

ADDENDA

**ANSI/ASHRAE/ASHE Addendum b to
ANSI/ASHRAE/ASHE Standard 189.3-2017**

Design, Construction, and Operation of Sustainable High-Performance Health Care Facilities

Approved by ASHRAE and the American National Standards Institute on December 30, 2020, and by the American Society for Healthcare Engineering on December 3, 2020.

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ISSN 1041-2336



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FOREWORD

Addendum b to ASHRAE/ASHE Standard 189.3 includes the following significant changes:

- In Section 3, “Definitions, Abbreviations, and Acronyms,” revised definition for “residential health facility” added specialized outpatient facility based on coordination with the Facility Guidelines Institute (FGI)
- In Section 7, “Energy Efficiency,” updated Mandatory Provisions language, provided an exception in the On-Site Renewable Energy Systems section, added an exception to Fault Detection and Diagnostics, updated Prescriptive Option language, added new Table 7.4.1.1 addressing Renewable Energy Requirement, and modified Performance Option language and exceptions to Annual Energy Cost and Annual Carbon Dioxide Equivalent (CO₂e)
- In Section 8, “Indoor Environmental Quality (IEQ),” provided an informative note for Section 8.3.1.2, “Outdoor Air Delivery Monitoring”
- In Section 10, “Construction and Plans for Operation,” added an exception related to indoor environmental quality
- Additional building types added to align with Table 7.4.1.1 building types; updated the Building Performance Factor for all building types to coordinate with ANSI/ASHRAE/IES Standard 90.1-2019

Note: Future editions of the standard will incorporate the section numbering of ASHRAE Standard 189.1 and the related International Green Construction Code. For example, “Mandatory Provisions” in Section 6 will be titled **6.3 (601.3), “Mandatory Provisions.”**

Note: In this addendum, changes to the current standard are indicated in the text by underlining (for additions) and ~~strike through~~ (for deletions) unless the instructions specifically mention some other means of indicating the changes.

Addendum b to Standard 189.3-2017

Modify Section 3.2 as shown. The remainder of Section 3.2 is unchanged.

3.2 Definitions

[...]

residential health ~~care~~ facility: a facility, building, or portion of a building that provides housing and services for a nursing home or hospice for a resident or group of residents.

[...]

specialized outpatient facility: any of the following facility types: outpatient surgical, endoscopy, infusion, renal dialysis, freestanding emergency departments, and imaging facilities with Class 2 and Class 3 imaging rooms.

Modify Section 4.2 as shown. The remainder of Section 4.2 is unchanged. Renumber all subsequent subsections accordingly.

4.2 Requirements Determined by Jurisdiction. Jurisdictions shall comply with ANSI/ASHRAE/USGBC/IES Standard 189.1-2017, Section 4.2, and Addendum r to ANSI/ASHRAE/USGBC/IES Standard 189.1-2017.

Modify Section 6.3.2.3 as shown. The remainder of Section 6.3.2.3 is unchanged.

6.3.2.3 HVAC Systems and Equipment

Exception to 6.3.2.3(~~d~~): Air-conditioning units greater than 65,000 Btu/h (19 kW) with a sensible heat ratio of 0.80 or greater.

Modify Section 7 as shown. The remainder of Section 7 is unchanged.

7. ENERGY EFFICIENCY

[...]

7.3 Mandatory Provisions. When a requirement is provided below, it supersedes the requirement in Standard 189.1. For all other criteria, the building project shall comply with the requirements of Standard 189.1.

~~7.3.1 General.~~ Building projects shall be designed to comply with Sections 5.4, 6.4, 7.4, 8.4, 9.4, and 10.4 of Standard 90.1.

~~7.3.4 Peak Load Reduction.~~ ~~Automated Demand Response.~~ Peak load reduction capabilities of Standard 189.1 shall not be required.

7.3.5 Fault Detection and Diagnostics (FDD)

Exceptions to 7.3.5:

6. Exam rooms, treatment rooms, patient rooms, and resident rooms in healthcare facilities.

7.4 Prescriptive Option. When a requirement is provided below, it supersedes the requirement in Standard 189.1. For all other criteria, the building project shall comply with the requirements of Standard 189.1.

~~7.4.1 General Comprehensive Prescriptive Requirements.~~ When a requirement is provided below, it supersedes the requirement in Standard 189.1. For all other criteria, the building project shall comply with the requirements of Standard 189.1.

[...]

~~7.4.3.45 Zone Controls.~~ Zone controls shall be provided in accordance with Section 6.5.2.1 of Standard 90.1.

~~Exception to 7.4.3.45:~~ Ventilation as required to comply with Standard 170.

~~7.4.53.36.1 Fan System Power Limitation.~~ Systems shall have fan power limitations as specified in Standard 90.1, Section 6.5.3.1.

~~7.4.3.67 Exhaust Air Energy Recovery.~~ Each fan system shall have an energy recovery system when the system's supply airflow rate exceeds the value listed in Standard 90.1, Table 6.5.6.1.

~~Exception to 7.4.3.67:~~ Exhaust air energy recovery shall not be required for systems or portions thereof that handle hazardous exhaust air, as defined in Standard 170, Section 6.3.2.

[...]

7.5 Performance Option

7.5.1 Annual Energy Cost

a. ~~For a new building project, the proposed building performance cost index shall be determined in accordance with~~ Follow Standard 189.1, Section 7.5.1, "Annual Energy Cost" ~~with the baseline except that building performance factor (BPF) shall be taken from Table 7.5.2A.1, below.~~

b. ~~Exception to 7.5.1:~~ For a major renovation, addition, or alteration building project, as defined by Section 4.2, that is not served in whole or in part by a district energy plant, calculate proposed building performance in accordance with ANSI/ASHRAE/IES Standard 90.1, Normative Appendix G, and Standard 189.3, the building project shall have an annual energy cost equal to or less than that achieved by compliance with the applicable Sections 6.3, 7.3, 7.4, and 8.3, which shall supersede Standard 90.1, Normative Appendix G requirements as defined by Section 4.2.

e. Comparisons shall be made using Standard 90.1, Normative Appendix G.

~~7.5.2~~ For a new building project, demonstrate that the proposed design shall have an annual CO₂e is equal to or less than the annual CO₂e of the baseline building performance rating. The proposed design shall have an annual CO₂e equal to or less than the annual CO₂e of the baseline building design multiplied by one minus the percentage reduction in the building performance factor target determined from Table 7.5.2A using the performance rating method in Standard 90.1, Normative Appendix G. To determine the annual CO₂e for each energy source in the baseline building design and proposed design, the energy consumption shall be multiplied by the CO₂e emission factors from Standard 189.1, Table 7.5.2B.

Table 7.4.1.1 Renewable Energy Requirement

Building Type	Standard Renewables Approach		Alternate Renewables Approach	
	kBtu/ft ² -year	kW/m ² -year	kBtu/ft ² -year	kW/m ² -year
Hospital	40	126	36	113
Residential health facility ^a	22	68	20	62
Specialized outpatient facility	38	120	34	107
General outpatient facility	14	44	13	40

a. **Exception:** Applicable for new construction only.

Table 7.5.12A Energy Cost and CO₂e-Building Performance Factors (BPF)

Building Area Type	Climate Zone																
	0A and 1A	0B and 1B	2A	2B	3A	3B	3C	4A	4B	4C	5A	5B	5C	6A	6B	7	8
Healthcare/Hospital	0.64 0.60	0.56 0.60	0.60 0.58	0.56 0.54	0.60 0.56	0.56 0.55	0.54 0.55	0.57 0.55	0.53 0.54	0.55 0.54	0.59 0.57	0.52	0.55 0.54	0.57	0.52	0.56 0.57	0.56 0.57
Residential Healthcare facility	0.73 0.68	0.73 0.70	0.71 0.66	0.69 0.66	0.74 0.69	0.73 0.68	0.68 0.59	0.78 0.74	0.81 0.76	0.81 0.74	0.76 0.70	0.80 0.73	0.81 0.75	0.76 0.68	0.79 0.71	0.74 0.68	0.80 0.72
Specialized outpatient facility	0.60	0.60	0.58	0.54	0.56	0.55	0.55	0.55	0.54	0.54	0.57	0.52	0.54	0.57	0.52	0.57	0.57
General outpatient facility	0.52	0.57	0.50	0.56	0.53	0.56	0.48	0.51	0.52	0.49	0.51	0.51	0.49	0.52	0.51	0.49	0.51

7.5.2 Annual Carbon Dioxide Equivalent (CO₂e). Follow Standard 189.1, Section 7.5.2, “Annual Carbon Dioxide Equivalent (CO₂e),” except that PCI target shall be determined in accordance with Standard 189.3, Section 7.5.1, “Annual Energy Cost.”

Exception to 7.5.2.: A major renovation, addition, or alteration building project, as defined by Section 4.2.

7.5.3 Zero Energy Performance Index

Exception to 7.5.3: A major renovation, addition, or alteration building project, as defined by Section 4.2.

Modify Section 8 as shown. The remainder of Section 8 is unchanged.

8. INDOOR ENVIRONMENTAL QUALITY (IEQ)

[...]

Exceptions to 8.3.1.2.2:

2. Dedicated outdoor air-conditioning units and direct-expansion-based air-conditioning units serving a residential health care facility delivering a constant rate of conditioned ventilation air. (*Informative Note:* The unnumbered exception to Section 8.3.1.2.2 in Standard 189.1 also applies and for the purpose of this document is considered Exception 1.)

[...]

Exception to 8.3.1.10:

2. All rooms in hospitals. All rooms in health care occupancies subject to automatic control of HVAC and lighting as required in Sections 7 and 8. (*Informative Note:* The unnumbered exception to Section 8.3.1.710 in Standard 189.1 also applies and for the purpose of this document is considered Exception 1.)

[. . .]

8.4 Prescriptive Option

8.4.42 Materials

8.4.42.1 Adhesives and Sealants

8.4.42.1.1 Emissions Requirements. Emissions shall be tested in accordance with CDPH/EHLB Standard Method VI.1 and shall meet the limit requirements therein. The determination of emissions shall be based on the minimum room volume, clear floor area, natural light, and window-area-to-floor-area ratio of a private patient room as prescribed in the FGI *Guidelines for Design and Construction of ~~Healthcare Facilities~~ Hospitals, Guidelines for Design and Construction of Outpatient Facilities*, or a resident room as prescribed in the FGI *Guidelines for Design and Construction of Residential Health, Care, and Support Facilities*, and provided outdoor air at a rate of 2.0 ach based on Standard 170, Table 7.1.

8.4.42.2 Paints and Coating

8.4.42.2.1 Emissions Requirements. Emissions shall be tested in accordance with CDPH/EHLB Standard Method VI.1 and shall meet the limit requirements therein. The determination of emissions shall be based on the minimum room volume clear floor area, natural light, and window-area-to-floor-area ratio of a private patient room as prescribed in the FGI *Guidelines for Design and Construction of ~~Healthcare Facilities~~ Hospitals, Guidelines for Design and Construction of Outpatient Facilities*, or a resident room as prescribed in the FGI *Guidelines for Design and Construction of Residential Health, Care, and Support Facilities*, and provided outdoor air at a rate of 2.0 ach based on Standard 170, Table 7.1.

8.4.42.3 Floor Covering Materials

8.4.42.3.1 Emissions Requirements. Emissions shall be tested in accordance with CDPH/EHLB Standard Method VI.1 and shall meet the limit requirements therein. The determination of emissions shall be based on the minimum room volume clear floor area, natural light, and window-area-to-floor-area ratio of a private patient room as prescribed in the FGI *Guidelines for Design and Construction of ~~Healthcare Facilities~~ Hospitals, Guidelines for Design and Construction of Outpatient Facilities*, or a resident room as prescribed in the FGI *Guidelines for Design and Construction of Residential Health, Care, and Support Facilities*, and provided outdoor air at a rate of 2.0 ach based on Standard 170, Table 7.1.

8.4.42.5 Furniture Systems and Seating

8.4.42.5.1 Office Furniture

8.4.42.5.2 Patient Room Furniture

8.4.42.5.2.1 Emission Requirements. Emissions shall be tested in accordance with CDPH/EHLB Standard Method VI.1 and shall meet the limit requirements therein. The determination of emissions shall meet the limit requirements therein. The determination of emissions shall be based on the minimum room volume, clear floor area, natural light, and window-area-to-floor-area ratio of a private patient room as prescribed in the FGI *Guidelines for Design and Construction of ~~Healthcare Facilities~~ Hospitals, Guidelines for Design and Construction of Outpatient Facilities*, or a resident room as prescribed in the FGI *Guidelines for Design and Construction of Residential Health, Care, and Support Facilities*, and provided outdoor air at a rate of 2.0 ach based on Standard 170, Table 7.1.

8.4.42.6 Ceiling and Wall Assemblies and Systems

8.4.42.6.1 Emission Requirements. Emissions shall be tested in accordance with CDPH/EHLB Standard Method VI.1 and shall meet the limit requirements therein. The determination of emissions shall meet the limit requirements therein. The determination of emissions shall be based on the minimum room volume, clear floor area, natural light, and window-area-to-floor-area ratio of a private patient room as prescribed in the FGI *Guidelines for Design and Construction of ~~Healthcare Facilities~~ Hospitals, Guidelines for Design and Construction of Outpatient Facilities*, or a resident room as prescribed in the FGI *Guidelines for Design and Construction of Residential Health, Care, and Support Facilities*, and provided outdoor air at a rate of 2.0 ach based on Standard 170, Table 7.1.

[. . .]

Modify Section 10 as shown. The remainder of Section 10 is unchanged.

10. INDOOR ENVIRONMENTAL QUALITY (IEQ)

[. . .]

10.3 Mandatory Provisions

10.3.1.2 Building Project Commissioning (Cx) Process. Commissioning shall comply with the provisions of Standard 189.1. See Informative Appendix J, Section J3, for additional information.

POLICY STATEMENT DEFINING ASHRAE'S CONCERN FOR THE ENVIRONMENTAL IMPACT OF ITS ACTIVITIES

ASHRAE is concerned with the impact of its members' activities on both the indoor and outdoor environment. ASHRAE's members will strive to minimize any possible deleterious effect on the indoor and outdoor environment of the systems and components in their responsibility while maximizing the beneficial effects these systems provide, consistent with accepted Standards and the practical state of the art.

ASHRAE's short-range goal is to ensure that the systems and components within its scope do not impact the indoor and outdoor environment to a greater extent than specified by the Standards and Guidelines as established by itself and other responsible bodies.

As an ongoing goal, ASHRAE will, through its Standards Committee and extensive Technical Committee structure, continue to generate up-to-date Standards and Guidelines where appropriate and adopt, recommend, and promote those new and revised Standards developed by other responsible organizations.

Through its *Handbook*, appropriate chapters will contain up-to-date Standards and design considerations as the material is systematically revised.

ASHRAE will take the lead with respect to dissemination of environmental information of its primary interest and will seek out and disseminate information from other responsible organizations that is pertinent, as guides to updating Standards and Guidelines.

The effects of the design and selection of equipment and systems will be considered within the scope of the system's intended use and expected misuse. The disposal of hazardous materials, if any, will also be considered.

ASHRAE's primary concern for environmental impact will be at the site where equipment within ASHRAE's scope operates. However, energy source selection and the possible environmental impact due to the energy source and energy transportation will be considered where possible. Recommendations concerning energy source selection should be made by its members.

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