ADDENDA

ANSI/ASHRAE/IES Addendum dz to
ANSI/ASHRAE/IES Standard 90.1-2013

Energy Standard for Buildings Except Low-Rise Residential Buildings

Approved by the ASHRAE Standards Committee on August 24, 2016; by the ASHRAE Tech Council on August 29, 2016; by the IES Board of Directors on September 26, 2016; and by the American National Standards Institute on August 30, 2016.

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FOREWORD

Addendum dz provides clarification related to changes made by addendum cp. This addendum does not change the criteria of the standard. The base assembly for metal building walls is clarified, and all insulation methods are referenced in Section A3.2 rather than indicating one insulation methodology as the "base assembly." Because continuous insulation is included in the calculation methods, mention is added to the scope of insulation methods to which the equations may be applied (rather than only mentioning all other insulation methods). Clarification also is made to Section A9.4.5.3 to include insulation terms newly defined in addendum cp via Sections A3.2.2.3 and A3.2.2.4, respectively.

[Note: 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.]

Addendum dz to 90.1-2013

Modify the standard as follows (I-P and SI):

A3.2 Metal Building Walls

A3.2.1 General. For the purpose of Section A1.2, the base assembly is a wall ~~where the insulation is compressed between~~ with metal wall panels and a ~~the~~ metal structure. Insulation is installed in accordance with this section. ~~Additional assemblies include continuous insulation, uncompressed and uninterrupted by framing.~~ Insulation exposed to a conditioned space or semiheated space shall have a facing with seams overlapped or sealed.

…

A9.2 Required Procedures. Two- or three-dimensional finite difference and finite volume computer models shall be an acceptable alternative method to calculating the thermal performance values for all assemblies and constructions listed below. The following procedures shall also be permitted to determine all alternative U-factors, F-factors, and C-factors.

a Roofs
(requirements unchanged)

b Above-Grade Walls

1 Mass walls: testing or isothermal planes calculation method or two-dimensional calculation method. The parallel path calculation method is not acceptable.

2 Metal building walls: testing, or for single layer compressed, single layer in cavity, ~~and~~ double-layer systems, and continuous insulation, calculation method in Section A9.4.5.

3 Steel-framed walls: testing or parallel path calculation method using the insulation/framing layer adjustment factors in Table A9.2-2 or the modified zone method.

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4 Wood-framed walls: testing or parallel path calculation method.

5 Other walls: testing or two-dimensional calculation method.

(remainder unchanged)

…

A9.4.5 Metal Building U-Factor Equations. For single-layer metal building roof and single layer compressed metal building wall systems, the calculation procedure outlined in Section A9.4.5.1 shall be used to calculate the assembly U-factor. For double-layer metal building roof systems, the calculation procedure outlined in Section A9.4.5.2 shall be used to calculate the assembly U-factor. For single layer in cavity and double layer metal building wall systems the calculation procedure outlined in Section A9.4.5.3 shall be used to calculate the assembly U-factor. Each of the above insulation methods and calculation procedures also shall be used where continuous insulation is applied to the assembly. The calculation procedures outlined in this section shall not be used for other metal building roof and wall systems.

…

A9.4.5.3 Single ~~Double~~ Layer in ~~Filled~~ Cavity and Double Layer ~~or Liner System~~ Walls. The U-factor of metal building walls that are insulated with a single layer in cavity or multiple layers of mineral fiber insulation (see Figure A9.4.5.3-1) shall be calculated using the procedure outlined in this section. For double layer walls the procedure assumes that the outer layer of insulation is compressed between the wall panel and girt. There may also be a thermal spacer block or continuous insulation present. Air spaces may also exist depending upon the specific drape profiles*….(remainder of paragraph unchanged)*

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ASHRAE's short-range goal is to ensure that the systems and components within its scope do not impact the indoor and outdoor environment to a greater extent than specified by the Standards and Guidelines as established by itself and other responsible bodies.

As an ongoing goal, ASHRAE will, through its Standards Committee and extensive Technical Committee structure, continue to generate up-to-date Standards and Guidelines where appropriate and adopt, recommend, and promote those new and revised Standards developed by other responsible organizations.

Through its *Handbook*, appropriate chapters will contain up-to-date Standards and design considerations as the material is systematically revised.

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