

National Association of Home Builders Recommended State & Local Amendments to the 2009 International Energy Conservation Code (IECC)

Issue: Ceilings without Attic Spaces

2009 IECC Section: 402.2.2

Recommended Amendment:

Modify the Section as shown below (Delete text):

402.2.2 Ceilings without attic spaces. Where Section 402.1.1 would require insulation levels above R-30 and the design of the roof/ceiling assembly does not allow sufficient space for the required insulation, the minimum required insulation for such roof/ceiling assemblies shall be R-30. This reduction of insulation from the requirements of Section 402.1.1 shall be limited to 500 square feet (46 m²) ~~or 20% of the total insulated ceiling area, which ever is less.~~ This reduction shall not apply to the U-factor alternative approach in Section 402.1.3 and the total UA alternative in Section 402.1.4

Reason:

The purpose of this amendment is to help alleviate the confusion in the 2009 International Energy Conservation Code (IECC). Without this amendment, the IECC would limit the ceiling areas eligible for reduced R-value due to a framing cavity restriction.

The IECC already has a limit (500 sq. ft) for this application. This additional limit adds a calculation to determine the second limit and therefore is more confusing than it is worth. Typically, smaller homes have smaller rafter requirements based on shorter spans. Allowing the proper sized framing material to handle the loads is not only cost-effective, but saves our natural resources. Adding insulation alone can be cost effective. But when having to install larger rafters in order to meet minimum insulation requirements would not be considered a justified cost. This change will result in an increased rafter size simply to accommodate more insulation thus making it economically unreasonable.

For these reasons we encourage the adoption of this amendment.

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Issue: The Elimination of Equipment Trade-offs

2009 IECC Section: Table 405.5.2(1)

Recommended Amendment:

Modify the Table as shown below (Delete text, add New Text)

**TABLE 405.5.2(1)
SPECIFICATIONS FOR THE STANDARD REFERENCE AND PROPOSED DESIGNS**

| BUILDING COMPONENT | STANDARD REFERENCE DESIGN | PROPOSED DESIGN |
|---|---|---|
| Heating systems ^{g, h} , | As proposed Fuel type: same as proposed design Efficiencies: Electric: air-source heat pump with prevailing federal minimum efficiency Nonelectric furnaces: natural gas furnace with prevailing federal minimum efficiency Nonelectric boilers: natural gas boiler with prevailing federal minimum efficiency Capacity: sized in accordance with Section M1401.3 of the <i>International Residential Code</i> | As proposed <u>As proposed</u> <u>As proposed</u> |
| Cooling system ^{g, i} , | As proposed Fuel type: Electric Efficiency: in accordance with prevailing federal minimum standards Capacity: sized in accordance with Section M1401.3 of the <i>International Residential Code</i> | As proposed <u>As proposed</u> <u>As proposed</u> |
| Service Water Heating ^{g, i, j, k} | As proposed Fuel type: same as proposed design Efficiency: in accordance with prevailing Federal minimum standards Use: gal/day = 30 + 10 × Nbr Tank temperature: 120°F Use: same as proposed design | As proposed <u>As proposed</u> <u>Same as standard reference</u> <u>Same as standard reference</u> gal/day = 30 + 10 × Nbr |

(Remainder of Table remains unchanged)

Reason:

The purpose of this amendment is to retain the original equipment trade-off provisions from the 2006 International Energy Conservation Code (IECC) for the heating systems, cooling systems, and service water heating.

By retaining these, builders have an opportunity to optimize a code-compliant house design by using energy efficient equipment.

Eliminating the ability to use equipment efficiency as a means to achieve whole-house energy conservation will discourage the use of higher efficiency equipment. Quite often, the use of this high efficiency equipment provides a more cost effective solution to achieve code compliance. Eliminating this ability discourages the concept of the “house as a system” approach which is a cornerstone of many state energy programs and the Federal Energy Star Program. In fact, without this amendment the current practice for constructing an Energy Star home in this jurisdiction would be disallowed.

Without accepting this amendment will force a negative impact on the installation of state-of- the-art, more energy efficient equipment, it will increase the cost of construction by driving builders to often use less efficient equipment while dramatically increasing the cost of construction of the building envelope, namely windows and fiberglass insulation.

Significant improvements in the efficiency of HVAC and water heating equipment have been made in the last 20 years.. With the increased emphasis on new and improved technologies, this trend will continue and will result in even higher energy savings in future years. Eliminating the ability to recognize the value of these technologies in the marketplace will prove detrimental to all builders and ultimately the homeowners.

One of the easiest ways to conserve energy is to utilize high efficiency equipment. The 2009 IECC code change does not provide any incentives for the builder to install high efficiency equipment, but rather continues the use of the minimum equipment efficiencies established by federal standards.

The language in the 2009 IECC effectively removes the use of high efficiency HVAC equipment as a reasonable and cost-effective solution to achieve compliance. Failure to remove the existing language concentrates solely on the building envelope by focusing on insulation/windows to meet specific energy targets.

For these reasons we encourage the adoption of this amendment.

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National Association of Home Builders Recommended State & Local Amendments to the 2009 International Energy Conservation Code (IECC)

Issue: Duct testing

2009 IECC Section: 403.2.2

Recommended Amendment:

Add a new Section as shown below:

401.4 Compliance testing. Where testing is required to determine air leakage of duct systems, the code official shall be permitted to require random sample testing of no fewer than one in seven homes.

Reason:

The purpose of this amendment is to revise the testing requirement of All ducts located outside the thermal envelope to require a random testing of ducts as seen necessary by the code official

As contractors become familiar with assembling air-tight ducts, the need to individually test each duct system is not necessarily required to satisfy code compliance. With this amendment, a code official is given the liberty to require random sample testing based on local conditions and installations.

The Federal EPA Energy Star program, an above code IECC program, only requires duct testing on 1 out of every 7 homes, this is because EPA understands that once an installer understands how to seal a duct they continue to do it correctly on subsequent homes.

This amendment will allow the code official to quickly determine compliance visually without doing cumbersome and expensive mechanical testing on every home.

We encourage testing at minimum intervals to achieve compliance with the intent of the IECC. For this reason we encourage the adoption of this amendment.

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