

**ANSI/ASHRAE/ICC/USGBC/IES Addendum e 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 July 31, 2026; by the International Code Council on July 29, 2026; by the U.S. Green Building Council on July 29, 2026; and by the Illuminating Engineering Society on July 25, 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).

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ISSN 1041-2336



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Cognizant TC: 2.8, Building Environmental Impacts and Sustainability

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

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FOREWORD

Addendum e addresses redundant language in Section 5.3.5.3. Applicable climate zones remain unchanged.

The addendum expands the coverage of cool roof surfaces from 75% to 100%. This is consistent with Standard 90.1 provisions for cool roofs over conditioned space. This section already includes exceptions for roof areas covered by renewable energy systems, roof decks, and walkways. Exceptions are added for HVAC systems and skylights.

A new exception is added for roofs shaded by adjacent structures similar to language used in Standard 90.1. However, the energy efficiency exception is deleted since this section addresses heat island mitigation not energy efficiency.

This addendum also changes the italicized “roof” as defined in Standard 90.1 to unitalicized “roof” because the common term is more applicable to heat island mitigation regardless of whether the space below the roof is conditioned or unconditioned. Stone ballasted roofs remains as a viable roof system in climate zones 4A and 4B.

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 e to Standard 189.1-2023

Modify Section 5.3.5.3 as shown.

5.3.5.3 Roofs. This section applies to the building and covered parking ~~roof~~ Roof surfaces for building projects in Climate Zones 0, 1, 2, 3, 4A, and 4B. A minimum of 75% of the ~~roof surface area~~ shall be covered with products that

- Have a minimum three-year-aged *SRI* of 64 in accordance with Section 5.3.5.4 for ~~roofs~~ roofs with a slope of less than 2:12
- Have a minimum three-year-aged *SRI* of 25 in accordance with Section 5.3.5.4 for ~~roofs~~ roofs with a slope 2:12 or greater.

~~The area occupied by one or more of the following shall be excluded from the calculation to determine the roof surface area required to comply with this section:~~

- ~~Roof penetrations and associated equipment.~~
- ~~On-site renewable energy systems, including photovoltaics, solar thermal energy collectors, and required access around the panels or collectors.~~
- ~~Portions of the roof used to capture heat for building energy technologies.~~
- ~~Roof decks and rooftop walkways.~~
- ~~Vegetated terrace and roofing systems complying with Section 5.3.5.5.~~

Exceptions to 5.3.5.3:

- Roofs where not less than 75% of the roof surface is shaded during the peak sun angle on the summer solstice (June 21 in the northern hemisphere) by permanent components or features of the building, including adjacent buildings or structures.
- ~~Building projects where an annual energy analysis simulation demonstrates that the total annual building energy cost and total annual CO₂e, as calculated in accordance with Section 7.6.2, are both a minimum of 2% less for the proposed roof than for a roof material complying with the *SRI* requirements of Section 5.3.5.3.~~
- Existing buildings in Climate Zones 4A and 4B undergoing alteration, repair, relocation, or a change in ~~occupancy~~ roof replacement.
- ~~Roofs~~ Roofs with exposed concrete used as a parking deck, used to shade or cover parking, and ~~roofs over semiheated spaces~~, provided that they have a minimum initial *SRI* of 29. A default *SRI* value of 35 for new concrete without added color pigment is allowed to be used instead of measurements.
- ~~Stone B~~ Stone B ballasted ~~roofs~~ roofs in Climate Zones 4A and 4B having a stone ballast of not less than 17 lb/ft² (83 kg/m²) or a paver ballast of not less than 23 lb/ft² (112 kg/m²).

5. Portions of the roof covered by permanently installed objects, such as HVAC systems, solar energy systems, decks, and walkways.
6. Vegetated terrace and roofing systems complying with Section 5.3.5.5.

**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.

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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.

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