposed portion of the joint so as to prevent a hinge effect.
3. Continuously welded and locking-type longitudinal joints and seams in ducts operating at static pressures less than 2 inches of water column (500 Pa) pressure classification shall not require additional closure systems.

Duct tightness shall be verified by ~~either of the following:~~

- ~~1. Postconstruction test: Total leakage shall be less than or equal to 4 cfm (113.3 L/min) per 100 square feet (9.29 m<sup>2</sup>) of conditioned floor area when tested at a pressure differential of 0.1 inches w.g. (25 Pa) across the entire system, including the manufacturer's air handler enclosure. All register boots shall be taped or otherwise sealed during the test.~~
2. rough-in test conducted prior to installation of interior finishing material. Where required by the code official, testing shall be conducted by an approved third party. A written report of the results of the test shall be signed by the party conducting the test and provided to the code official. Total leakage shall be less than or equal to 4 cfm (113.3 L/min) per 100 square feet (9.29 m<sup>2</sup>) of conditioned floor area when tested at a pressure differential of 0.1 inches w.g. (25 Pa) across the system, including the manufacturer's air handler enclosure. All registers shall be taped or otherwise sealed during the test. If the air handler is not installed at the time of the test, total leakage shall be less than or equal to 3 cfm (85 L/min) per 100 square feet (9.29 m<sup>2</sup>) of conditioned floor area.

**Exception:** The total leakage test is not required for ducts and air handlers located entirely within the building thermal envelope and the air barrier.

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

The language “Where required by the *code official*, testing shall be conducted by an *approved* third party. A written report of the results of the test shall be signed by the party conducting the test and provided to the *code official*.” was taken from the Air Leakage Testing in section R402.4.1.2. This is necessary because a record of the testing would be required to verify that the testing was completed in compliance with the IECC code. If a report is not required no one would ever know if the testing was completed. This language also allows the building official to require a third party to complete the testing.

The purpose of testing the ductwork outside the air barrier and the thermal boundary is to ensure that a stud cavity or an attic is not pressurized by a leaking duct that has warm humid air. When this air leaks from the duct it can cause major problems when the humid air condenses on a cold surface.

By only allowing the test to be completed at the rough-in stage of the dwelling the issue of leaky ductwork outside the air barrier and thermal boundary can be fixed reducing the potential for long term negative effects for the builder.

The addition of the language “and the air barrier” in the exception is to clarify that ductwork located in a stud cavity in an exterior wall must be tested to ensure that the ductwork is not leaking. Testing this ductwork is necessary to ensure that the ductwork does not affect the life span of the dwelling.

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

This change would only result in a cost increase if ductwork is installed in an exterior stud cavity. The language in the existing IECC code book was not clear on whether or not ductwork in an exterior stud cavity required testing.

A duct blaster test at the rough in stage of a house would cost between \$250 - \$300

## **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).
  
  - 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?
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.
7. Are you aware of any federal requirement or regulation related to this proposed code change? If so, please list the regulation or requirement.