

# ANSI/ASHRAE/ICC/USGBC/IES Addendum ao to ANSI/ASHRAE/ICC/USGBC/IES Standard 189.1-2017

# Standard for the Design of High-Performance Green Buildings

## Except Low-Rise Residential Buildings

*The Complete Technical Content of the International Green Construction Code®*

Approved by the ASHRAE Standards Committee on February 1, 2020; by the ASHRAE Board of Directors on February 5, 2020; by the International Code Council on January 7, 2020; by the U.S. Green Building Council on January 9, 2020; by the Illuminating Engineering Society on January 24, 2020; and by the American National Standards Institute on February 6, 2020.

These addenda were approved by a Standing Standard Project Committee (SSPC) for which the Standards Committee has established a documented program for regular publication of addenda or revisions, including procedures for timely, documented, consensus action on requests for change to any part of the standard. Instructions for how to submit a change can be found on the ASHRAE® website ([www.ashrae.org/continuous-maintenance](http://www.ashrae.org/continuous-maintenance)).

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ASHRAE obtains consensus through participation of its national and international members, associated societies, and public review.

ASHRAE Standards are prepared by a Project Committee appointed specifically for the purpose of writing the Standard. The Project Committee Chair and Vice-Chair must be members of ASHRAE; while other committee members may or may not be ASHRAE members, all must be technically qualified in the subject area of the Standard. Every effort is made to balance the concerned interests on all Project Committees.

The Senior Manager of Standards of ASHRAE should be contacted for

- a. interpretation of the contents of this Standard,
- b. participation in the next review of the Standard,
- c. offering constructive criticism for improving the Standard, or
- d. permission to reprint portions of the Standard.

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In referring to this Standard or Guideline and in marking of equipment and in advertising, no claim shall be made, either stated or implied, that the product has been approved by ASHRAE.

**(This foreword is not part of this standard. It is merely informative and does not contain requirements necessary for conformance to the standard. It has not been processed according to the ANSI requirements for a standard and may contain material that has not been subject to public review or a consensus process. Unresolved objectors on informative material are not offered the right to appeal at ASHRAE or ANSI.)**

## FOREWORD

*This addendum clarifies several issues related to Section 7. It moves the climate zone requirements from Appendix A to a new Section 7.3.1.1 and removes the term “climate zone” from Section 3 where it had merely contained a reference to the former appendix location.*

*Section 7.3.1 clarifies the mandatory requirements for energy efficiency per the latest updates to Standard 90.1. Section 7.4 has been modified in accordance with a June 2018 request for official interpretation to clarify the requirements for prescriptive compliance with Standard 189.1.*

*Finally, the phrase “occupant sensor” has been changed to “occupancy sensor” to be consistent with Standard 90.1.*

**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 ao to Standard 189.1-2017

**Revise Section 3 as shown.**

~~climate zone~~: see Normative Appendix A.

**Revise Section 7 as shown.**

## 7. ENERGY EFFICIENCY

**7.1 Scope.** This section specifies requirements for energy efficiency for buildings and appliances, for *on-site renewable energy systems*, and for energy measuring.

**7.2 Compliance.** The energy systems shall comply with Section 7.3, “Mandatory Provisions,” and either

- a. Section 7.4, “Prescriptive Option,” or
- b. Section 7.5, “Performance Option.”

### 7.3 Mandatory Provisions

**7.3.1 General.** *Building projects* shall be designed to comply with Sections 5.2.1, 6.2.1, 7.2.1, 8.2.1, 9.2.1, and 10.2.1 ~~5.4, 6.4, 7.4, 8.4, 9.4, and 10.4~~ of ANSI/ASHRAE/IES Standard 90.1.

**7.3.1.1 Climate Zones.** For *climate zones*, see ANSI/ASHRAE/IES Standard 90.1, Section 5.1.4, and ANSI/ASHRAE Standard 169.

- a. For locations in the United States and its territories, use ANSI/ASHRAE Standard 169, Table B-1, “U.S. States by State and County,” to determine the assigned climate zone and, where required, the assigned climate zone letter. **(Informative Note:** Reference Standard Reproduction Annex ASHRAE Standard 169 [included at the end of this document] contains an extraction of ANSI/ASHRAE Standard 169, Figure B-1, “Climate Zone for United States Counties,” [which is informative for Standards 90.1 and 189.1]. ANSI/ASHRAE/IES Standard 90.1 Reference Standard Reproduction Annex ASHRAE Standard 169 [included at the end of ANSI/ASHRAE/IES Standard 90.1] contains an extraction of ANSI/ASHRAE Standard 169, Table B-1, “U.S. States by State and County.”)
- b. For locations in Canada that are listed in ASHRAE Standard 169, Table A-5, “Canada Stations and Climate Zones,” use this table to determine the assigned climate zone number and, where required, the assigned climate zone letter. For locations in other international countries that are listed in ASHRAE Standard 169, Table A-6, “International Stations and Climate Zones,” use this table to determine the required climate zone number and, where required, the assigned *climate zone* letter. For all international locations that are not listed either in ASHRAE Standard 169, Table A-5 or Table A-6, use ASHRAE Standard 169,

Section A3, "Climate Zone Definitions," and Table A-3, "Thermal Climate Zone Definitions," to determine both the *climate zone* number and letter. **(Informative Note:** Reference Standard Reproduction Annex ASHRAE Standard 169 [included at the end of this document] contains an extraction of ASHRAE Standard 169, Section A3, "Climate Zone Definitions," and Table A-3, "Thermal Climate Zone Definitions." ANSI/ASHRAE/IES Standard 90.1 Reference Standard Reproduction Annex ASHRAE Standard 169 [included at the end of ANSI/ASHRAE/IES Standard 90.1] contains an extraction of ASHRAE Standard 169, Table A-5, "Canada Stations and Climate Zones," and Table A-6, "International Stations and Climate Zones.")

### ~~7.3.1.1~~ **7.3.1.2 Continuous Air Barrier.** [ . . . ]

## **7.4 Prescriptive Option**

~~7.4.1 General Comprehensive Prescriptive Requirements.~~ ~~When~~ ~~Where~~ a requirement is provided in this section below, it supersedes the requirement in ANSI/ASHRAE/IES Standard 90.1. For all other criteria, the *building project* shall comply with the requirements of ANSI/ASHRAE/IES Standard 90.1, Sections 5 through 10.

### ~~7.4.1.1~~ **7.4.1 On-Site Renewable Energy Systems.** [ . . . ]

**(... renumber subsections of 7.4.1.1, now 7.4.1.)**

**7.4.6.2 Occupancy Sensor Controls with Multilevel Switching or Dimming.** The lighting in commercial and industrial storage stack areas shall be controlled by an ~~occupant~~ occupancy sensor with multilevel switching or dimming system that reduces lighting power a minimum of 50% within 20 minutes of all occupants leaving the stack area.

**Revise Appendix A as shown.**

## **NORMATIVE APPENDIX A CLIMATE ZONES AND PRESCRIPTIVE BUILDING ENVELOPE AND DUCT INSULATION TABLES**

Tables A-1 through A-3 appear twice in this appendix. The three tables are shown first with I-P units, followed by three tables with SI units.

For *climate zones*, see ANSI/ASHRAE/IES Standard 90.1, Section 5.1.4, and ANSI/ASHRAE Standard 169.

- a. ~~For locations in the United States and its territories, use ANSI/ASHRAE Standard 169, Table B-1, "U.S. States by State and County," to determine the assigned climate zone and, where required, the assigned climate zone letter. **Informative Note:** Reference Standard Reproduction Annex ASHRAE Standard 169 (included at the end of this document) contains an extraction of ANSI/ASHRAE Standard 169, Figure B-1, "Climate Zone for United States Counties," (which is informative for Standards 90.1 and 189.1). ANSI/ASHRAE/IES Standard 90.1 Reference Standard Reproduction Annex ASHRAE Standard 169 (included at the end of ANSI/ASHRAE/IES Standard 90.1) contains an extraction of ANSI/ASHRAE Standard 169, Table B-1, "U.S. States by State and County."~~
- b. ~~For locations in Canada that are listed in ASHRAE Standard 169, Table A-5, "Canada Stations and Climate Zones," use this table to determine the assigned *climate zone* number and, where required, the assigned *climate zone* letter. For locations in other international countries that are listed in ASHRAE Standard 169, Table A-6, "International Stations and Climate Zones," use this table to determine the required *climate zone* number and, where required, the assigned *climate zone* letter. For all international locations that are not listed either in ASHRAE Standard 169, Table A-5 or Table A-6, use ASHRAE Standard 169, Section A3, "Climate Zone Definitions," and Table A-3, "Thermal Climate Zone Definitions," to determine both the *climate zone* number and letter. **Informative Note:** Reference Standard Reproduction Annex ASHRAE Standard 169 (included at the end of this document) contains an extraction of ASHRAE Standard 169, Section A3, "Climate Zone Definitions," and Table A-3, "Thermal Climate Zone Definitions." ANSI/ASHRAE/IES Standard 90.1 Reference Standard Reproduction Annex ASHRAE Standard 169 (included at the end of ANSI/ASHRAE/IES Standard 90.1) contains an extraction of ASHRAE Standard 169, Table A-5, "Canada Stations and Climate Zones," and Table A-6, "International Stations and Climate Zones."~~

**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.

### **Standard 189.1 and the International Green Construction Code**

Standard 189.1 serves as the complete technical content of the International Green Construction Code® (IgCC). The IgCC creates a regulatory framework for new and existing buildings, establishing minimum green requirements for buildings and complementing voluntary rating systems. For more information, visit [www.iccsafe.org](http://www.iccsafe.org).

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As an industry leader in research, standards writing, publishing, certification, and continuing education, ASHRAE and its members are dedicated to promoting a healthy and sustainable built environment for all, through strategic partnerships with organizations in the HVAC&R community and across related industries.

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