



**BSR/ASHRAE/IES Addendum I
to ANSI/ASHRAE/IES Standard 90.1-2020**

Public Review Draft

Proposed Addendum I to Standard 90.1-2019, Energy Standard for Buildings Except Low-Rise Residential Buildings

**First Public Review (July 2020)
(Draft Shows Proposed Changes to Current Standard)**

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FOREWORD

This proposed addendum makes several editorial changes to Appendix G requirements related to the area and orientation of the vertical fenestration in the baseline design. In addition, it describes the methodology that must be used by projects where the baseline vertical fenestration area that must be allocated to a certain building face exceeds the gross above grade wall area of that building face.

For example, a grocery store with 500 ft² gross above-grade exterior wall area facing East and West, and 4,000 ft² gross above-grade exterior wall area facing South and North must have baseline vertical fenestration area of $7\% \times (4,000 \times 2 + 500 \times 2) = 630 \text{ ft}^2$ following Table G3.1.1-1. If proposed design has vertical fenestration only on East facing wall, then all vertical fenestration in the baseline must also be allocated to that face. However, it was previously unclear can this requirement be met since the gross exterior above grade wall area of this face (500 ft²) is less than the baseline vertical fenestration area (630 ft²). The proposed addendum clarifies that the spill-over fenestration area must be assigned to other faces of the building (West, South and North) in proportion to their area.

This addendum impacts an optional performance path in the standard designed to provide increased flexibility and therefore was not subjected to cost effectiveness analysis.

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. Only these changes 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 substantive changes.

Addendum I to 90.1-2020

Revise the Standard as follows (IP Units)

Table G3.1 Modeling Requirements for Calculating Proposed and *Baseline Building Performance*

| No. | Proposed <i>Building Performance</i> | Baseline <i>Building Performance</i> |
|-----|--------------------------------------|--------------------------------------|
| 5. | <i>Building Envelope</i> | |

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c. **Vertical Fenestration Areas.** For *building area types* included in Table [G3.1.1-1](#), *vertical fenestration areas* for new *buildings* and additions shall equal the percentage that in Table [G3.1.1-1](#) based on the area multiplied by the gross area of ~~gross above-grade walls~~ that separate *conditioned spaces* and *semiheated spaces* from the exterior. Where a *building* has multiple *building area types*, each type shall use the values in the table. ~~The vertical fenestration shall be distributed on each face of the building in the same proportion as in the proposed design.~~ For *building areas* not shown in Table [G3.1.1-1](#), *vertical fenestration areas* for new *buildings* and additions shall equal that in the *proposed design* or 40% of *gross above-grade wall area*, whichever is smaller.

The *vertical fenestration* shall be distributed on each face of the *building* in the same proportion as in the *proposed design*, and shall be distributed on each face of the *building* in the same proportions in the *proposed design*. If this would cause the combined *vertical fenestration* and *opaque door area* on a given face to exceed the gross above grade wall area on that face, then the *vertical fenestration area* on other faces shall be increased in proportion to the gross above grade wall area of these faces such that the total baseline building *vertical fenestration area* is equal to that calculated following Table G3.1.1-1.

The *fenestration area* for an *existing building* shall equal the existing *fenestration area* prior to the proposed work and shall be distributed on each face of the *building* in the same proportions as the *existing building*.

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| Table G3.1.1-1 Baseline <i>Building Vertical Fenestration Percentage of Gross Above-Grade-Wall Area</i> | Baseline <i>Building Vertical Fenestration Area as a Percentage of Gross Above-Grade-Wall Area</i> |
|--|---|
| <i>Building Area Types</i> | |

Note to ASHRAE Staff, the rest of the table remains the same.