2018 – 2019 ICC CODE DEVELOPMENT CYCLE

UPDATES TO THE 2019 REPORT OF THE COMMITTEE ACTION HEARINGS TO THE INTERNATIONAL CODES GROUP B

Updated 8/8/2019

The following is a compilation of errata discovered since the posting of the Report of the Committee Action Hearing results on June 11, 2019

2018-2019 Code Development Cycle, Group B (2019) Report of the Committee Action Hearing to the 2018 *International Codes*

Second Printing

Publication Date: August 2019

PRINTED IN THE U.S.A.

WITHDRAWN CODE CHANGE PROPOSALS

The following code change proposals were withdrawn prior to the Committee Action Hearings but did not display in the 2019 Report of Committee Action Hearings:

CE154-19
CE195-19
RE128-19
S89-19

INTERNATIONAL ENERGY CONSERVATION CODE - COMMERCIAL

****CE69-19: Displaying Table C402.1.4 of CE69-19 to show the correct format. Table was incorrectly formatted in the Consolidated Monograph Updates****

CE69-19

Proponent: William Fay, Energy-Efficient Codes Coalition, representing Energy-Efficient Codes Coalition (bfay@ase.org); Harry Misuriello, American Council for an Energy-Efficient Economy, representing American Council for an Energy-Efficient Economy (misuriello@verizon.net)

(Portions of table not shown remain unchanged)

TABLE C402.1.4
OPAQUE THERMAL ENVELOPE ASSEMBLY MAXIMUM REQUIREMENTS, *U*-FACTOR METHOD[a, b]

Slab-on-grade floors																
Unheated slabs	F-0.73[e]	F-0.73[e]	F-0.73[e]	F-0.73[e]	F-0.73[e]	F-0.73[e]	F-0.54	F-0.54	F-0.54	F-0.54	F-0.54	F-0.52	~~F-0.40~~ F-0.51	~~F-0.40~~ F-0.434	~~F-0.40~~ F-0.434	~~F-0.40~~ F-0.424
Heated slabs[f]	F-1.02 0.74	F-1.02 0.74	F-1.02 0.74	F-1.02 0.74	F-0.90 0.74	F-0.90 0.74	F-0.86 0.64	F-0.86 0.64	F-0.79 0.64	F-0.79 0.64	F-0.79 0.55	F-0.69 0.55	F-0.69 0.55	F-0.69 0.55	F-0.69 0.55	F-0.69 0.55

For SI: 1 pound per square foot = 4.88 kg/m^2, 1 pound per cubic foot = 16 kg/m^3.
ci = Continuous insulation, NR = No Requirement, LS = Liner System.

a. Where assembly *U*-factors, *C*-factors, and *F*-factors are established in ANSI/ASHRAE/IESNA 90.1 Appendix A, such opaque assemblies shall be a compliance alternative where those values meet the criteria of this table, and provided that the construction, excluding the cladding system on walls, complies with the appropriate construction details from ANSI/ASHRAE/ISNEA 90.1 Appendix A.
b. Where *U*-factors have been established by testing in accordance with ASTM C1363, such opaque assemblies shall be a compliance alternative where those values meet the criteria of this table. The *R*-value of continuous insulation shall be permitted to be added to or subtracted from the original tested design.
c. Where heated slabs are below grade, below-grade walls shall comply with the *U*-factor requirements for above-grade mass walls.
d. "Mass floors" shall be in accordance with Section C402.2.3.
e. These *C*-, *F*- and *U*-factors are based on assemblies that are not required to contain insulation.
f. The first value is for perimeter insulation and the second value is for full slab insulation.
g. "Mass walls" shall be in accordance with Section C402.2.2.

****CE97-19: Staff analysis has been added****

CE97-19

Committee Action: **Approved as Modified**

Modify the proposal as follows:

C402.5.1.2 Air barrier compliance. A continuous air barrier for the opaque building envelope shall comply with the following:

1. Buildings or portions of buildings including group R and group I occupancy shall meet the provisions of Section C402.5.1.2.1 or C402.5.1.2.2.
2. Buildings or portions of buildings of other than group R and group I occupancy shall meet the provisions of Section C402.5.1.2.3.

   Exceptions:

   1. Buildings in Climate Zones 2B, 3B, 3C, and 5C.
   2. Buildings larger than 5000 square feet floor area in Climate Zones 0B, 1, 2A, 4B, and 4C.
   3. Buildings between 5000 and 50,000 square feet floor area in Climate Zones 0A, 3A and 5B.

3. Buildings or portions of buildings other than group R and group I ~~1~~ occupancy that do not complete air barrier testing shall meet the provisions of Section C402.5.1.2.1 or C402.5.1.2.2.

C402.5.1.2.3 ~~Non-residential b~~ Building thermal envelope testing. The building thermal envelope shall be tested in accordance with ASTM E 779, ANSI/RESNET/ICC 380, or ASTM E1827 or an equivalent method approved by the code official. The measured air leakage shall not exceed 0.40 cfm/ft^2 (2.0 L/s · m^2) of the building thermal envelope area at a pressure differential of 0.3 inch water gauge (75 Pa). Alternatively, portions of the building shall be tested and the measured air leakages shall be area-weighted by the surface areas of the building envelope in each portion. The weighted average test results shall not exceed the whole building leakage limit. In the alternative approach, the following portions of the building shall be tested:

1. The entire envelope area of all stories that have any spaces directly under a roof,
2. The entire envelope area of all stories that have a building entrance, exposed floor, or loading dock, or are below grade, and
3. Representative above-grade sections of the building totaling at least 25 percent of the wall area enclosing the remaining conditioned space.

Exception: Where the measured air leakage rate exceeds 0.40 cfm/ft^2 (2.0 L/s•m^2) but does not exceed 0.60 cfm/ft^2(3.0 L/s•m2), a diagnostic evaluation using smoke tracer or infra-red imaging shall be conducted while the building is pressurized along with a visual inspection of the air barrier. Any leaks noted shall be sealed where such sealing can be made without destruction of existing building components. An additional report identifying the corrective actions taken to seal leaks shall be submitted to the code official and the building owner, and shall be deemed to comply with satisfy the requirements of this section.

Committee Reason: This is a conservative step that that has already been shown to be cost effective, it provides an alternative for very large buildings in testing a portion. The modifications correct the occupancy type and clarify building type that can use the method and additional testing standard (Vote: 12-3).

Assembly Action: **None**

Staff analysis: Standard ASTM E1827 is already a referenced standard in this code. Standard ANSI/RESNET/ICC 380 is already referenced in another I-Code, specifically the IECC-Residential provisions.

****CE187-19: Exceptions 3 & 4 were incorrectly formatted in the Consolidated Monograph Updates****

CE187-19

Committee Action: **Approved as Modified**

Modify the proposal as follows:

C405.2.3 Daylight-responsive controls. *Daylight-responsive controls* complying with Section C405.2.3.1 shall be provided to control the *general lighting* within ~~the following~~ *daylight zones* in the following spaces:

1. Spaces with a total of more than 150 watts of *general lighting* within ~~Primary sidelit zones where a total of more than 150 watts of general *lighting* per space are within~~ primary sidelit *daylight zones* complying with Section C405.2.3.2. *General lighting* does not include lighting that is required to have specific application control in accordance with Section C405.2.4.
2. Spaces with a total of more than 300 watts of *general lighting* within ~~Secondary sidelit zones where a total of more than 300 watts of *general lighting* per space are within the primary and secondary sidelit~~ *sidelit daylight zones* complying with Section C405.2.3.2.
3. Spaces with a total of more than 150 watts of *general lighting* within toplit *daylight zones* complying with Section C405.2.3.3.

Exceptions: *Daylight responsive controls* are not required for the following:

1. Spaces in health care facilities where patient care is directly provided.
2. Lighting that is required to have specific application control in accordance with Section C405.2.4.
3. Sidelit *daylight zones* on the first floor above grade in Group A-2 and Group M occupancies.
4. New buildings where the total connected lighting power calculated in accordance with Section C405.3.1 is not greater than the adjusted interior lighting power allowance (LPA_{adj}) calculated in accordance with Equation 4-9:

$$LPA_{adj} = [LPA_{norm} \times (1.0 - 0.4 \times UDZFA / TBFA)]$$

(Equation 4-9)

where:

LPA_{adj} = Adjusted building interior lighting power allowance in watts.
LPA_{norm} = Normal building lighting power allowance in watts calculated in accordance with Section C405.3.2 and reduced in accordance with Section C406.3 where Option 2 of Section C406.1 is used to comply with the requirements of Section C406.
UDZFA = Uncontrolled daylight zone floor area is the sum of all sidelit and toplit zones, calculated in accordance with Sections C405.2.3.2 and C405.2.3.3, that do not have daylight responsive controls.
TBFA = Total building floor area is the sum of all floor areas included in the lighting power allowance calculation in Section C405.3.2.

C405.2.3.1 Daylight-responsive control function. Where required, *daylight-responsive controls* shall be provided within each space for control of lights in that space and shall comply with all of the following:

1. Lights in *toplit daylight zones* in accordance with Section C405.2.3.3 shall be controlled independently of lights in sidelit *daylight zones* in accordance with Section C405.2.3.2.
2. Lights in the primary sidelit *daylight zone* shall be controlled independently of lights in the secondary sidelit *daylight zone*.
3. *Daylight responsive controls* within each space shall be configured so that they can be calibrated from within that space by authorized personnel.
4. Calibration mechanisms shall be in a location with ready access.
5. Where located in offices, classrooms, laboratories and library reading rooms, *daylight responsive controls* shall dim lights continuously from full light output to 15 percent of full light output or lower.
6. *Daylight responsive controls* shall be configured to completely shut off all controlled lights.
7. Lights in *sidelit daylight zones* in accordance with Section C405.2.3.2 facing different cardinal orientations [within 45 degrees (0.79 rad) of due north, east, south, west] shall be controlled independently of each other.

Exceptions: ~~Up to 150 watts of lighting in each space is permitted to be controlled together with lighting in a daylight zone facing a different cardinal orientation.~~

1. Within each space, up to 150 watts of lighting within the primary sidelit *daylight zone* is permitted to be controlled together with lighting in a primary sidelit *daylight zone* facing a different cardinal orientation.
2. Within each space, up to 150 watts of lighting within the secondary sidelit *daylight zone* is permitted to be controlled together with lighting in a secondary sidelit *daylight zone* facing a different cardinal orientation.

C405.2.3.2 Sidelit zone. The sidelit *daylight zone* is the floor area adjacent to *vertical fenestration* that complies with all of the following:

1. Where the fenestration is located in a wall, the sidelit *daylight zone* shall extend laterally to the nearest full-height wall, or up to 1.0 times the height from the floor to the top of the fenestration, and longitudinally from the edge of the fenestration to the nearest full-height wall, or up to 2 feet (610 mm), whichever is less, as indicated in Figure C405.2.3.2.
2. The secondary sidelit *daylight zone* is directly adjacent to the primary sidelit *daylight zone* and shall extend laterally to 2.0 times the height from the floor to the top of the fenestration or to the nearest full height wall whichever is less, and longitudinally from the edge of the fenestration to the nearest full height wall, or up to 2 feet whichever is less, as indicated in Figure C405.2.3.2. ~~If the adjacent primary sidelit zone ends at a full height wall, there is no secondary sidelit zone beyond the wall.~~ The area of secondary sidelit zones shall not be considered in the calculation of the daylight zones in Section C402.4.1.1.
3. The area of the fenestration is not less than 24 square feet (2.23 m^2).
4. The distance from the fenestration to any building or geological formation that would block access *to* daylight is greater than the height from the bottom of the fenestration to the top of the building or geologic formation.
5. The visible transmittance of the fenestration is not less than 0.20.

Committee Reason: The proposal increases energy savings from daylighting without having an impact on the envelope. The modifications offer clarification based on committee action on CE186, retain exception 4, and removes conflict with C402.4.1.1 with regard to window wall area ratio (Vote: 13-2).

Assembly Action: **None**

****CE239-19: Tables C406.1(2) through C406.1(5) did not display in the Report of the Committee Action****

CE239-19

Committee Action: **Approved as Modified**

Modify the proposal as follows:

C406.1 Additional energy efficiency credit ~~R~~requirements. ~~Buildings shall comply~~ New buildings shall achieve a total of 10 credits from Tables C406.1(1) through C406.1(5) where the table is selected based on the use group of the building and from credit calculations as specified in relevant subsections of C406. Where a building contains multiple use groups, credits from each use group shall be weighted by floor area of each group to determine the weighted average building credit. Credits from the tables or calculation shall be achieved where a building complies with one or more of the following:

1. More efficient HVAC performance in accordance with Section C406.2.
2. Reduced lighting power in accordance with Section C406.3.
3. Enhanced lighting controls in accordance with Section C406.4.
4. On-site supply of renewable energy in accordance with Section C406.5.
5. Provision of a dedicated outdoor air system for certain HVAC equipment in accordance with Section C406.6.
6. High-efficiency service water heating in accordance with Section C406.7.
7. Enhanced envelope performance in accordance with Section C406.8.
8. Reduced air infiltration in accordance with Section C406.9
9. Where not required by Section C403.2.3 ~~I~~include a fault detection and diagnostics (FDD) system in accordance with Section C406.10.

Table C406.1(1)
Additional Energy Efficiency Credits for Group B Occupancies

Climate Zone:	1A	1B	2A	2B	3A	3B	3C	4A	4B	4C	5A	5B	5C	6A	6B	7	8
C406.10 Fault Detection	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1

Table C406.1(2)
Additional Energy Efficiency Credits for Group R and I Occupancies

Climate Zone:	1A	1B	2A	2B	3A	3B	3C	4A	4B	4C	5A	5B	5C	6A	6B	7	8
C406.10 Fault Detection	1	1	1	1	1	1	NA	1	1	NA	1	1	NA	1	1	1	1

Table C406.1(3)
Additional Energy Efficiency Credits for Group E Occupancies

Climate Zone:	1A	1B	2A	2B	3A	3B	3C	4A	4B	4C	5A	5B	5C	6A	6B	7	8
C406.10 Fault Detection	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2

Table C406.1(4) Additional Energy Efficiency Credits for Group M Occupancies

Climate Zone:	1A	1B	2A	2B	3A	3B	3C	4A	4B	4C	5A	5B	5C	6A	6B	7	8
C406.10 Fault Detection	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	2	2

Table C406.1(5) Additional Energy Efficiency Credits for Other[a] Occupancies

Climate Zone:	1A	1B	2A	2B	3A	3B	3C	4A	4B	4C	5A	5B	5C	6A	6B	7	8
C406.10 Fault Detection	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1

[a]Other occupancy groups include all Groups except for Groups B, R, I, E, and M.

Committee Reason: This aligns with 218 14-0. This allows credit for this provision in those buildings that aren't required to have it. The modification provides alignment with CE218 (Vote 14-1).

Assembly Action: **None**

****CE264-19: Displaying Table C402.1.4 of CE69-19 to show the correct format. Table was incorrectly formatted in the Consolidated Monograph Updates****

CE264-19

Proponent: David Collins, representing The American Institute of Architects (dcollins@preview-group.com)

TABLE AX104.2
DEFAULT OFF-SITE RENEWABLE ENERGY PROCUREMENT METHODS, CLASSES, AND COEFFICIENTS

Class	*Procurement Factor (PF)*	*Procurement Options*	*Additional Requirements (see also XXX4.2.2)*
1	0.75	Community Solar	
		REIFs	Entity must be managed to prevent fraud or misuse of funds.
		Virtual PPA	
		Self-Owned Off-Site	Provisions shall prevent the generation from being sold separately from the building.
2	0.55	Green Retail Tariffs	The offering shall not include the purchase of unbundled RECs.
		Direct Access	The offering shall not include the purchase of unbundled RECs.
3	0.20	Unbundled RECs	The vintage of the RECs shall align with building energy use.