ANSI/ASHRAE/ICC/USGBC/IES Addendum a 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 ®

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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 (https://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.

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FOREWORD

Addendum a requires Climate Zones 4A and 4B to meet the heat island mitigation criteria for roofs in Section 5.3.5.3. It also adds two exceptions to Section 5.3.5.3. Exception 2 was added for existing roofs in Climate Zones 4A and 4B to address the potential for condensation in some existing reroofing projects. New Exception 4 is from a similar exception to cool roofs in ASHRAE/IES Standard 90.1 and is based on research performed at ORNL. Here, it is added for Climate Zones 4A and 4B.

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 a to Standard 189.1-2017

Revise Section 5.3.5.3 as shown.

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

a. have a minimum three-year-aged *SRI* of 64 in accordance with Section 5.3.5.4 for *roofs* with a slope of less than or equal to 2:12.
b. have a minimum three-year-aged
c. *SRI* of 25 in accordance with Section 5.3.5.4 for *roofs* with a slope of more than 2:12.

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:

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

Exceptions to 5.3.5.3:

1. *Building projects* where an annual energy analysis simulation demonstrates that the total annual building energy cost and total annual CO_{2e}, as calculated in accordance with Section 7.5.2, 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.
2. Existing buildings in Climate Zones 4A and 4B undergoing alteration, repair, relocation, or a change in occupancy.

~~2.~~3. *Roofs* 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.

4. Ballasted *roofs* in Climate Zones 4A and 4B having a stone ballast of not less than 17 lb/ft^2 (83 kg/m^2) or a paver ballast of not less than 23 lb/ft2 (112 kg/m^2).

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.

8/19