

**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	Standard Renewables Approach	
	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	<i>Off-site renewable energy system owned by the building project owner</i>	0.75
	<u>Community renewable energy facility</u>	0.75

	<u>Community renewable energy facility</u>	
	Financial renewable power purchase agreement	0.75
	Physical renewable power purchase agreement	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**	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 Max. U	Assembly Max. SHGC	Assembly Min. VT/SHGC	Assembly Max. U	Assembly ly Max. SHGC	Assemb Min. VT/SHG C	Assembly Max. U	Assembly Max. SHGC	Assembly Min. VT/SHGC
<i>Vertical glazing, 0% to 40% of wall</i>									
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>U-4.04</u> U-4.04	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> <u>Coefficients</u> 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>s</u> Factors for Energy Use in Buildings	7.4.4.2