2009 International Energy Conservation Code Errata

(Portions of text and tables not shown are unaffected by the errata)

1st thru 10th PRINTING (Posted: September 13, 2012)

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502.4 Air leakage (Mandatory).

502.4.1 Window and door assemblies. The air leakage of window and sliding or swinging door assemblies that are part of the building envelope shall be determined in accordance with AAMA/WDMA/CSA 101/I.S.2/A440, or NFRC 400 by an accredited, independent laboratory, and *labeled* and certified by the manufacturer and shall not exceed the values in Section ~~402.4.2~~ 402.4.4.

Exception: Site-constructed windows and doors that are weatherstripped or sealed in accordance with Section 502.4.3.

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503.4.5 Requirements for complex mechanical systems serving multiple zones. Sections 503.4.5.1 through ~~503.4.5.3~~ 503.4.5.4 shall apply to complex mechanical systems serving multiple zones.

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503.2.3 HVAC equipment performance requirements. Equipment shall meet the minimum efficiency requirements of Tables 503.2.3(1), 503.2.3(2), 503.2.3(3), 503.2.3(4), 503.2.3(5), 503.2.3(6), ~~and~~ 503.2.3(7) and 503.2.3(8) when tested and rated in accordance with the applicable test procedure. The efficiency shall be verified through certification under an *approved* certification program or, if no certification program exists, the equipment efficiency ratings shall be supported by data furnished by the manufacturer. Where multiple rating conditions or performance requirements are provided, the equipment shall satisfy all stated requirements. Where components, such as indoor or outdoor coils, from different manufacturers are used, calculations and supporting data shall be furnished by the designer that demonstrates that the combined efficiency of the specified components meets the requirements herein.

(No change to remainder of section)

Posted 4/18/2011

TABLE 503.2.3(8)
PERFORMANCE REQUIREMENTS FOR HEAT REJECTION EQUIPMENT

EQUIPMENT TYPE	TOTAL SYSTEM HEAT REJECTION CAPACITY AT RATED CONDITIONS	SUBCATEGORY OR RATING CONDITION	PERFORMANCE REQUIRED[a,b]	TEST PROCEDURE[c]
Propeller or axial fan cooling towers	All	95°F entering water 85°F leaving water 75°F wb outdoor air	≥ 38.2 gpm/hp	CTI ATC-105 and CTI STD-201
Centrifugal fan cooling towers	All	95°F entering water 85°F leaving water 75°F wb outdoor air	≥ 20.0 gpm/hp	CTI ATC-105 and CTI STD-201
Air cooled condensers	All	125°F condensing temperature R-22 test fluid 190°F entering gas temperature 15°F subcooling 95°F entering db	≥ 176,000 Btu/h · hp (69 COP)	ARI 460

For SI: °C = [(°F) - 32] / 1.8, 1 British thermal unit per hour = 0.2931 W, 1 gallon per minute per horsepower = 0.846 L/s kW.
wb = wet-bulb temperature, °F

a. For purposes of this table, cooling tower performance is defined as the maximum flow rating of the tower units (gpm) divided by the fan nameplate rated motor power units (hp).
b. For purposes of this table, air-cooled condenser performance is defined as the heat rejected from the refrigerant units (Btu/h) divided by the fan nameplate rated motor power units (hp).
c. Chapter 6 contains a complete specification of the referenced test procedure, including the referenced year version of the test procedure.

(This table should be inserted after Table 503.2.3(7) on p. 48 of the 2009 IECC. This table is from 2006 IECC Table 503.2.3(11) and its title, data and footnotes remain unchanged.) Posted 4/18/2011

Table 502.2(1)
BUILDING ENVELOP REQUIREMENTS – OPAQUE ASSEMBLIES

CLIMATE ZONE	4 EXCEPT MARINE	
	All other	Group R
Walls, Above Grade		
Mass	R-9.5ci	R-11.4ci
Metal building[b]	R-169	R-19
Metal framed	R-13 + R-7.5ci	R-13 + R-7.5ci
Wood framed and other	R-13 + R-3.8ci	R-13 + R-3.8ci

(Portions of table not shown remain unchanged)
(For Climate Zone 4 Except Marine, "All other" column for Metal framed walls, above grade it should state R-13 + R-7.5 ci. The ci is missing) Posted 4/18/2011

TABLE 503.2.8
MINIMUM PIPE INSULATION
(thickness in inches)

(No change to table)

For SI: 1 inch = 25.4 mm.

a. Based on insulation having a conductivity (k) not exceeding 0.27 Btu per inch/h · ft2 · °F.

b. For insulation with a thermal conductivity not equal to 0.27Btu · inch/h · ft2 · °F at amean temperature of 75°F, theminimum required pipe thickness is adjusted using the following equation;

~~$T = r[(1+t/r)^{K/k} - 1]$~~
$T = r[(1 + t/r)^{K/k} - 1]$

where:

T = Adjusted insulation thickness (in).
r = Actual pipe radius (in).
t = Insulation thickness from applicable cell in table (in).
K = New thermal conductivity at 75°F (Btu · in/hr · ft^2 · °F).
k = 0.27 Btu · in/hr · ft^2 · °F.

(The formula for $T = r[(1 + tlr)^{K/k} - 1]$ is incorrect as it should be written: $T = r[(1 + t/r)^{K/k} - 1]$. t is divided by r, there is no "l") Posted 4/18/2011

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502.2.5 Floors, over outdoor air or unconditioned space. The minimum thermal resistance (R-value) of the insulating material installed either between the floor framing or continuously on the floor assembly shall be as specified in Table 502.2(1), based on construction materials used in the floor assembly.

"Mass floors" shall include floors weighing at least (1) 35 pounds per square foot (170 kg/m²) of floor surface area or (2) 25 pounds per square foot (120 kg/m²) of floor surface area if the material weight is not more than 120 pounds per cubic foot (1,900 kg/m³).

(Add "120"). Posted 7/06/2010

503.4.7 Hot gas bypass limitation. Cooling systems shall not use hot gas bypass or other evaporator pressure control systems unless the system is designed with multiple steps of unloading or continuous capacity modulation. The capacity of the hot gas bypass shall be limited as indicated in Table 503.4.7.

Exception: Unitary packaged systems with cooling capacities not greater than 90,000 Btu/h (26 379 W).

(Change Table 502.4.4 to Table 503.4.7) Posted 7/06/2010

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TABLE 502.1.2
BUILDING ENVELOPE REQUIREMENTS OPAQUE ELEMENT, MAXIMUM U-FACTORS

CLIMATE ZONE	1		4 EXCEPT MARINE		5 AND MARINE 4	
	All other	Group R	All other	Group R	All other	Group R
Walls, Above Grade						
Mass	~~U-0.058~~ U-0.58	U-0.151	U-0.104	~~U-0.90~~ U-0.090	~~U-0.90~~ U-0.080	U-0.80
Metal building	U-0.093	U-0.093	U-0.084	U-0.084	U-0.069	U-0.069
Metal framed	U-0.124	U-0.124	U-0.064	U-0.064	U-0.064	U-0.064
Wood framed and other	U-0.089	U-0.089	U-0.089	U-0.064	U-0.064	U-0.051
Slab-on-Grade Floors						
Unheated slabs	F-0.730	F-0.730	F-0.730	F-0.540	F-0.730	F-0.540
Heated slabs	F-1.020	F-1.020	— F-0.860	F-0.860	F-0.860	F-0.860

(Portions of Table not shown remain unchanged.
Mass: *Under Climate Zone 1, change U-0.058 to U-0.58. Under Climate Zone 4, change U-0.90 to U-0.090. Under Climate Zone 5 and 4, change U-0.80 to U-0.080.* ***Heated slabs:*** *Under Climate Zone 4, change – to F-0.860) Posted 1/28/2010*

TABLE 502.2(1)
BUILDING ENVELOPE REQUIREMENTS – OPAQUE ASSEMBLIES

CLIMATE ZONE	1		2		4 EXCEPT MARINE		5 AND MARINE 4		6	
	All other	Group R	All other	Group R	All other	Group R	All other	Group R	All other	Group R
	Walls, Above Grade									
Wood framed and other	R-13	R-13	R-13	R-13	R-13	R-13 + R-3.8ci	R-13 + R-3.8ci	R-13 + R-3.8ci	R-13 + R-7.5ci	R-13 + R-7.5ci

(Portions of Table not shown remain unchanged. In Climate Zone 5 add "ci" to column Group R. In Climate Zone 6 add "ci" to columns All Other & Group R) Posted 1/28/2010

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~~**TABLE 505.6.2**~~
~~**LIGHTING POWER DENSITIES FOR BUILDING EXTERIORS**~~

(Delete Table 505.6.2) Posted 6/7/2011

506.5.2
THERMAL BLOCKS
The *standard reference design* and *proposed design* shall be analyzed using identical thermal blocks as required in Section ~~506.5.1.1~~ 506.5.2.1, ~~506.2.2~~ 506.5.2.2 or 506.5.2.3.

(Change Section 506.5.1.1 to 506.5.2.1 and Section 506.2.2 to Section 506.5.2.2) Posted 5/14/2009

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TABLE 502.2(1)
BUILDING ENVELOPE REQUIREMENTS – OPAQUE ASSEMBLIES

CLIMATE ZONE	1		2		4 EXCEPT MARINE		5 AND MARINE 4		6	
	All other	Group R	All other	Group R	All other	Group R	All other	Group R	All other	Group R
	Walls, Above Grade									
Mass	NR	R-5.7ci[c]	R-5.7ci[c]	R-7.6ci	R-9.5ci[c]	R-11.4ci			R-13.3ci	R-15.2ci
Metal framed	R-13	R-13	R-13 + R-7.5	R-13 + 7.5ci	R-13 + R-7.5	R-13 + R-7.5ci			R-13 + R-7.5ci	R-13 + R-7.5ci
Wood framed and other	R-13	R-13	R-13	R-13	R-13	R-13 + R-3.8ci	R-13 + R-3.8ci	R-13 + R-3.8	R-13 + R-7.5	R-13 + R-7.5
	Walls, Below Grade									
Below grade wall[d]									~~NR~~ R-7.5ci	R-7.5ci

(Portions of table not shown remain unchanged. Add note c under Climate Zone 1, Walls, Above Grade, "Group R" and also Climate Zone 2, Walls Above Grade, "All other." Delete note c under Climate Zone 4, Walls, Above Grade, "All other." Delete "NR" under Climate Zone 6, Walls, Below Grade, "All other.") Posted 3/11/2009

TABLE 502.3
BUILDING ENVELOPE REQUIREMENTS: FENESTRATION

CLIMATE ZONE	1
Metal framing with or without thermal break	
Curtain wall/storefront *U*-factor	~~1.0~~ 1.2

(Portions of table not shown remain unchanged. Under Climate Zone 1, Metal framing with or without thermal break, Curtain wall/storefront U-factor, change 1.0 to read 1.2) Posted 3/11/2009