

**THE INTERNATIONAL ENERGY CONSERVATION CODE-RESIDENTIAL  
ERRATA COMMENTS INCORPORATED INTO PUBLIC COMMENT DRAFT #2**

(7/18/23)

**Introduction**

The following document contains public comments submitted during the public comment period for the legislative changes to the IECC Residential Public Comment Draft #1 ending June 29, 2023 that were resolved as errata and incorporated into the 2024 IECC Residential Public Comment Draft #2.

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contact:

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# ASTM references RE (1620)

IECC RE: ASTM Chapter 06

## Proponents:

Theresa Weston, representing Air Barrier Association of America (ABAA) (holtweston88@gmail.com)

## 2024 International Energy Code [RE] [RE Project] R3

### Revise as follows:

ASTM	ASTM International 100 Barr Harbor Drive, P.O. Box C700 West Conshohocken PA 19428-2959
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E283—(2019):	Test Method for Determining the Rate of Air Leakage Through Exterior Windows, Skylights, Curtain Walls and Doors Under Specified Pressure Differences Across the Specimen
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ASTM	ASTM International 100 Barr Harbor Drive, P.O. Box C700 West Conshohocken PA 19428-2959
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E779—:2019	Standard Test Method for Determining Air Leakage Rate by Fan Pressurization
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ASTM	ASTM International 100 Barr Harbor Drive, P.O. Box C700 West Conshohocken PA 19428-2959
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E1186- <del>2002</del> <u>2022</u>	Standard Practices for Air Leakage Site Detection in Building Envelopes and Air Barrier Systems
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ASTM	ASTM International 100 Barr Harbor Drive, P.O. Box C700 West Conshohocken PA 19428-2959
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E2178— <u>2021a</u> :	Standard Test Method for Determining Air Leakage Rate and Calculation of Air Permanence of Building Materials
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### Reason:

This proposal corrects errata. I corrects the typos and formats of the dates of referenced standards.

### Cost Impact:

The code change proposal will neither increase nor decrease the cost of construction.

This proposal is to correct errata only

# R404.1 - Lighting Efficacy Erratum (1559)

IRCECC: N1104.1

## Proponents:

Mike Moore, representing Broan-NuTone (mmoore@statorllc.com)

## IRC Chapter 11 ENERGY R3

### Revise as follows:

## N1104.1 Lighting equipment.

All permanently installed luminaires shall be capable of operation with an efficacy of not less than 45 lumens per watt or shall contain lamps capable of operation ~~at~~ with an efficacy of not less than 65 lumens per watt ~~or greater~~.

### Exceptions:

1.	<del>kitchen appliance lighting.</del> <u>Appliances lamps.</u>
2.	<del>a</del> Antimicrobial lighting used for the sole purpose of disinfecting.
3.	General service lamps complying with DOE 10 CFR 430.32.
4.	Luminaires with a rated electric input of not greater than 3.0 watts.

### Reason:

This proposed erratum makes editorial corrections to this section as follows:

1. Deletes a wayward comma in R404.1/N1104.1.
2. Change #1's "Appliances lamps" to "Appliance lamps."
3. Capitalize #2's "Antimicrobial."

### Cost Impact:

The code change proposal will neither increase nor decrease the cost of construction.

This proposed erratum is strictly editorial, with no impact to cost.

# Editorial - section numbers (1605)

IECC RE: R107.4.1

## Proponents:

Vladimir Kochkin, representing NAHB (vkochkin@nahb.org)

## 2024 International Energy Code [RE] [RE Project] R3

### Revise as follows:

## R107.4.1 Authorization of approved third party inspection agency.

An approved third-party inspection agency shall provide all requested information for the code official to determine that the agency meets the applicable requirements specified in Sections ~~R105.4.1.1~~R107.4.1.1 through ~~R105.4.1.3~~R107.4.1.3 and to authorize its work in the jurisdiction.

### Reason:

Editorial. The references to Sections R105.4.1.1 through R105.4.1.3 is incorrect. This should be R107.4.1.1. through R107.4.1.3

### Cost Impact:

The code change proposal will neither increase nor decrease the cost of construction.

Editorial

# FSC PC#3 IECC-R, Restore "approved source" definition (Errata) (1675)

IECC RE: SECTION 202 (New)

## Proponents:

Jay Crandell, representing Foam Sheathing Committee of the American Chemistry Council (jcrandell@aresconsulting.biz)

## 2024 International Energy Code [RE] [RE Project] R3

### Add new definition as follows:

APPROVED SOURCE. An independent person, firm or corporation, approved by the code official, who is competent and experienced in the application of engineering principles to materials, methods or system analyses.

### Reason:

This proposal is submitted as errata. The final amended version of RED1-268 did not delete the APPROVED SOURCE term and it is still used in Chapter 5 per RED1-268.

### Cost Impact:

The code change proposal will neither increase nor decrease the cost of construction.

This proposal is errata and has no cost impact. The definition for "approved source" is being restored since it was not deleted by RED1-286 and is still a used term in Chapter 5.

# High-efficacy light sources (1887)

IECC RE: SECTION R202

**Proponents:**

Michael Jouaneh, representing Lutron Electronics Co., Inc. (mjouaneh@lutron.com)

2024 International Energy Code [RE] [RE Project] R3

## SECTION R202 — GENERAL DEFINITIONS

**Reason:**

Strike High-efficacy Light Sources from the Definitions. It is not needed anymore since the efficacy thresholds have been move to the main body of the code. Editorial change.

**Cost Impact:**

The code change proposal will neither increase nor decrease the cost of construction.

Editorial

# FSC PC#1 IECC-R, Restore missing exception in Section R402.1.5 (Errata) (1673)

IECC RE: R402.1.5

## Proponents:

Jay Crandell, representing Foam Sheathing Committee of the American Chemistry Council (jcrandell@aresconsulting.biz)

2024 International Energy Code [RE] [RE Project] R3

## R402.1.5 Component performance alternative.

Where the proposed total *building thermal envelope thermal conductance*  $\underline{TC}_p$  is less than or equal to the required total *building thermal envelope thermal conductance*  $\underline{TC}_r$  using factors in Table R402.1.2 the *building* shall be considered to be in compliance with Table R402.1.2. The total thermal conductance  $\underline{TC}$  shall be determined in accordance with Equation 4-1. Proposed *U*-factors and slab-on-grade *F*-factors shall be taken from ANSI/ASHRAE/IES Standard 90.1 Appendix A or determined using a method consistent with the ASHRAE *Handbook of Fundamentals* and shall include the thermal bridging effects of framing materials. In addition to total thermal conductance  $\underline{TC}$  compliance, the SHGC requirements of Table R402.1.2 and the maximum *fenestration U*-factors of Section R402.6 shall be met.

$$\underline{TC}_p = U_p A + F_p P \leq \underline{TC}_r = U_r A + F_r P$$

(Equation 4-1)

$$\underline{TC}_p = U_p A + F_p P$$

$$\underline{TC}_r = U_r A + F_r P$$

$U_p A$  = the sum of proposed *U*-factors times the assembly areas in the proposed *building*.

$F_p P$  = the sum of proposed *F*-factors times the slab-on-grade perimeter lengths in the proposed *building*.

$U_r A$  = the sum of *U*-factors in Table R402.1.2 times the same assembly areas as in the proposed *building*.

$F_r P$  = the sum of *F*-factors in Table R402.1.2 times the same slab-on-grade perimeter lengths as in the proposed building.

**Exception:** Exception: For Climate Zones 0, 1, and 2, the value of  $F_r P$  shall equal the value of  $F_p P$

## Reason:

It appears the exception already is there in cdpACCESS version, even though it was not included in the legislative draft. No change needed.

## Cost Impact:

The code change proposal will neither increase nor decrease the cost of construction.

This is errata and it appears the exception has already been restored in the cdpACCESS draft. No cost impact and no action needed.

# FSC PC#4 IECC-R, Correct changes made for window insulation in Table R402.5.1.1 (1676)

IECC RE: TABLE R402.5.1.1

## Proponents:

Jay Crandell, representing Foam Sheathing Committee of the American Chemistry Council (jcrandell@aresconsulting.biz)

## 2024 International Energy Code [RE] [RE Project] R3

### Revise as follows:

TABLE R402.5.1.1 AIR BARRIER, AIR SEALING AND INSULATION INSTALLATION<sup>a</sup>

Portions of table not shown remain unchanged.

COMPONENT	AIR BARRIER, AIR SEALING CRITERIA	INSULATION INSTALLATION CRITERIA
Windows, skylights and doors	The <u>rough opening gap</u> between framing and <del>the frames of</del> skylights, windows and doors, shall be sealed <u>in accordance with fenestration manufacturer's instructions.</u>	<u>Insulation shall not be required in the rough opening gap except as required by the fenestration manufacturer's instructions.</u> <del>Framing cavities around windows, skylights and doors shall be completely filled with insulation or insulated per window manufacturer's instructions.</del>

*no changes to footnotes*

### Reason:

This public comment is errata to align text with the approved changes to Draft 1 based on multi-proponent collaboration and committee action associated with committee proposal RECD1-3 which resolved proposals RED1-183, -227, -232, and -234. The stricken text was deleted by RECD1-3. Also a typo/misspelling of "frames" is corrected. All of the underline text is unchanged; the only change in this proposal is the stricken text to align with committee action.

### Cost Impact:

The code change proposal will neither increase nor decrease the cost of construction.

This proposal is errata and has no cost impact. However, it could tend to reduce compliance and enforcement cost by removing conflicting text that was deleted by committee action.



# RE air leakage editorial (1753)

IECC RE: TABLE R402.5.1.1, R402.5.1.5

## Proponents:

Theresa Weston, representing Air Barrier Association of America (ABAA) (holtweston88@gmail.com)

## 2024 International Energy Code [RE] [RE Project] R3

### Revise as follows:

TABLE R402.5.1.1 AIR BARRIER, AIR SEALING AND INSULATION INSTALLATION<sup>a</sup>

COMPONENT	AIR BARRIER, AIR SEALING CRITERIA	INSULATION INSTALLATION CRITERIA
General requirements	<p>A continuous air barrier shall be installed in the <i>building thermal envelope</i>.</p> <p>Breaks or joints in the air barrier shall be sealed.</p>	<p>Air-permeable insulation shall not be used as a sealing material.</p>
Ceiling/attic	<p><u>An</u> air barrier shall be installed in any dropped ceiling or soffit to separate it from unconditioned space.</p> <p>Access openings, drop down stairs or knee wall doors to unconditioned attic spaces shall be air sealed with gasketing materials that allow for repeated entrance over time.</p>	<p>The insulation in any dropped ceiling/soffit shall be aligned with the air barrier. Access hatches and doors shall be installed and insulated in accordance with Section R402.2.5</p> <p>Eave Baffles shall be installed in accordance with Section R402.2.4</p>
Walls	<p>The junction of the foundation and sill plate shall be sealed.</p> <p>The junction of the top plate and the top of exterior walls shall be sealed.</p> <p>Knee walls shall be sealed.</p>	<p>Cavities within corners and headers of frame walls shall be insulated by completely filling the cavity with a material having a thermal resistance, <i>R</i>-value, of not less than R-3 per inch. Exterior <i>building thermal envelope</i> insulation for framed walls shall be installed in substantial contact and continuous alignment with the air barrier.</p>
Windows, skylights and doors	<p>The <u>rough opening gap</u> between framing and <u>the frams</u> of skylights, windows and doors, shall be sealed <u>in accordance with fenestration manufacturer's instructions</u>.</p>	<p><u>Insulation shall not be required in the rough opening gap except as required by the fenestration manufacturer's instructions.</u> Framing cavities around windows, skylights and doors shall be completely filled with insulation or insulated per window manufacturer's instructions.</p>
Rim joists	<p>Rim joists shall include an air barrier.</p> <p>The junctions of the rim board to the sill plate and the rim board and the subfloor shall be air sealed.</p>	<p>Rim joists shall be insulated so that the insulation maintains permanent contact with the exterior rim board.<sup>b</sup></p>

COMPONENT	AIR BARRIER, AIR SEALING CRITERIA	INSULATION INSTALLATION CRITERIA
Floors, including cantilevered floors and floors above garages	<p><del>Floor framing members that are part of the building thermal envelope</del> <i>building thermal envelope</i> shall be air sealed to maintain a continuous <del>air barrier</del> <i>air barrier</i>.</p> <p><u>Air permeable floor cavity insulation shall be enclosed</u></p>	Floor insulation shall be installed <u>in accordance with the requirements of Section R402.2.8.</u>
Basement, crawl space, and slab foundations	<p>Exposed earth in unvented crawl spaces shall be covered with a Class I vapor retarder/air barrier in accordance with Section R402.2.11.</p> <p>Penetrations through concrete foundation walls and slabs shall be air sealed.</p> <p>Class 1 vapor retarders shall not be used as an air barrier on below-grade walls and shall be installed in accordance with Section R702.7 of the <i>International Residential Code</i>.</p>	<p>Crawl space insulation, where provided instead of floor insulation, shall be installed in accordance with Section R402.2.11.</p> <p>Conditioned basement foundation wall insulation shall be installed in accordance with Section R402.2.9.1.</p> <p>Slab-on-grade floor insulation shall be installed in accordance with Section R402.2.11.</p>
Shafts, penetrations	<p><i>Duct</i> and flue shafts to exterior or unconditioned space shall be sealed.</p> <p>Utility penetrations of the air barrier shall be caulked, gasketed or otherwise sealed and shall allow for expansion, contraction of materials and mechanical vibration.</p>	Insulation shall be fitted tightly around utilities passing through shafts and penetrations in the <i>building thermal envelope</i> to maintain required <i>R</i> -value.
Narrow cavities	Narrow cavities of 1 inch or less that are not able to be insulated shall be air sealed.	Batts to be installed in narrow cavities shall be cut to fit or narrow cavities shall be filled with insulation that on installation readily conforms to the available cavity space.
Garage separation	Air sealing shall be provided between the garage and conditioned spaces.	Insulated portions of the garage separation assembly shall be installed in accordance with Sections R303 and R402.2.8.
Recessed lighting	Recessed light fixtures installed in the <i>building thermal envelope</i> shall be air sealed in accordance with Section R402.5.5.	Recessed light fixtures installed in the <i>building thermal envelope</i> shall be airtight and IC rated, and shall be buried or surrounded with insulation.
Plumbing, wiring or other obstructions	All holes created by wiring, plumbing or other obstructions in the air barrier assembly shall be air sealed.	Insulation shall be installed to fill the available space and surround wiring, plumbing, or other obstructions, unless the required <i>R</i> -value can be met by installing insulation and air barrier systems completely to the exterior side of the obstructions.
Showers, tubs, and fireplaces adjacent to the <i>building thermal envelope</i>	An air barrier shall separate insulation in the <i>building thermal envelope</i> from the shower, tub, <u>or</u> fireplace assemblies.	Exterior framed walls adjacent to showers, tubs and fireplaces shall be insulated.

COMPONENT	AIR BARRIER, AIR SEALING CRITERIA	INSULATION INSTALLATION CRITERIA
Electrical, communication, and other equipment boxes, housings, and enclosures	<p>Boxes, housing, and enclosures that penetrate the air barrier shall be caulked, taped, gasketed, or otherwise sealed to the air barrier element being penetrated.</p> <p>All concealed openings into the box, housing, or enclosure shall be sealed.</p> <p>Alternatively, air-sealed boxes shall be installed in accordance with R402.5.6.</p>	Boxes, housing, and enclosures shall be buried in or surrounded by insulation.
HVAC register boots	HVAC supply and return register boots shall be sealed to the subfloor, wall covering or ceiling penetrated by the boot.	HVAC supply and return register boots located within a <i>building thermal envelope assembly</i> shall be buried <u>in or</u> surrounded by insulation.
Concealed sprinklers	Where required to be sealed, concealed fire sprinklers shall only be sealed in a manner that is recommended by the manufacturer. Caulking or other adhesive sealants shall not be used to fill voids between fire sprinkler cover plates and walls or ceilings.	—
Common walls or double walls <u>separating attached single-family dwellings or townhouses</u>	<p><u>An interior air barrier shall be provided. Air sealing at the intersections with <del>building thermal envelope</del> <i>building thermal envelope</i> shall be provided.</u></p> <p><u>Where installed in a fire-resistance rated wall assembly, air sealing materials shall comply with one of the following:</u></p> <p><u>1. be in accordance with an <del>approved</del> <i>approved</i> design for the fire resistance-rated assembly.</u></p> <p><u>2. be supported by <del>approved</del> <i>approved</i> data that shows the assembly as installed complies with the required fire-resistance rating</u></p>	Insulation materials recognized in the <i>approved</i> common wall or double-wall design and installed in accordance with the <i>approved</i> design, shall be <u>permitted to be</u> used.

a.	Inspection of log walls shall be in accordance with the provisions of ICC 400.
b.	Insulation full enclosure is not required in unconditioned/ventilated attic spaces and at rim joists.

**Reason:**

This proposal is editorial. It italicizes defined terms and eliminate the Section number for a non-existent section.

**Cost Impact:**

The code change proposal will neither increase nor decrease the cost of construction.

This proposal is editorial and contains no technical changes.

# Duct proposal errata (1572)

IECC RE: R403.3.4, R403.3.6.1, TABLE R403.3.8

## Proponents:

Kristopher Stenger, representing icc; Ben Rabe, representing New Buildings Institute (ben@newbuildings.org)

## 2024 International Energy Code [RE] [RE Project] R3

### Revise as follows:

## R403.3.4 Duct systems located in conditioned space.

For duct systems to be considered inside a *conditioned space*, the *space conditioning equipment* shall be located completely on the conditioned side of the *building thermal envelope*. The *ductwork* shall comply with the following as applicable:

1.	The <i>ductwork</i> shall be located completely on the conditioned side of the <i>building thermal envelope</i> .
2.	<i>Ductwork</i> in ventilated attic spaces or unvented attics with vapor diffusion ports shall be buried within ceiling insulation in accordance with Section R403.3.5 and shall comply with the following :
2.1.	<del>The air handler is located completely within the <i>continuous air barrier</i> and within the <i>building thermal envelope</i>.</del>
2.1	The <i>ductwork</i> leakage, as measured either by a rough-in test of the supply and return <i>ductwork</i> or a post-construction <i>duct system</i> leakage test to outside the <i>building thermal envelope</i> in accordance with Section R403.3.5, 1.5 cubic feet per minute (42.5 L/min) per 100 square feet (9.29 m <sup>2</sup> ) of <i>conditioned floor area</i> served by the <i>duct system</i> .
2.2	The ceiling insulation <i>R</i> -value installed against and above the insulated <i>ductwork</i> is greater than or equal to the proposed ceiling insulation <i>R</i> -value, less the <i>R</i> -value of the insulation on the <i>ductwork</i> .
3.	<i>Ductwork</i> contained within wall or floor assemblies separating unconditioned from <i>conditioned space</i> shall comply with the following:
3.1.	A <i>continuous air barrier</i> shall be installed as part of the <i>building</i> assembly between the <i>ductwork</i> and the unconditioned space.
3.2.	<i>Ductwork</i> shall be installed in accordance with Section R403.3.1. <b>Exception:</b> Where the <i>building</i> assembly cavities containing <i>ductwork</i> have been air sealed in accordance with Section R402.5.1 and insulated in accordance with Item 3.3, <i>duct</i> insulation is not required.
3.3.	Not less than R-10 insulation, or not less than 50 percent of the required insulation <i>R</i> -value specified in Table R402.1.3, whichever is greater, shall be located between the <i>ductwork</i> and the unconditioned space.
3.4	Segments of <i>ductwork</i> contained within <del>these</del> <u>such</u> building assemblies shall not be considered completely inside conditioned space in Sections R405 or R406.

## R403.3.6.1 Sealed air-handling unit.

Air-handling units shall have a manufacturer's designation for an air leakage of not greater than 2 percent of the design airflow rate when tested in accordance with ASHRAE 193.

TABLE R403.3.8 MAXIMUM TOTAL DUCT SYSTEM LEAKAGE

Duct systems serving more than 1,000 ft <sup>2</sup> of conditioned floor area		Duct systems serving 1,000 ft <sup>2</sup> or less of conditioned floor area	
cfm/100 ft <sup>2</sup> (LPM/9.29 m <sup>2</sup> )		cfm (LPM)	
Number of ducted returns <sup>a</sup>			
<3	≥3	Any	
<i>Space conditioning equipment</i> is not installed <sup>b,c</sup>	3 (85)	4 (113)	30 (850)
All components of the <i>duct system</i> are installed <sup>c</sup>	4 (113)	6 (170)	40 (1133)
<i>Space conditioning equipment</i> is not installed, but the <i>ductwork</i> is located entirely in conditioned space <sup>c,d</sup>	6 (170)	8 (227)	60 (1699)
All components of the <i>duct system</i> are installed and entirely located in <i>conditioned space</i> <sup>c</sup>	8 (227)	12 (340)	80 (2265)

a.	A ducted return is a duct made of sheet metal or flexible <i>duct</i> that connects one or more return grilles to the return-side inlet of the air-handling unit. Any other method to convey air from return or transfer grille(s) to the air-handling unit does not constitute a ducted return for the purpose of determining maximum total <i>duct system</i> leakage allowance.
b.	<del>Where the <i>space conditioning equipment</i> is not installed, <i>duct system</i> testing shall be permitted and shall include the measured leakage from both supply and return <i>ductwork</i>. Duct system testing shall not be performed if the return <i>ductwork</i> is not installed. <i>Duct system</i> testing is permitted where <i>space conditioning equipment</i> is not installed, provided the return <i>ductwork</i> is installed, and the measured leakage from the supply and return <i>ductwork</i> is included.</del>
c.	For <i>duct systems</i> to be considered inside a <i>conditioned space</i> , where the <i>ductwork</i> is located in ventilated attic spaces or unvented attics with vapor diffusion ports, <i>duct system</i> leakage to outside must comply with Item 2.1 of Section R403.3.2.
d.	Prior to certificate of occupancy, where the air-handling unit is not verified as being located in <i>conditioned space</i> , the total duct system leakage must be re-tested.

### Reason:

Errata proposal

### Cost Impact:

The code change proposal will neither increase nor decrease the cost of construction.

No cost impact

# Errata to match action on RECD1-12 (1567)

IECC RE: CHAPTER 4 [RE], SECTION R404, R404.5, APPENDIX RE, RE102, RE102.1

## Proponents:

Gayathri Vijayakumar, representing Steven Winter Associates, Inc. (gvijayakumar@swinter.com)

2024 International Energy Code [RE] [RE Project] R3

CHAPTER 4 [RE] RESIDENTIAL ENERGY EFFICIENCY

## SECTION R404 — ELECTRICAL POWER, LIGHTING, AND RENEWABLE ENERGY SYSTEMS

### Revise as follows:

### R404.5 Electric readiness.

Water heaters, household clothes dryers, ~~conventional cooking tops, conventional ovens,~~ and cooking appliances that use *fuel gas* or *liquid fuel* shall comply with Sections R404.5.1 through R404.5.4.

APPENDIX RE ALL-ELECTRIC RESIDENTIAL BUILDINGS

### Revise as follows:

## RE102 — GENERAL DEFINITIONS

### RE102.1 .

#### **ALL-ELECTRIC BUILDING.**

A building that contains no combustion equipment, or plumbing for combustion equipment, installed within the building, or

*building site*

**APPLIANCE.** A device or apparatus that is manufactured and designed to utilize energy and for which this code provides specific requirements.

**COMBUSTION EQUIPMENT.** Any equipment or appliance used for space heating, *service water heating*, cooking, clothes drying and/or lighting that uses ~~fuel gas~~ *fuel gas* or *liquid fuel* ~~oil~~.

**EQUIPMENT.** Piping, ducts, vents, control devices and other components of systems other than appliances that are permanently installed and integrated to provide control of environmental conditions for buildings. This definition shall also include other systems specifically regulated in this code.

~~**FUEL OIL.** Kerosene or any hydrocarbon oil having a flash point not less than 100°F (38°C).~~

#### **Reason:**

This Public Comment is an Errata to align text in R404.5 and Appendix RE with the text that was approved by Committee Action on RECD1-12.

The version in the 4-27 agenda and at the link below support this Errata.

The intent in Appendix RE was to strike BOTH the FUEL GAS and FUEL OIL definitions & move them into the Main body and out of the Appendix. Also to then reference the newly defined terms: "fuel gas" and "liquid fuel" and correct the typo in the header to read

"DEFINITIONS". This Errata makes those edits that the Committee already approved.

Similarly, in R404.5, the intent was to use the more concise language that was approved in the header for R404.5.1 which is now "Cooking appliances".<https://energy.cdpassess.com/live/proposal/1540/html/>

**Bibliography:**

The RECD1-12 online supports the Errata.

<https://energy.cdpassess.com/live/proposal/1540/html/>

Additionally, the agenda from 4-27 (last 3 pages) supports the Errata.

<https://www.iccsafe.org/wp-content/uploads/IECC-Res-AGENDA-4.27.23-agenda-rev3.2.pdf>

**Cost Impact:**

The code change proposal will neither increase nor decrease the cost of construction.

NA, errata



# Errata - Slope Definitions (1803)

IECC RE: R404.6.2.1, RI102

## Proponents:

Aaron Phillips, representing Asphalt Roofing Manufacturers Association (aphillips@asphaltroofing.org)

## 2024 International Energy Code [RE] [RE Project] R3

### Revise as follows:

### R404.6.2.1 General.

A solar-ready zone shall be located on the roof of residential buildings that are oriented between 110 degrees and 270 degrees of true north or have low slope ~~low-slope~~ roofs. Solar-ready zones shall comply with Sections R404.6.2.2 through R404.6.2.8.

### Exceptions:

1.	A building with a permanently installed <i>on-site renewable energy</i> system.
2.	A building with a <i>solar-ready zone</i> area that is shaded for more than 70 percent of daylight hours annually.
3.	A building where an <i>approved party</i> certifies that the incident solar radiation available to the <i>building</i> is not suitable for a <i>solar-ready zone</i> .
4.	A building where an <i>approved party</i> certifies that the <i>solar-ready zone</i> area required by Section R404.6.2.3 cannot be met because of rooftop equipment, skylights, vegetative roof areas or other obstructions.
5.	A building that complies with Appendix RC.
6.	A building with a renewable energy power purchase agreement with a duration of not less than 15 years from a utility or a community renewable energy facility and for not less than 80 percent of the estimated electric use of the residential occupancy portion of the building on an annual basis.

## RI102 GENERAL DEFINITIONS.

POTENTIAL SOLAR ZONE AREA. The combined area of any steep slope ~~steep-sloped~~ roofs oriented between 90 degrees and 300 degrees of true north and any low slope ~~low-sloped~~ roofs where the annual solar access is 70 percent or greater. ANNUAL SOLAR ACCESS. The ratio of annual solar insolation with shade to the annual solar insolation without shade. Shading from obstructions located on the roof or any other part of the building are not included in the determination of annual solar access. Shading from existing permanent natural or person-made obstructions that are external to the building, including but not limited to trees, hills, and adjacent structures, are included in annual solar access calculations. PHYSICAL RENEWABLE ENERGY POWER PURCHASE AGREEMENT. A contract for the purchase of renewable electricity from a specific renewable electricity generator to a purchaser of renewable electricity.

### Reason:

This comment is offered as an ERRATA. The previously defined terms "low-sloped roof" and "steep-sloped roof" have been changed to "low slope" and "steep slope." This comment aligns the new language of R404.6.2.1 and RI102 with the defined terms to eliminate ambiguity around interpretation of these provisions.

### Cost Impact:

The code change proposal will neither increase nor decrease the cost of construction.

This comment coordinates terminology and provisions and will not affect the cost of construction.

# Errata to match RED1-73 (1568)

IECC RE: SECTION R408, TABLE R408.2, R408.2.3

**Proponents:**

Gayathri Vijayakumar, representing Steven Winter Associates, Inc. (gvijayakumar@swinter.com)

## 2024 International Energy Code [RE] [RE Project] R3

# SECTION R408 — ADDITIONAL EFFICIENCY REQUIREMENTS

**Revise as follows:**

TABLE R408.2 CREDITS FOR ADDITIONAL ENERGY EFFICIENCY

Measure Number	Measure Description	Credit Value								
		Climate Zone 0 & 1	Climate Zone 2	Climate Zone 3	Climate Zone 4 except Marine	Climate Zone 4 Marine	Climate Zone 5	Climate Zone 6	Climate Zone 7	Climate Zone 8
R408.2.1.1(1)	≥2.5% Reduction in total TC	0	0	0	1	1	1	1	1	1
R408.2.1.1(2)	≥5% reduction in total TC	0	1	1	2	2	3	3	3	3
R408.2.1.1(3)	>7.5% reduction in total TC	0	1	2	2	2	3	3	4	4
R408.2.1.1(4)	>10% reduction in total TC	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
R408.2.1.1(5)	>15% reduction in total TC	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
R408.2.1.1(6)	>20% reduction in total TC	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
R408.2.1.1(7)	>30% reduction in total TC	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
R408.2.1.2(2)	U-factor and SHGC for vertical fenestration per Table R408.2.1	1	1	1	1	1	1	1	2	
R408.2.1.3	Roof reflectance (roof is part of the <i>building thermal envelope</i> and directly above cooled, conditioned space)	TBD	TBD	TBD	TBD	TBD	0	0	0	0



R408.2.4(1) <sup>c</sup>	More efficient distribution system	4	6	7	10	10	12	13	15	16
R408.2.4(2) <sup>c</sup>	100% of <i>duct systems</i> in conditioned space	4	6	8	12	12	15	17	19	20
R408.2.4(3) <sup>c</sup>	≥80% of ductwork inside <i>conditioned space</i>	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
R408.2.4(4) <sup>c</sup>	Reduced total duct leakage	1	1	1	1	1	1	2	2	2
R408.2.5(1)	ERV or HRV installed	TBD	TBD	TBD	TBD	TBD	TBD	0	0	0
R408.2.5(2) <sup>c</sup>	≤2.0 ACH50 with ERV or HRV installed	1	4	5	10	10	13	TBD	TBD	TBD
R408.2.5(3) <sup>c</sup>	≤2.0 ACH50 with a <i>balanced ventilation system</i>	2	3	2	4	4	5	TBD	TBD	TBD
R408.2.5(4) <sup>c</sup>	≤1.5 ACH50 with ERV or HRV installed	2	4	6	12	12	15	TBD	TBD	TBD
R408.2.5(5) <sup>c</sup>	≤1.0 ACH50 with ERV or HRV installed	2	5	6	14	14	17	TBD	TBD	TBD
R408.2.6 <sup>a</sup>	Energy efficient appliances	9	8	8	7	7	5	5	5	4
R408.2.7	On-site renewable energy measures	17	16	17	11	11	9	8	7	4
R408.2.8	Off-site renewable energy measures	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
R408.2.9 <sup>c</sup>	Demand responsive thermostat	1	1	1	1	1	1	1	1	1
R408.2.11	Whole home lighting control	1	1	1	1	1	1	1	1	1
R408.2.12	Higher efficacy lighting	1	1	1	1	1	1	1	1	1

a. Where the measure is selected, each *dwelling unit*, sleeping unit, and *common areas* where the measure is applicable must have the measure installed.

b. Where multiple heating or cooling systems are installed, credits shall be determined using a weighted average of the square footage served by each system.

c. Where the measure is selected, each *dwelling unit* and sleeping unit must comply with the measure.

d. Where the measure is selected, each *dwelling unit* shall be served by a water heater meeting the applicable requirements. Where multiple service water heating systems are installed, credits shall be determined using a weighted average of the square footage served by each system.

SEER2: Seasonal Energy Efficiency Ratio, HSPF2: Heating Season Performance Factor, EER2: Energy Efficiency Ratio, COP:

## R408.2.3 Reduced energy use in service water-heating options.

For measure numbers R408.2.3 (1) through R408.2.3(7), the installed hot water system shall meet one of the Uniform Energy Factors (UEF) or Solar Uniform Energy Factors (SUEF) in Table R408.2.3. For measure number R408.2.3(8), ~~a compact~~ the dwelling unit hot water distribution system shall comply with R408.2.3.1.

### **Reason:**

Errata needed to match action on RED1-73 during 4-27 meeting. Agenda version shows those terms in the footnotes were in italics and it was intentional in R408.2.3 to use the word "dwelling unit" before hot water distribution so that it's clear the requirements apply to a dwelling unit HW distribution system not an entire building (in the case of a multifamily building).

This Errata brings back those edits. In the footnotes, I italicized the words 'dwelling units' and 'common areas' and underlined them (but didn't 'strike out' the non-italicized versions of the words because they kept getting auto-deleted).

### **Bibliography:**

Page 107 of the 4-27 agenda shows RED1-73 and matches the Errata proposed.

<https://www.iccsafe.org/wp-content/uploads/IECC-Res-AGENDA-4.27.23-agenda-rev3.2.pdf>

Was also correct here: <https://energy.cdpass.com/live/proposal/1369/html/>

### **Cost Impact:**

The code change proposal will neither increase nor decrease the cost of construction.

NA - Errata