

ERRATA SHEET FOR
ANSI/ASHRAE/ICC/USGBC/IES STANDARD 189.1-2023
Standard for the Design of High-Performance Green Buildings Except Low-Rise Residential Buildings

July 22, 2024

The corrections listed in this errata sheet apply to ANSI/ASHRAE/ICC/USGBC/IES Standard 189.1-2023. The first printing is identified on the outside back cover as “Product code:86900 11/23”. Shaded items have been added since the previously published errata sheet dated March 19, 2024 was distributed.

Page Errata

27 Table 6.3.2.3 Recirculating Water Properties for Open-Circuit Cooling-Tower Construction.

Revise Table 6.3.2.3 as shown below.

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

Recirculating Water Parameters	Maximum Value
Conductivity (micro-ohms <u>μS/cm</u>)-	3300
Total dissolved solids (ppm)	2050
..	

36 Table 7.4.1.1 Renewable Energy Requirement

Revise Table 7.4.1.1 as shown below.

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

Building Type	<u>Standard Renewables Approach</u>	
	kBtu/ft²·y	kWh/m²·y
Office	14	44
Retail	24	74
School	19	61
Health care	40	126
Restaurant	40	126
Hotel	34	108
Apartment	22	68
Warehouse	8	26
All others	25	80

37 Table 7.4.1.2 Multipliers for Renewable Energy Procurement Methods.

Revise Table 7.4.1.2 as shown below.

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

Location	Renewable Energy Source	Renewable Energy Factor
On-site	<i>On-site renewable energy system</i>	1.00
Off-site	Off-site renewable energy system owned by the <i>building project owner</i>	0.75
	<u>Community renewable energy facility</u>	0.75

	<u>Community renewable energy facility</u>	
	<i>Financial renewable power purchase agreement</i>	0.75
	<i>Physical renewable power purchase agreement</i>	0.75

77 Section 9.5.1 Reduced Impact Materials. Revise Section 9.5.1 as shown below.

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

9.5.1 Reduced Impact Materials. The *building project* shall comply with any one two of the following: Sections 9.5.1.1, 9.5.1.2, 9.5.1.3, or 9.5.1.4. Calculations shall only include materials *permanently installed* in the project. A value of 45% of the total construction cost shall be permitted to be used in lieu of the actual total cost of materials.

81 Section 10.3.1.2 Activities Prior to Building Permit for Facilities Using the FPT Process.

Revise Section 10.3.1.2 as shown below.

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

10.3.1.2 Activities Prior to Building Permit for Facilities Using the FPT Process. The following activities shall be completed before a permit is issued for any system requiring *FPT*:

- a. Designate *FPT providers*. For systems that are required to comply with Section 10.3.1, *FPT providers* shall be *owner's* qualified employees, independent *commissioning (Cx) providers*, or qualified designers experienced with *FPT* on the designated systems. *FPT providers* shall be independent of the building system *design and construction function* and shall possess ~~possesses~~ the necessary experience and testing equipment.

86 Section 10.9.5 Moisture Measurement.

Revise Section 10.9.5 (a) as shown below.

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

10.9.5 Moisture Measurement. The plan for operation shall document procedures for implementing a regular humidity sensor monitoring program after building occupancy. Such procedures shall include provisions for the following: For systems complying with Section 8.3.6 ~~8.3.1.4~~, using relative humidity sensors to determine *HVAC zone* relative humidity directly, or using dew-point and zone temperature sensors to determine *HVAC zone* relative humidity indirectly, the relative humidity determined shall be checked annually and compared to the relative humidity established using methods described in ASHRAE Standard 111.

141 **Informative Appendix E: Table E-8 Example Building Envelope Compliance Values for Climate Zone 8 (SI)**

Revise Assembly Max. U value for Fenestration of All Types in Table E-8 as shown below.

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

Opaque Elements	Nonresidential			Residential			Semiheated		
	Assembly Maximum	Insulation Min. R-Value**		Assembly Maximum	Insulation Min. R-Value**		Assembly Maximum	Insulation Min. R-Value**	
<i>Roofs</i>									
Insulation entirely above deck	U-0.151	R-7.0 c.i.		U-0.151	R-7.0 c.i.		U-0.210	R-4.6 c.i.	
....				...	...		...	...	
Fenestration	Assembly	Assembly	Assembly Min.	Assembly	Assembly	Assemb	Assembly	Assembly	Assembly
	Max. U	Max. SHGC	VT/SHGC	Max. U	ly Max. SHGC	Min. VT/SHG	Max. U	SHGC	VT/SHGC
Vertical glazing, 0% to 40% of wall									
Fixed	U-1.40	E&W-0.38, S-0.40, N-0.50	1.10 (for all types)	U-1.40	E&W-0.38, S-0.40, N-0.50	1.10 (for all types)	U-1.94	NR (for all types)	NR (for all types)
Operable	U-1.73	E&W-0.34, S-0.36, N-0.46		U-1.73	E&W-0.34, S-0.36, N-0.46		U-2.37		
Entrance door	U-3.40	E&W-0.34, S-0.36, N-0.46		U-3.40	E&W-0.34, S-0.36, N-0.46		U-3.40		
<i>Skylight, 0% to 3% of roof</i>									
All types	U-2.21	NR	NR	U-2.21	NR	NR	U-4.04 U-404	NR	NR

95- Normative References

Revise Normative References

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

Reference	Title	Section
<u>Cool Cooling</u> Roof Rating Council (CRRC) 2435 Lombard St., Portland, OR 97217 1-866-465-2523 www.coolroofs.org		
ANSI/CRRC S100-2021	Standard Test Methods for Determining Radiative Properties of Materials	5.3.5.4

97- Normative References

Revise Normative References

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

Reference	Title	Section
National Fenestration Rating Council (NFRC) 6305 Ivy Lane, Suite 140, Greenbelt, MD 20770-6323 1-301-589-1776; www.nfrc.org		
ANSI/NFRC 200-2020	Procedure for Determining Fenestration Product Solar Heat Gain <u>Coefficient</u> Coefficients and Visible Transmittance at Normal Incidence	3.2

98- Normative References

Revise Normative References

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

Reference	Title	Section
Pool and Hot Tub Alliance (formerly The Association of Pool and Spa Professionals) 211 Eisenhower Ave., Suite 500 Alexandria, VA 22314-4679 (703) 838-0083		
APSP/ICC-14-201 <u>9</u>	Portable Electric Spa Energy Efficiency	7.4.4.2

171 – Informative References

Revise Informative References

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

Reference	Title	Section
National Renewable Energy Laboratory (NREL) 1617 Cole Blvd. Golden, CO 80401-3393, United States 1-303-275-3000; www.nrel.gov		
NREL/RP-550-38617	Source Energy and Emissions <u>Factors</u> for Energy Use in Buildings	7.4.4.2