Public Review Draft

Proposed Addendum v to Standard 189.1-2023

Standard for the Design of High-Performance Green Buildings

Except Low-Rise Residential Buildings

First Public Review (September, 2025)
(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 addendum deletes the material emissions modeling option from Section 8 and the corresponding Normative Appendix C. The Committee is not aware of the emissions modeling method being used by anyone, but reached out key individuals in the field of emissions testing and modeling. The feedback received includes that while well-established calculation methods exist to perform this modeling, the method is not practical given that product manufacturers don't want to share the measured VOC emission factors necessary to do the modeling. Also, many designers lack sufficient knowledge to implement the modeling. Finally, users of the standard can obtain definitive answers regarding the acceptability of interior product emissions provided via the Material Emissions Reporting path in Section 8.6.1.

This addendum has no impact on the cost of compliance or the stringency of the Standard.

[Note to Reviewers: This addendum makes proposed changes to the current standard. These changes are indicated in the text by underlining (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.]

AAddendum v to 189.1-2023

Modify Section 8.6, delete Section 8.6.2, and delete Appendix C

8.6.Material Emissions. The *building project* shall comply with ~~either~~ Section 8.6.1 ~~or Section 8.6.2~~.

8.6.1. Material Emission Reporting. [*unchanged***]**

~~8.6.2 Materials Emissions Modeling.~~ ~~The emissions of all the materials listed below and used inside of the *weatherproofing system* and applied on-site shall be modeled for individual VOC concentrations. The sum of each individual VOC concentration from the materials listed below shall be shown to be in~~

~~compliance with the limits as listed in CDPH/EHLB/Standard Method, Section 4.3, and shall be compared to 100% of its corresponding listed limit. In addition, the modeling for the building shall include, at a minimum, the criteria listed in Normative Appendix C of this standard. Emissions of materials used for modeling VOC concentrations shall be obtained in accordance with the testing procedures of CDPH/EHLB/Standard Method unless otherwise noted below.~~

~~a. Tile, strip, panel, and plank products, including vinyl composition tile, resilient floor tile, linoleum tile, wood floor strips, parquet flooring, laminated flooring, and modular carpet tile~~

~~b. Sheet and roll goods, including broadloom carpet, sheet vinyl, sheet linoleum, carpet cushion, wallcovering, and other fabric~~

~~c. Rigid panel products, including gypsum board, other wall paneling, insulation board, oriented strand board, medium density fiber board, wood structural panel, acoustical ceiling tiles, and particleboard~~

~~d. Insulation products~~

~~e. Containerized products, including adhesives, sealants, paints, other coatings, primers, and other "wet" products~~

~~f. Cabinets, shelves, and worksurfaces that are permanently attached to the building before occupancy. Emissions of these items shall be obtained in accordance with the ANSI/BIFMA M7.1~~

~~g. New office furniture systems and seating installed prior to initial occupancy. Emissions of these items shall be obtained in accordance with the BIFMA M7.1.~~

~~Exception to 8.6.2: Salvaged materials that have not been refurbished or refinished within one year prior to installation.~~

~~NORMATIVE APPENDIX C BUILDING CONCENTRATIONS~~

~~C1. BUILDING CONCENTRATIONS~~

~~Building concentrations shall be estimated based on the following parameters and criteria:~~

~~a. Laboratory-measured volatile organic compound (VOC) emission factors and actual surface area of all materials as described in (b) below.~~

~~b. At minimum, those materials listed in Section 8.6.2(a) through (g) to be installed shall be modeled.~~

~~c. The actual building parameters for volume, average weekly minimum ventilation rate, and ventilated volume fraction for the building being modeled shall be used.~~

~~d. Standard building scenarios or modeling from similar buildings shall not be allowed.~~

~~e. Average weekly minimum air change rates shall be calculated based on the minimum outdoor airflow and hours of operation for the specific building being modeled.~~

~~f. Steady-state conditions with respect to emission rates and building ventilation may be assumed.~~

~~g. Zero outdoor air concentrations, perfect mixing within the building, and no net losses of VOCs from air due to other effects such as irreversible or net sorption on surfaces (i.e., net sink effects) and chemical reactions may be assumed.~~

~~h. All assumptions shall be clearly stated in the design documents.~~

~~i. The estimated building concentration CBi (µg/m3) of each target VOC shall be calculated using Equation 2~~

~~of CDPH/EHLB/Standard Method, as shown below. Estimated building concentrations of individual target VOCs with multiple sources shall be added to establish a single total estimated building concentration for individual target VOCs.~~

~~$$C_{Bi} = (EF_{Ai} \times A_B)/(V_B \times a_B \times 0.9)$$~~

~~where~~

~~EF_{Ai} = area specific emission rate or emission factor at 96 hours after placing a test specimen in the chamber (14 days total exposure time), µg/m2·h~~

~~A_B = exposed surface area of the installed material in the building, m2~~

~~V_B = building volume, m3~~

~~a_B = average weekly minimum air change rate, 1/h [delete this appendix in its entirety and renumber subsequent appendices]~~