Public Review Draft

Proposed Addendum x to Standard 189.1-2023

Standard for the Design of High-Performance Green Buildings

Except Low-Rise Residential Buildings

First Public Review (January, 2026)
(Draft Shows Proposed Changes to Current Standard)

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(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

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.

[Note to Reviewers: This addendum makes proposed changes to the current standard. These changes are indicated in the text by <u>underlining</u> (for additions) and ~~strikethrough~~ (for deletions) except where the reviewer instructions specifically describe some other means of showing the changes. Only these changes to the current standard are open for review and comment at this time. Additional material is provided for context only and is not open for comment except as it relates to the proposed changes.]

Addendum x 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.

Add new normative reference in Section 11:

11. NORMATIVE REFERENCES

Reference	Title	Section
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