

**ANSI/ASHRAE/ICC/USGBC/IES Addendum x 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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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.

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
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FOREWORD

This proposal requires compliance with standard ANSI/SPRI VR-1 for testing the resistance of the root barrier components used in vegetative roof assemblies. Roots in vegetative roofs can penetrate the waterproofing membrane, potentially leading to leaks and structural damage to the building. Plant roots actively search for moisture and can grow through the roof layers if not properly contained. This is especially concerning when using plants with aggressive root systems.

Standard VR-1 tests the resistance of root barrier components used in vegetative roof assemblies. The test evaluates plant growth and the ability of a root barrier to resist normal root or rhizome penetrations.

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 x to Standard 189.1-2023

Modify Section 5.3.5.5 as follows.

5.3.5.5 Vegetative Terrace and Roofing Systems. Vegetative terrace and roofing systems where provided in accordance with Section 5.3.5.3, shall comply with the following:

- a. All plantings shall be capable of withstanding the microclimate conditions of the vegetated area, including but not limited to wind, precipitation, and temperature. *Plants* shall be selected and placed to provide foliage coverage of not less than 50% of designed area of vegetation based on the anticipated *plant* growth within two years of the issuance of the final certificate of occupancy. *Construction documents* shall be submitted that show the planting location and anticipated two-year foliage coverage of the plantings. Duplicate coverage shall not be credited where multiple *plants* cover the same area. *Invasive plants* shall not be planted.
- b. The growing medium shall be designed for the physical conditions and local climate to support the *plants* selected. The planting design shall include measures to protect the growing medium until the plants are established. The maximum wet weight and water-holding capacity of a growing medium shall be determined in accordance with ASTM E2399.
- c. Nonvegetated clearances and borders shall be provided in accordance with the International Fire Code, Section 317.
- d. Plantings shall be capable of maintaining the function of the vegetated *roof* or terrace as required by Section 10.9.1.
- e. Irrigation of the vegetated *roofs* and terraces shall comply with Section 6.3.2.4.
- f. Installation of plantings shall be in accordance with the *roof*-covering manufacturer's installation instructions.
- g. Root barrier components shall be tested in accordance with ANSI/SPRI VR-1 and demonstrate that there are no root or rhizome penetrations.

Modify Section 11 as follows.

11. NORMATIVE REFERENCES

Single Ply Roofing Industry (SPRI)

465 Waverley Oaks Rd. Suite 421

Waltham, MA 02452

www.spri.org

ANSI/SPRI VR-1 2018 (R2024)

Procedure for Investigating Resistance to Root or Rhizome Penetration on Vegetative Roofs

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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