

Public Review Draft

Proposed Addendum ad to Standard 189.1-2017

Standard for the Design of High-Performance Green Buildings Except Low-Rise Residential Buildings

First Public Review Draft (August 2019)
(Draft Shows Proposed Changes to Current Standard)

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Foreword

This addendum deletes the requirements specific to 189.1 for SHGC multipliers for permanent projections, including Table 7.4.2.7. By deleting this, Standard 189.1 reverts to the table in 90.1-2016, which is more up-to-date. With the proposed deletion of Table 7.4.2.7, the definition for “north-oriented,” which does not appear elsewhere in the standard, will also be deleted from Section 3.

Section 7.4.2.7 also allowed a relaxation of the SHGC requirements by 0.1 for north-oriented (within 45 degrees of due north) vertical fenestration for all climate zones. A series of EnergyPlus simulations found that this relaxation of SHGC resulted in increased energy costs except in Climate Zones 4C and 5 through 8 and only for glazing oriented within 22.5 degrees of true north. As a result, the criteria for the SHGC relaxation have been tightened accordingly.

This addendum also deletes the duct insulation section 7.4.3.9. The 189.1 user must comply with the requirements of ASHRAE 90.1-2016. This version of 90.1 has revised duct insulation requirements that generally save more energy than the requirements in 189.1.

[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.]

Addendum ad to 189.1-2017

Revise Section 3 Definitions by deleting the definition of north-oriented

~~north-oriented: facing within 45 degrees of true north within the northern hemisphere (however, facing within 45 degrees of true south in the southern hemisphere).~~

Revise Section 7.4.2.7 as follows and Delete Table 7.4.2.7:

7.4.2.7 SHGC of North Facing Vertical Fenestration. ~~For SHGC compliance, the methodology in ANSI/ASHRAE/IES Standard 90.1, Section 5.5.4.4.1, Exception 2, is allowed, provided that the SHGC multipliers in Table 7.4.2.7 of this standard are used. This requirement supersedes the requirement in ANSI/ASHRAE/IES Standard 90.1, Table 5.5.4.4.1; that table shall not apply. In Climate Zones 4C and 5 through 8,~~

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~~vertical~~ Vertical fenestration that is oriented within 22.5 degrees of true north or oriented in the Northern Hemisphere or is oriented within 22.5 degrees of true south in the Southern Hemisphere, shall be allowed to have a maximum SHGC of 0.10 greater than that specified in ANSI/ASHRAE/IES Standard 90.1, Tables 5.5-1 through 5.5-8. When this provision is used, separate calculations shall be performed for these sections of the building envelope, and these values shall not be averaged with any others for compliance purposes.

Table 7.4.2.7 SHGC Multipliers for Permanent Projections

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Delete Section 7.4.3.9 and renumber subsequent sections

~~**7.4.3.9 Duct Insulation.** Duct insulation shall comply with the minimum requirements in Normative Appendix A, Tables A-2 and A-3. These requirements supersede the requirements in ANSI/ASHRAE/IES Standard 90.1, Table 6.8.2.~~

Delete Tables A-2 and A-3 in Normative Appendix A

~~**Table A-2 (Supersedes Table 6.8.2 in ANSI/ASHRAE/IES Standard 90.1)**~~

~~**Minimum Duct Insulation R-Value^{at} Heating and Cooling-Only Supply Ducts and Return Ducts (I-P)**~~

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~~**Table A-3 (Supersedes Table 6.8.2 in ANSI/ASHRAE/IES Standard 90.1)**~~

~~**Minimum Duct Insulation R-Value^{at} Combined Heating and Cooling Supply Ducts and Return Ducts (I-P)**~~

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~~**Table A-2 (Supersedes Table 6.8.2 in ANSI/ASHRAE/IES Standard 90.1)**~~

~~**Minimum Duct Insulation R-Value^{at} Heating and Cooling-Only Supply Ducts and Return Ducts (SI)**~~

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