© ASHRAE. Per international copyright law, additional reproduction, distribution, or transmission in either print or digital form is not permitted without ASHRAE's prior written permission.

**ANSI/ASHRAE/ICC/USGBC/IES Addendum ad to ANSI/ASHRAE/ICC/USGBC/IES Standard 189.1-2020**

# 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 June 24, 2023; by the International Code Council on July 27, 2023; by the Illuminating Engineering Society on August 24, 2023; by U.S. Green Building Council on August 7, 2023; and by the American National Standards Institute on August 31, 2023.

This addendum was 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).

The latest edition of an ASHRAE Standard may be purchased on the ASHRAE website (www.ashrae.org) or from ASHRAE Customer Service, 180 Technology Parkway, Peachtree Corners, GA 30092. E-mail: orders@ashrae.org. Fax: 678-539-2129. Telephone: 404-636-8400 (worldwide), or toll free 1-800-527-4723 (for orders in US and Canada). For reprint permission, go to www.ashrae.org/permissions.

© 2023 ASHRAE ISSN 1041-2336





© ASHRAE. Per international copyright law, additional reproduction, distribution, or transmission in either print or digital form is not permitted without ASHRAE's prior written permission.

**ASHRAE Standing Standard Project Committee 189.1**
**Cognizant TC: 2.8 Building Environmental Impacts and Sustainability**
**SPLS Liaison: Jay Kohler · ASHRAE Staff Liaisons: Thomas Loxley**
**ICC Liaison: Mike Pfeiffer · IES Liaison: Mark Lien · USGBC Liaison: Wes Sullens**

| | | | |
|---|---|---|---|
| Katherine Hammack*, *Chair* | Thomas Culp* | Thomas Lawrence | Terry Sharp |
| Charles Eley*, *Co-Vice Chair* | David Delaquila | Richard Lord | Kent Sovocool* |
| Josh Jacobs*, *Co-Vice Chair* | Greg Eades* | Mark Malkin | Dennis Stanke |
| Michael Jouaneh*, *Co-Vice Chair* | Jim Edelson* | Jonathan McHugh* | Wayne Stoppelmoor* |
| Lawrence Schoen*, *Co-Vice Chair* | Anthony Floyd* | Susan McLaughlin* | Christine Subasic* |
| Bryan Ahee | Ellen Franconi | Erik Miller-Klein | Kyle Thompson |
| Costas Balaras | Robert Goo | Brittany C. Moser* | John Topmiller |
| Webly Bowles | Gregg Gress* | Saber K. Nikkho | Martha VanGeem* |
| Jeff Bradley* | Thomas Hogarth* | Tien Peng | Scott West* |
| Frank Burns | Donald Horn* | Andrew Persily | Theresa Weston* |
| Julie Chandler | Jonathan Humble | Rock Ridolfi | Daniel Whittet |
| Glen Clapper | Greg Johnson | Steven Rosenstock* | Joe Winters* |
| Ernest Conrad* | Jack Karlin | Aniruddh Roy | Jian Zhang* |
| Dru Crawley | Gerald Kettler | Brent Rutherford | |
| John Cross* | Andrew Klein | Michael Schmeida | |
| Michael Cudahy* | Vladimir Kochkin | Matthew Setzekorn | |

** Denotes members of voting status when the document was approved for publication*

**ASHRAE STANDARDS COMMITTEE 2022–2023**

| | | | |
|---|---|---|---|
| Susanna S. Hanson, *Chair* | Phillip A. Johnson | Lawrence C. Markel | Christopher J. Seeton |
| Jonathan Humble, *Vice-Chair* | Srinivas Katipamula | Patrick C. Marks | Christian R. Taber |
| William P. Bahnfleth | Gerald J. Kettler | Margaret M. Mathison | Paolo M. Tronville |
| Thomas E. Cappellin | Jay A. Kohler | Kathleen Owen | William F. Walter |
| Douglas D. Fick | Cesar L. Lim | Gwelen Paliaga | Steven C. Sill, *BOD ExO* |
| Patricia Graef | Paul A. Lindahl, Jr. | Karl L. Peterman | Sarah E. Maston, *CO* |
| Jaap Hogeling | James D. Lutz | Justin M. Prosser | |
| Jennifer A. Isenbeck | Julie Majurinv | David Robin | |

Connor Barbaree, *Senior Manager of Standards*

## SPECIAL NOTE

This American National Standard (ANS) is a national voluntary consensus Standard developed under the auspices of ASHRAE. *Consensus* is defined by the American National Standards Institute (ANSI), of which ASHRAE is a member and which has approved this Standard as an ANS, as "substantial agreement reached by directly and materially affected interest categories. This signifies the concurrence of more than a simple majority, but not necessarily unanimity. Consensus requires that all views and objections be considered, and that an effort be made toward their resolution." Compliance with this Standard is voluntary until and unless a legal jurisdiction makes compliance mandatory through legislation.

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.

## DISCLAIMER

ASHRAE uses its best efforts to promulgate Standards and Guidelines for the benefit of the public in light of available information and accepted industry practices. However, ASHRAE does not guarantee, certify, or assure the safety or performance of any products, components, or systems tested, installed, or operated in accordance with ASHRAE's Standards or Guidelines or that any tests conducted under its Standards or Guidelines will be nonhazardous or free from risk.

## ASHRAE INDUSTRIAL ADVERTISING POLICY ON STANDARDS

ASHRAE Standards and Guidelines are established to assist industry and the public by offering a uniform method of testing for rating purposes, by suggesting safe practices in designing and installing equipment, by providing proper definitions of this equipment, and by providing other information that may serve to guide the industry. The creation of ASHRAE Standards and Guidelines is determined by the need for them, and conformance to them is completely voluntary.

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.

© ASHRAE. Per international copyright law, additional reproduction, distribution, or transmission in either print or digital form is not permitted without ASHRAE's prior written permission.

**(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

*Addendum ad clarifies the purpose and scope of Standard 189.1 and further correlates the scope of the standard with that of the* International Green Construction Code© *(*IgCC*).*

*The scope of Standard 189.1 is clarified by explicitly stating its applicability to the sites upon which buildings are constructed, as well as to the demolition and deconstruction of buildings. Standard 189.1 already contains provisions addressing these topics in Sections 5 and 9.*

*This addendum also expands the scope of Standard 189.1 by adding changes in building occupancy or use to regulated elements. This correlates with the IgCC, which has, as is typical of the International Codes, provisions to regulate changes in occupancy.*

*Addendum ad further expands the scope of Standard 189.1 by making it applicable to "structures." This clarifies that the standard is applicable to constructed elements that are not necessarily part of a building project, such as ornamental water features, parking lot lighting, and electric vehicle charging infrastructure. Standard 189.1 already contains requirements addressing these features. This change aligns the scope with existing language. It should be noted that except for the 2018* IgCC*, which used the Standard 189.1-2017 scope, every edition of the IgCC, including the initial public review draft and the 2021 edition, has included "structures" within its scope.*

*The provisions added to Section 4 provide appropriate limits on the degree of compliance required when a building changes occupancy or use. Compliance is only as necessary to meet the specific provisions for the new occupancy or use; the entire existing building is not necessarily required to be brought into compliance. This is consistent with the treatment of changes of occupancy in the* International Plumbing Code*,* International Mechanical Code*, and* International Existing Building Code*.*

*Note that Addendum x of Standard 189.1 will mean that occupancy classifications used in 189.1 are the same as in the* International Building Code*. The occupancy classifications in the IBC are available for free viewing at: https://codes.iccsafe.org/content/IBC2021P2/chapter-3-occupancy-classification-and-use.*

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

## Addendum ad to Standard 189.1-2020

***Modify Sections 1 and 2 as shown.***

### 1. PURPOSE

**1.1** The purpose of this standard is to provide minimum requirements for the siting, design, construction, and plans for operation of *high-performance green buildings* to

a. reduce emissions ~~from buildings and building systems~~, enhance ~~building~~ occupant health and comfort, conserve water ~~resources~~, protect local biodiversity and ecosystem services, promote sustainable and regenerative materials cycles, ~~enhance building quality,~~ and enhance resilience ~~to natural, technological, and human-caused hazards~~; and
b. support the goal of development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

**1.2** This standard provides ~~is intended to provide the technical basis of mandatory building codes and regulations for *high-performance green buildings*~~ comprehensive requirements that ~~are broadly adoptable~~ can be adopted by national and local jurisdictions.

### 2. SCOPE

**2.1** This standard addresses site sustainability, water use efficiency, energy efficiency, indoor environmental quality (IEQ), materials and resources, and construction and plans for operation. It contains requirements that apply to the following:

~~a. apply to the following *building projects:*~~

© ASHRAE. Per international copyright law, additional reproduction, distribution, or transmission in either print or digital form is not permitted without ASHRAE's prior written permission.

~~1~~a. New buildings and structures and their systems
~~2~~b. New portions of buildings and structures, and their systems
~~3~~c. New systems and equipment in existing buildings
~~4~~d. Relocated existing buildings ~~and temporary structures ad where specified in this standard~~
e. The site on which the building or structure is located
f. Demolition and deconstruction of buildings and their systems
g. Change of occupancy classification or use
~~b. address site sustainability, water use efficiency, energy efficiency, indoor environmental quality (IEQ), materials and resources, and construction and plans for operation.~~

**2.2** The provisions of this standard do not apply to

a. single-family houses, multifamily structures of three stories or fewer above grade, manufactured houses (mobile homes), and manufactured houses (modular) and
b. *building projects* and structures that use none of the following:
   1. electricity
   2. fossil fuel
   3. water

**2.3** The requirements in this standard shall not be used to circumvent any applicable safety, health, or environmental requirements.

***Add new Section 4.6 as shown.***

**4.6 Change in Occupancy or Use.** Where an existing building undergoes a change of occupancy or use, the *building project* shall be subject to the provisions of this standard that are specifically applicable to the new occupancy or use. Compliance shall be only as necessary to meet the specific provisions for the new occupancy or use and is not intended to require the entire existing building to be brought into compliance. The *AHJ* shall verify that such building meets the intent of the provisions of this standard governing building construction for the proposed new occupancy or use.

© ASHRAE. Per international copyright law, additional reproduction, distribution, or transmission in either print or digital form is not permitted without ASHRAE's prior written permission.

## 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.

© ASHRAE. Per international copyright law, additional reproduction, distribution, or transmission in either print or digital form is not permitted without ASHRAE's prior written permission.

**ASHRAE · 180 Technology Parkway NW · Peachtree Corners, GA 30092 · www.ashrae.org**

**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.

**About ASHRAE**

Founded in 1894, ASHRAE is a global professional society committed to serve humanity by advancing the arts and sciences of heating, ventilation, air conditioning, refrigeration, and their allied fields.

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.

To stay current with this and other ASHRAE Standards and Guidelines, visit www.ashrae.org/standards, and connect on LinkedIn, Facebook, Twitter, and YouTube.

**Visit the ASHRAE Bookstore**

ASHRAE offers its Standards and Guidelines in print, as immediately downloadable PDFs, and via ASHRAE Digital Collections, which provides online access with automatic updates as well as historical versions of publications. Selected Standards and Guidelines are also offered in redline versions that indicate the changes made between the active Standard or Guideline and its previous edition. For more information, visit the Standards and Guidelines section of the ASHRAE Bookstore at www.ashrae.org/bookstore.

**IMPORTANT NOTICES ABOUT THIS STANDARD**

**To ensure that you have all of the approved addenda, errata, and interpretations for this Standard, visit www.ashrae.org/standards to download them free of charge.**

**Addenda, errata, and interpretations for ASHRAE Standards and Guidelines are no longer distributed with copies of the Standards and Guidelines. ASHRAE provides these addenda, errata, and interpretations only in electronic form to promote more sustainable use of resources.**

8/23