

**ANSI/ASHRAE/ICC/USGBC/IES Addendum ac to
ANSI/ASHRAE/ICC/USGBC/IES Standard 189.1-2023**

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 ASHRAE and the American National Standards Institute on September 30, 2026; by the International Code Council on September 28, 2026; by the U.S. Green Building Council on September 4, 2026; and by the Illuminating Engineering Society on August 28, 2026.

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.

© 2026 ASHRAE

ISSN 1041-2336



ASHRAE Standard Project Committee 189.1

Cognizant TC: 2.8, Building Environmental Impacts and Sustainability

SPLS Liaison: Rusty C. Tharp · ASHRAE Staff Liaison: Thomas Loxley

ICC Liaison: Russ Manning · IES Liaison: Mark Lien · USGBC Liaison: Wes Sullens

Donald Horn,* <i>Chair</i>	Wanda D. Edwards	Richard Lord	Alexander T. Smith
Lawrence J. Schoen,* <i>Co-Vice Chair</i>	Steven J. Emmerich	Mark P. Malkin	Kent A. Sovocool*
Charles N. Eley,* <i>Co-Vice Chair</i>	Anthony C. Floyd*	Jonathan R. McHugh*	Dennis A. Stanke
Josh Jacobs,* <i>Co-Vice Chair</i>	Ellen M. Franconi	Hailey N. Mick	Wayne H. Stoppelmoor*
Michael Jouaneh,* <i>Co-Vice Chair</i>	Anne Gire	Erik T. Miller-Klein	Christine A. Subasic*
Bryan Ahee	Tristan Grant*	Alyssa Mrvos	Kyle Thompson
Constantinos A. Balaras	Gregg Gress*	Edward R. Osann	John M. Topmiller
Jeff Bradley*	Roger L. Hedrick*	Andrew K. Persily	Martha G. VanGeem*
Ariel Brenner*	Greg Johnson*	Max Puchtel*	Lin Wang
Frank M. Burns*	Jack Karlin	Tiffany Reed-Villarreal*	Theresa A. Weston*
Brittany Carl Moser*	Paul A. Karrer	Rock Ridolfi*	Daniel C. Whittet
Glen Clapper	Gerald J. Kettler	Steven Rosenstock*	Joe F. Winters*
Ernest A. Conrad*	Saber Khoshdel Nikkho	Aniruddh Roy	Jasmine Wong
John P. Cross*	Andrew S. Klein*	Brent Rutherford	Jain Zhang*
Michael W. Cudahy*	Thomas M. Lawrence*	Michael Schmeida	
Thomas D. Culp*	William Le Roy*	Terri Self	
Darryl Dixon*	Hao Li	Matthew Setzekorn	

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

ASHRAE STANDARDS COMMITTEE 2026–2027

Jennifer I. Pille, <i>Chair</i>	Jayson Bursill	Tatsuro Kobayashi	Nadja Tremblay
Justin M. Prosser, <i>Vice Chair</i>	Kelley P. Cramm	Toby K.W. Lau	Douglas K. Tucker
Anthony M. Abate	Abdel K. Darwich	Cesar L. Lim	Thomas E. Watson
Omar A. Abdelaziz	Drake Erbe	Paul A. Lindahl, Jr.	David P. Yuill
Charles S. Barnaby	Marcus Hassen	Kenneth A. Monroe	Patrick C. Marks, <i>BOD ExO</i>
John H. Bean	William M. Healy	Philip J. Naughton	Trenton S. Hunt, <i>CO</i>
Coleman L. Brumley, Jr.	Satish N. Iyengar	Michael P. Patton	
Brendon J. Burley	Derrick Knight	Rusty C. Tharp	

Ryan Shanley, *Group Manager of Codes and 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

- interpretation of the contents of this Standard,
- participation in the next review of the Standard,
- offering constructive criticism for improving the Standard, or
- 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.

(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 objections on informative material are not offered the right to appeal at ASHRAE or ANSI.)

FOREWORD

Addendum ac requires high efficiency traction and hydraulic elevators without diminishing the ride quality and amenity of these devices. Significant amounts of energy are saved with traction elevators by requiring that these elevators provide braking and deceleration with the use of a regenerative variable speed drive. Changes from the prior traction elevator requirements include lower threshold rise height and expansion of the requirement to alterations. Alterations that trigger these requirements include replacement of the entire elevator or replacement of the elevator control system. "Elevator control system" is a newly defined term in the "Definitions" section of ANSI/ASHRAE/ICC/USGBC/IES Standard 189.1 and points to a broader definition in ASME A17.1, Safety Code for Elevators and Escalators. The weight and speed of qualifying elevators are defined so that this applies to elevators with sufficient speed and weight to generate enough deceleration energy to justify the cost of the regenerative drive. This addendum also defines the conditions under which the regenerative energy can be "burned off" in braking resistors or load banks. The primary condition is under emergency power conditions where elevators and a few other emergency circuits are energized by the emergency generator; in this case, braking resistors or load banks are allowed to consume regenerated energy to prevent back-feed of voltage into the emergency generator.

For hydraulic elevators, this addendum requires variable speed drives to control the speed of the hydraulic motor and prohibits the use of oil bypass for speed control when lifting the elevator. This replaces the base-case system, which uses a single-speed motor and bypass valve to control the flow of hydraulic oil into the hydraulic jack to control the speed and location of the elevator. At reduced upward speeds, only a portion of the hydraulic motor power is used to lift the elevator; the rest of the motor energy goes into pushing bypass oil into a storage tank that does not provide useful work and is an inefficient way of controlling the upward speed of the hydraulic elevator. The weight and speed criteria for qualifying elevators are defined as to exempt smaller, infrequently used elevators.

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

Addendum ac to Standard 189.1-2023

Add the following definition to Section 3.2.

3.2 Definitions

elevator control system: the overall system governing the starting, stopping, direction of motion, acceleration, speed, and slowing of the moving elevator as defined in ASME A17.1/CSA B44.

Modify Section 7.4.7.4 as follows.

7.4.7 Other Equipment. The other equipment shall comply with ANSI/ASHRAE/IES Standard 90.1, Section 10, with the following modifications and additions.

[...]

7.4.7.4 Elevator Power Conversion System. This section supersedes ANSI/ASHRAE/IES Standard 90.1, Section 10.4.3.4.

In new buildings, traction elevators with a rise of 75 ft (23 m) or more shall be provided with a power conversion system that includes all of the following:

- a. ~~A drive motor with a minimum Class IE2 efficiency rating, as defined by IEC EN 60034-30~~
- b. ~~A regenerative drive that recovers potential energy released during motion, converts it to electrical energy, and supplies it to the building electrical system~~

7.4.7.4.1 Traction Elevator Energy Recovery. A newly installed traction elevator, or an altered traction elevator with a new *elevator control system*, where the elevator has a rated capacity of 2000 lb (900 kg) or greater, a rated speed of 150 ft/min (0.76 m/s) or greater, and a total rise of 20 ft (6.1 m) or greater, shall have a regenerative drive that recovers energy released during motion and supplies electrical energy to the

building electrical system when operating on utility power. Braking resistors or resistive load banks shall be permitted to absorb regenerated energy only during emergency generator operation.

Exceptions to 7.4.7.4.1:

1. Stand-alone parking garages where the calculated total building electrical load under normal operation is less than the load needed to absorb regenerated power.
2. Elevator alterations where the lowest measured or calculated total building electrical load is less than the load needed to absorb regenerated power.

7.4.7.4.2 Hydraulic Elevator Variable Speed Pump and Controls. A newly installed hydraulic elevator, or an altered hydraulic elevator with a new *elevator control system*, where the elevator has a rated capacity of 2200 lb (1000 kg) or greater and a rated speed of 100 ft/min (0.51 m/s) or greater shall have a variable speed drive controlling the hydraulic oil pump motor. Upward movement of the elevator shall be controlled without bypassing hydraulic oil.

Exception to 7.4.7.4.2: Hydraulic elevators in *International Building Code (IBC)* occupancy Group E

Modify Section 11, "Normative References," as follows.

American Society of Mechanical Engineers (ASME)
Three Park Avenue
New York, NY 10016-5990, United States
1-800-843-2763 and 1-973-882-1170; www.asme.org

ASME A17.1-2022/CSA B44-2025
Safety Code for Elevators and Escalators
3.2

ASME A112.18.1-2018/CSA B125.1-18
Plumbing Supply Fittings
6.3.2.1

**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.

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.