

**ERRATA SHEET FOR THE FIRST PRINTING 12/04, REPRINT 3/05,  
REPRINT 1/06, AND REPRINT 2/09 OF  
ANSI/ASHRAE/IESNA STANDARD 90.1-2004 (I-P edition)  
Energy Standard for Buildings Except Low-Rise Residential Buildings**

**August 27, 2009**

The corrections listed in this errata sheet apply to the first printing and subsequent reprints of ANSI/ASHRAE/IESNA Standard 90.1-2004, I-P edition, identified on the outside back cover of the standard as “86243 PC 12/04” for the first printing, “86243 PC 3/05” for the first reprint, “86243 PC 1/06 Errata noted in the list dated 11/29/05 have been corrected.” for the second reprint, and “Product Code: 86243 2/09 Errata noted in the list dated 9/22/08 have been corrected.” for the third reprint. The shaded item has been added since the previously published errata sheet dated March 25, 2009 was distributed and applies to all editions of the standard. Items identified with an asterisk “\*” have already been incorporated into the 1/06 reprint and do not apply to that edition. Only the items identified with a double asterisk “\*\*” apply to the 2/09 reprint; all other errata have been incorporated into the 2/09 reprint.

**More than one errata sheet may be required for a specific document. Please review the entire list on the ASHRAE website related to the applicable document and download all that apply.**

**NOTICE:** ASHRAE now has a list server for Standing Standards Project Committee 90.1 (SSPC 90.1). Interested parties can now subscribe and unsubscribe to the list server and be automatically notified via e-mail when activities and information related to the Standard and the User’s Manual is available. To sign up for the list server please visit **Project Committee List Servers for Standard** on the Technology / Standards section of the ASHRAE website at <http://www.ashrae.org/publications/detail/15620>.

**Page(s)    Erratum**

11\*\*    **Section 3.2 Definitions.** On page 11 delete the following definition:

*rated lamp wattage: see lamp wattage, rated.*

Note: the standard does not include a definition for *lamp wattage, rated* and this term is not used in the standard.

15    **Section 3.3 Abbreviations and Acronyms.** Change CTI from “Cooling Tower Institute” to “Cooling Technology Institute”.

17\*    **Section 5. Building Envelope.** In the compliance path figure at the beginning of Section 5 correct the spelling of prescriptive so it reads “5.5 – Prescriptive Path”.

19\*    **Table 5.5.3.1.** Change the title of Table 5.5.3.1 as follows:  
(Note: Additions are shown in underline and deletions are shown in strikethrough.)

**Roof U-Factor Multipliers for Exception to ~~5.5.4.1~~ 5.5.3.1**

19\*\*    **5.5.3.3 Below-Grade Wall Insulation.** Change the first sentence in Section 5.5.3.3

as follows:

(Note: Additions are shown in underline and deletions are shown in ~~strikethrough~~.)

**5.5.3.3 Below-Grade Wall Insulation.** *Below-grade walls shall have a rated R-value of insulation ~~no~~ not less than that the insulation values specified in Tables 5.5-1 through 5.5-8.*

22 **TABLES 5.5-1 through 5.5-8 Building Envelope Requirements.** Add a footnote to through the bottom of Tables 5.5-1 through 5.5-8 as follows:

30\* “The following definitions apply: ci = continuous insulation (see Section 3.2), NR = no (insulation) requirement.”

24\* **TABLE 5.5-3 Building Envelope Requirements for Climate Zone 3 (A, B, C).** In footnote “b” of Table 5.5-3 change “non-residential” to “nonresidential”.

30\* **TABLE 5.5-8 Building Envelope Requirements for Climate Zone 8.** Change footnote “a” of Table 5.5-8 from “Exception 5.3.1.2a applies.” to read “Exception to A3.1.3.1 applies.”

32\* **TABLE 6.3.2 Eliminate Required Economizer by Increasing Cooling Efficiency.** Under the headings “Unitary Systems with Heat Pump Heating” and “Other Unitary Systems” change “ $\leq 240$ ” to “ $< 240$ ” and “ $> 240$ ” to “ $\geq 240$ ” so the system sizes read as follows (all other table data remains the same):

System Size (kBtu/h)
$\geq 65$ and $< 135$
$\geq 135$ and $< 240$
$\geq 240$ and $< 760$

34 & **Section 6.4.3.2 (a) Off-Hour Controls.** Change **Section 6.4.3.2 (a) Off-Hour Controls** to **Section 6.4.3.3 Off-Hour Controls** and renumber the remainder of Section 6.4.3 as follows:

(Note: Text not shown will remain the same except as shown below in underline(addition) and ~~strikethrough~~ (deletion))

**6.4.3.2 Setpoint Overlap Restriction.**

~~(a)~~**6.4.3.3 Off-Hour Controls.** HVAC systems shall have the offhour controls required by Sections 6.4.3.~~23~~.1 through 6.4.3.~~23~~.4.

**Exceptions to 6.4.3.~~23~~:**

**6.4.3.~~23~~.1 Automatic Shutdown.**

**Exception to 6.4.3.~~23~~.1:**

**6.4.3.~~23~~.2 Setback Controls.**

**Exception to 6.4.3.~~23~~.2:**

**6.4.3.23.3 Optimum Start Controls.**

**6.4.3.23.4 Zone Isolation.** ...Each isolation area shall be controlled independently by a device meeting the requirements of 6.4.3.23.1 (Automatic Shutdown)....

**Exceptions to 6.4.3.23.4:**

**6.4.3.34 Ventilation System Controls.**

**6.4.3.34.1 Stair and Shaft Vents.**

**6.4.3.34.2 Gravity Hoods, Vents, and Ventilators.**

**Exceptions to 6.4.3.34.1 and 6.4.3.34.2:**

**6.4.3.34.3 Shutoff Damper Controls.**

**Exceptions to 6.4.3.34.3:**

**6.4.3.34.4 Dampers.** Where *outdoor air* supply and exhaust air dampers are required by Section 6.4.3.34, they shall have a maximum leakage rate when tested in accordance with AMCA Standard 500 as indicated in Table 6.4.3.34.4.

**TABLE 6.4.3.34.4 Maximum Damper Leakage**

**6.4.3.34.5 Ventilation Fan Controls.** Fans with motors greater than ¼ hp (0.5 kW) shall have automatic controls complying with Section 6.4.3.23.1 that are capable of shutting off fans when not required.

**Exception to 6.4.3.34.5:**

**6.4.3.45 Heat Pump Auxiliary Heat Control.**

**Exception to 6.4.3.45:**

**6.4.3.56 Humidifier Preheat.**

**6.4.3.67 Humidification and Dehumidification.**

**Exceptions to 6.4.3.67:**

**6.4.3.78 Freeze Protection and Snow/Ice Melting Systems.**

**6.4.3.89 Ventilation Controls for High-Occupancy Areas.**

**Exception to 6.4.3.89:**

43 and 44\* **TABLE 6.8.1A Air Conditioners and Condensing Units.** Change the title of Table 6.8.1A from “Air Conditioners and Condensing Units” to “Electronically Operated Unitary Air Conditioners and Condensing Units – Minimum Efficiency Requirements”.

52 **TABLE 6.8.1I.** Change the title of Table 6.8.1I to read as follows:

**TABLE 6.8.1I Minimum Efficiencies for Centrifugal Chillers ≥150 tons, <300 tons**

**Centrifugal Chillers ≥150 tons, <300 tons**  
**COP<sub>std</sub> = 5.55; IPLV<sub>std</sub> = 5.90**

53 **TABLE 6.8.1J.** Change the title of Table 6.8.1J to read as follows:

**TABLE 6.8.1J Minimum Efficiencies for Centrifugal Chillers  $\geq 300$  tons**  
**Centrifugal Chillers  $\geq 300$  tons**  
**COP<sub>std</sub>= 6.10; IPLV<sub>std</sub>=6.40**

66\* **Table 9.6.1 (continued) Lighting Power Densities Using the Space-by-Space Method.** In the second column, for the Building Specific Space Type “Retail”, change the referenced section as follows:  
*(Note: Additions are shown in underline and deletions are shown in strikethrough.)*

Retail [For accent lighting, see ~~9.3.1.2.1(e)~~ 9.6.3(c)]

67 **Table 10.8 Minimum Nominal Efficiency for General Purpose Design A and Design B Motors.** For a Motor Horsepower of “3” change the Minimum Nominal Full-Load Efficiency (%) from “85.5” to “86.5” for an Open Motor with 6 Poles and a Synchronous Speed of 1200 RPM.

78 **Section 12 Normative References.** Change the address for the Cooling Technology Institute as follows:  
*(Note: Additions are shown in underline and deletions are shown in strikethrough.)*

**Cooling Technology Institute,**  
~~530 Wells Fargo, Suite 218, Houston, TX 77090-2611~~ **FM 1960 West, Suite A-101, Houston, TX 77068-3730; P.O. Box 73383, Houston, TX 77273-3383**

92 **A3.3.1 General. (Steel-Framed Walls)** In the fourth sentence of Section A3.3.1 change “Table A-21” to “Table A9.2B”.

118 **Table B-3 International Climate Zones.** Inadvertent omission of the climate zones for New Zealand. Insert the following climate zone numbers as published in Addendum “am” to 90.1-2001:

<b>Country</b>	<b>City (Providence or Region)</b>	<b>Zone</b>
New Zealand	Auckland Airport	4
	Christchurch	4
	Wellington	4

130\* **Normative Appendix D Climatic Data.** At the top of the page delete the second sentence that reads “Table numbers corresponding to the envelope criteria tables in Normative Appendix B are also included.”

168\* **Table F-2 Addenda to ANSI/ASHRAE/IESNA Standard 90.1-2001, Approval Dates.** In the third and fourth columns for Addenda q, t, u, y, z, aa, ab, ac, ae, ag, ah, ai, al, and am change the July 1, 2001 date to July 1, 2004 (14 places in each of the two columns).