



**Proposed Code Change**  
State Form 41186R

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INDIANA DEPARTMENT OF HOMELAND SECURITY  
CODE SERVICES SECTION  
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**INSTRUCTIONS:**

Only TYPED copy accepted.  
(KEY- ~~Dashed line through material to be deleted, underlined material to be added~~)  
Use second sheet for any material requiring more space.

Code Title <b>International Residential Code</b>	Edition <b>2007 Supplement to 2006 IRC</b>
Section number and title <b>R806.4, Unvented Attic Assembly</b>	Page <b>IRC-70</b>
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PROPOSED CODE CHANGE (Check One)

- Change to read as follows     Add to read as follows     Delete and substitute as follows     Delete without substitution

R806.4 Unvented attic assemblies. Unvented attic assemblies (spaces between the ceiling joints of the top story and the roof rafters) shall be permitted if all the following conditions are met:

1. The unvented attic space is completely contained within the building thermal envelope.
2. No interior vapor retarders are installed on the ceiling side (attic floor) of the unvented attic assembly.
3. Where wood shingles or shakes are used, a minimum ¼ inch (6 mm) vented air space separates the shingles or shakes and the roofing underlayment above the structural sheathing.
4. In climate zones 5, 6, 7 and 8, any air-impermeable insulation shall be a vapor retarder, or shall have a vapor retarder coating or covering in direct contact with the underside of the insulation.
5. Either items a, b or c shall be met, depending on the air permeability of the insulation directly under the structural roof sheathing.
  - a. Air-impermeable insulation only. Insulation shall be applied in direct contact to the underside of the structural roof sheathing.
  - b. Air-permeable insulation only. In addition to the air-permeable installed directly below the structural sheathing, rigid board or sheet insulation shall be installed directly above the structural roof sheathing as specified in Table R806.4 for condensation control.
  - c. Air-impermeable and air-permeable insulation. The air-impermeable insulation shall be applied in direct contact to the underside of the structural roof sheathing as specified in Table R806.4 for condensation control. The air-permeable insulation shall be installed directly under the air-impermeable insulation.

**Table R806.4 Add new table to read as shown on next page: (RB269-06/07)**

REASON

The IRC 2007 Supplement, Section R806.4 "Unvented attic assemblies" are as written above, containing conditions 1-5 and Table R806.4, are part of the International Residential Code 2007 Supplement to the IRC of 2006. This is the latest revision of the R806.4.

The current Indiana Residential Building Code is based on the IRC 2003 which does not contain the R806.4 Section. There was also a supplement written for the IRC 2003 in 2004 on the addition of the R806.4 section, but this supplement was also not adopted by the state of Indiana.

Currently, applicators of polyurethane spray foam insulation, which meets the air-impermeable definition as defined by ASTM E 283, present ICC Evaluation Service Reports (eg. Demilec USA, ICC ES 1172) to Indiana Building Code officials or have to apply for, using the alternate methods and materials section of the Indiana Residential Building code, to get this type of insulation installation approved.

This can be a rather lengthy process and may also be redundant even in the same county or code jurisdiction. My past experiences with Indiana Building Code officials, have shown that they have always recognized the advantages of the unvented or "conditioned" attic assembly and accepted it after the appropriate ICC documents and product specifications were presented to the Building Code official.

This assembly has currently been approved and installed in over 50 counties in Indiana over the last 5 years without any negative performance issues.

The "Unvented attic assembly", saves up to 50% or more on heating and cooling bills for the homeowner in comparison to air-permeable insulations applied to the floor of the attic. It also eliminates wind driven rain and snow from entering the attic area, eliminates condensation on the underside of roof sheathing by sealing and protecting it from damage caused by condensation, and insulates ventilation systems located in the attic by keeping them in a conditioned space.

Additionally, stack effect or upwards air movement is greatly reduced or eliminated and downsizing of the HVAC system can be realized since the Air Changeovers/Hour are reduced from 0.4 ACH to 0.1 ACH when compared to air-permeable insulations.

We are asking the Indiana Building Association's Code Review Committee to adopt the R806.4 section of the 2007 IRC Supplement as shown above to help in understanding of the advantages of the "Unvented Attic Assembly" and expedite the acceptance of the R806.4 as part of the Indiana Residential Building code or codes that are being reviewed and adopted for 2009 of this year.

Note: The IRC 2006 R806.4 was adopted in October of 2008 and made part of the Michigan Residential Code.

REVIEW RECOMMENDATION

Approve
Disapprove
Approve as amended
Further Study

**TABLE R806.4  
INSULATION FOR CONDENSATION CONTROL**

<b>CLIMATE ZONE</b>	<b>MINIMUM RIGID BOARD OR AIR-IMPERMEABLE INSULATION R-VALUE<sup>a</sup></b>
2B and 3B tile roof only	0 (non required)
1, 2A, 2B, 3A, 3B, 3C	R-5
4C	R-10
4A, 4B	R-15
5	R-20
6	R-25
7	R-30
8	R-35

a. Contributes to but does not supersede Chapter 11 energy requirements.