

Public Review Draft

Proposed Addendum y to Standard 189.1-2017

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

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

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Foreword

This new section addresses situations where wall-mounted mechanical equipment – such as PTACs – can account for a significant portion of the wall area. PTACs can cover as much as 20% of the wall area, having a significant impact on the thermal performance of the wall. ANSI/ASHRAE/IES Standard 90.1, Table 6.8.1-4 is titled Electrically Operated Packaged Terminal Air Conditioners, Packaged Terminal Heat Pumps, Single-Package Vertical Air Conditioners, Single-Package Vertical Heat Pumps, Room Air Conditioners, and Room Air Conditioner Heat Pumps—Minimum Efficiency Requirements.

This proposal creates a new section that requires the U-factor of mechanical equipment to be incorporated into the total U-factor of the wall when that equipment comprises over 1% of the wall area. This ensures that the thermal impact of significant mechanical penetrations is not ignored. Since mechanical equipment is not typically rated for its U-factor, the U-factor for equipment has been set at 0.50. The 1% threshold ensures that de minimis penetrations such as vents and refrigerant lines do not create the need to go through extra steps.

The proposal makes the same modification to the performance approach in Appendix C.

This proposal is based on code language that is currently in the New York City Energy Conservation Code.

Note: *In this addendum, changes to the current standard are indicated in the text by underlining (for additions) and ~~striketrough~~ (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 y to 189.1-2017

Add a new Section 7.4.2.2 as follows and renumber subsequent sections:

7.4.2.2. Mechanical Equipment Penetration Requirements. Where the total area of penetrations from mechanical equipment listed in ANSI/ASHRAE/IES Standard 90.1, Table 6.8.1-4 exceeds 1% of the opaque above-grade wall area, the mechanical equipment penetration area shall be calculated as a separate assembly with a default U-factor of 0.5 Btu/h·ft²·°F (3 W/m²·K) in accordance with ANSI/ASHRAE/IES Standard 90.1, Section 5.5.3 method b.

7.4.2.23 ...

7.4.2.34 ...

7.4.2.45 ...

7.4.2.56 ...

7.4.2.67 ...
7.4.2.78 ...
7.4.2.89 ...
7.4.2.910 ...

Revise Appendix C, Table C1.1, as follows:

Table C1.1 Modifications and Additions to ANSI/ASHRAE/IES Standard 90.1, Appendix G, Table G3.1

Proposed Building Performance	Baseline Building Performance
<p>5. Building Envelope No modifications <u>When the total area of penetrations from mechanical equipment listed in ANSI/ASHRAE/IES Standard 90.1, Table 6.8.1-4 exceeds 1% of the opaque above-grade wall area, the mechanical equipment penetration area shall be calculated as a separate assembly with a default <i>U-factor</i> of 0.5 Btu/h·ft²·°F (3 W/m²·K).</u></p>	<p>No modifications</p>