

Amendments to the 2012 International Energy Conservation Code

The following sections, paragraphs, and sentences of the *2012 International Energy Conservation Code* (IECC) are hereby amended as follows: Standard type is text from the IECC. Underlined type is text inserted. ~~Lined through type is deleted text from IECC.~~ A double (**) asterisk at the beginning of a section identifies an amendment carried over from the 2009 edition of the code and a triple (***) asterisk identifies a new or revised amendment with the 2009 code.

The 2012 IECC contains separate provisions for commercial buildings (preceded by “C” for Commercial) and for residential buildings (preceded by “R” for residential buildings) 3 stories or less. Each set of provisions are separately applied to buildings within their respective scope. Each set of provisions also contains a Scope and Administration chapter, a Definitions chapter, a General Requirements chapter and a chapter containing energy efficiency requirements applicable to building within their respective scope.

Recommended amendments that match sections in each of the respective provisions (“C” and “R”) are written to represent both sections rather than duplicating the recommended amendment in this document.

Sections N1101.2 through N1105 of the 2012 *International Residential Code* (IRC) are noted to be extracted from the 2012 IECC. The Building and Residential Advisory Board (BRAB) recommends amending Chapter 11 [RE] ENERGY EFFICIENCY of the 2012 IRC to refer to the residential provisions of the 2012 IECC.

As of the date of the recommendations the State Energy Conservation Office (SECO) has not adopted the 2012 IECC. Consequently the recommended amendments to the 2012 IECC have been analyzed for stringency with the current Texas Building Energy Performance Standards (TBEPS) which is the 2009 Edition of the IECC and the energy provisions of the IRC. Some amendments below are noted that if/when SECO does by rule adopt the 2012 IECC as the TBEPS, the proposed amendment would be deemed less stringent and therefore would not be considered a recommended amendment.

****Section C101.4.2 and R101.4.2; change to read as follows:**

C101.4.2/R101.4.2 Historic Buildings. Any building or structure that is listed in the State or National Register of Historic Places; designated as a historic property under local or state designation law or survey; certified as a contributing resource with a National Register listed or locally designated historic district; or with an opinion or certification that the property is eligible to be listed on the National or State Registers of Historic Places either individually or as a contributing building to a historic district by the State Historic Preservation Officer of the Keeper of the National Register of Historic Places, ~~are exempt from~~ shall comply with all of the provisions of this code.

Exception: Whenever a provision or provisions shall invalidate or jeopardize the historical designation or listing, that provision or provisions may be exempted.

(Reason: This is less restrictive than the legislative mandates. It is reasonable to expect compliance with duct sealing, replacement lighting and the installation of insulation, for example, when possible.)

****Section C102/R102; add Section C102.1.2 and R102.1.2 to read as follows:**

C102.1.2/R102.1.2 Alternative compliance. A building certified by a national, state, or local accredited energy efficiency program and determined by the Energy Systems Laboratory to be in compliance with the energy efficiency requirements of this section may, at the option of the Code Official, be considered in compliance. The United States Environmental Protection Agency's Energy Star Program certification of energy code equivalency shall be considered in compliance.

(Reason: this amendment is added to allow alternative compliance in accordance with Texas HB 1365, 78th Legislature.)

****Section C202 and R202; add the following definition:**

GLAZING AREA. Total area of the glazed fenestration measured using the rough opening and including sash, curbing or other framing elements that enclose conditioned space. Glazing area includes the area of glazed fenestration assemblies in walls bounding conditioned basements. For doors where the daylight opening area is less than 50 percent of the door area, the glazing area is the daylight opening area. For all other doors, the glazing area is the rough opening area for the door including the door and the frame.

(Reason: Since the window to floor area ratios have been added to the prescriptive tables, it is necessary to define glazing area.)

*****Section R402.2.2; amend the section to read as follows:**

R402.2.2 Ceilings without attic spaces. Where Section R402.1.1 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 R402.1.1 shall be limited to 500 square feet (46 m²) ~~or 20 percent of the total insulated ceiling area, whichever is less.~~ This reduction shall not apply to the U-factor alternative approach in Section R402.1.3 and the total UA alternative in Section R402.1.4.

(Reason: Retains the current 2009 language to eliminate confusion and limit the area to 500 square feet maximum)

***** Table R402.1.1 INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT; Amend by changing the WOOD FRAME WALL R-VALUE for CLIMATE ZONE 3 to read as follows:**

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(Reason: Retain the values in the 2009 code.)

If/when SECO does by rule adopt the 2012 IECC, this proposed amendment would be deemed less stringent and therefore would not be considered a recommended amendment.

***** Table R402.1.3 EQUIVALENT U-FACTORS; Amend by changing the WOOD FRAME WALL U-FACTOR for CLIMATE ZONE 3 to read as follows:**

(Reason: Retain the values in the 2009 code.)

If/when SECO does by rule adopt the 2012 IECC, this proposed amendment would be deemed less stringent and therefore would not be considered a recommended amendment.

*****R402.4.1.2 Testing; Add a last paragraph to read as follows:**

Testing may only be performed by individuals that are certified HERS Raters or Rating Field Inspectors by RESNET or Performance Verification Technicians certified by Texas HERO, or other certifications as may be approved by the building official. The certified individuals must be an independent third-party entity, and may not be employed; or have any financial interest in the company that constructs the structure.

(Reason: The 2012 International Residential Code (IRC) and International Energy Conservation Code (IECC) include enhanced emphasis on envelope infiltration and duct leakage. Significant changes in the residential energy requirements include more frequent requirement of performance testing for leakage. Residential Duct systems must be tested unless all ducts and equipment are located within the conditioned space. Envelope testing is required to demonstrate compliance with maximum allowable leakage rate unless a detailed air barrier and insulation inspection has been performed to field verify component criteria. This language puts the regulatory authority on notice that the testing requires specialized credentials and establishes a conflict of interest baseline).

*****Section R402.4.1.2 Testing; modify the first paragraph to read as follows:**

R402.4.1.2 Testing. The building or dwelling unit shall be tested and verified as having an air leakage rate of not exceeding 5 air changes per hour in Climate Zones 1 and 2, and 3 air changes per hour in Climate Zones 3 through 8. {Remainder of text unchanged}

(Reason: The 2012 IECC will require mandatory door blower testing on each dwelling unit. The visual inspection is no longer an option to performance testing. This change will give some time for those builders not currently using a performance approach to adapt construction practices.)

If/when SECO does by rule adopt the 2012 IECC, this proposed amendment would be deemed less stringent and therefore would not be considered a recommended amendment.

*****R403.2.2 Sealing (Mandatory); Add a last paragraph to read as follows:**

Testing may only be performed by individuals that are certified HERS Raters or Rating Field Inspectors by RESNET or Performance Verification Technicians certified by Texas HERO, or other certifications as may be approved by the building official. The certified individuals must be an independent third-party entity, and may not be employed; or have any financial interest in the company that installed the duct system.

(Reason: The 2012 International Residential Code (IRC) and International Energy Conservation Code (IECC) include enhanced emphasis on envelope infiltration and duct leakage. Significant changes in the residential energy requirements include more frequent requirement of performance testing for leakage. Residential Duct systems must be tested unless all ducts and equipment are located within the conditioned space. Envelope testing is required to demonstrate compliance with maximum allowable leakage rate unless a detailed air barrier and insulation inspection has been performed to field verify component criteria. This language puts the

regulatory authority on notice that the testing requires specialized credentials and establishes a conflict of interest baseline).

***** Section R403.2.2; Amend to read as follows:**

R403.2.3 Building cavities (Mandatory). Building framing cavities shall not be used as supply ducts and plenums. Building framing wall cavities in the exterior thermal envelope shall not be used as return ducts

(Reason: Continue the practice in the regions and to insure that the building thermal envelope is not compromised.)

****Section C402.2.9/R402.2; Add Section C402.2.9 and R402.2.13 to read as follows:**

Section C402.2.9/R402.2 Insulation installed in walls. To insure that insulation remains in place, insulation batts installed in walls shall be totally secured by an enclosure on all sides consisting of framing lumber, gypsum, sheathing, wood structural panel sheathing, netting or other equivalent material approved by the building official.

(Reason: This will increase the performance of the insulation by ensuring that the batt insulation stays in place.)

*****Section R405.6.2; add the following sentence to the end of paragraph:**

Acceptable performance software simulation tools may include, but are not limited to, REM Rate™, Energy Gauge and IC3. Other performance software programs accredited by RESNET BESTEST and having the ability to provide a report as outlined in R405.4.2 may also be deemed acceptable performance simulation programs and may be considered by the building official.

(Reason: These performance software tools are accredited by RESNET at the time of recommendation.)

*****Section C101.4.3 Additions, alterations, renovations or repairs; add exception #9 to read as follows:**

9. Replacement of existing fenestration, provided, however, that the area of the replacement fenestration does not exceed 25% of the total fenestration area of an existing building and that the U-factor and SHGC will be equal to or lower than before the fenestration replacement.

(Reason: Provide some level of consideration for existing buildings, matches ASHRAE 90.1-2010 Exception "g" to Section 5.1.3.)

If/when SECO does by rule adopt the 2012 IECC, this proposed amendment would be deemed less stringent and therefore would not be considered a recommended amendment.

END