ANSI/ASHRAE Addendum *b* to
ANSI/ASHRAE Standard 90.2-2001

ASHRAE® STANDARD

Energy-Efficient Design of Low-Rise Residential Buildings

Approved by the ASHRAE Standards Committee January 25, 2003; by the ASHRAE Board of Directors January 30, 2003; and by the American National Standards Institute April 3, 2003.

This standard is under continuous maintenance by a Standing Standard Project Committee (SSPC) for which the Standards Committee has established a documented program for regular publication of addenda or revisions, including procedures for timely, documented, consensus action on requests for change to any part of the standard. The change submittal form, instructions, and deadlines are given at the back of this document and may be obtained in electronic form from ASHRAEís Internet Home Page, *http://www.ashrae.org*, or in paper form from the Manager of Standards. The latest edition of an ASHRAE Standard and printed copies of a public review draft may be purchased from ASHRAE Customer Service, 1791 Tullie Circle, NE, Atlanta, GA 30329-2305. E-mail: *orders@ashrae.org*. Fax: 404-321-5478. Telephone: 404-636-8400 (worldwide), or toll free 1-800-527-4723 (for orders in U.S. and Canada).

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ANSI

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SPECIAL NOTE

This American National Standard (ANS) is a national voluntary consensus standard developed under the auspices of the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE). Consensus is defined by the American National Standards Institute (ANSI), of which ASHRAE is a member and which has approved this standard as an ANS, as "substantial agreement reached by directly and materially affected interest categories. This signifies the concurrence of more than a simple majority, but not necessarily unanimity. Consensus requires that all views and objections be considered, and that an effort be made toward their resolution." Compliance with this standard is voluntary until and unless a legal jurisdiction makes compliance mandatory through legislation.

ASHRAE obtains consensus through participation of its national and international members, associated societies, and public review.

ASHRAE Standards are prepared by a Project Committee appointed specifically for the purpose of writing the Standard. The Project Committee Chair and Vice-Chair must be members of ASHRAE; while other committee members may or may not be ASHRAE members, all must be technically qualified in the subject area of the Standard. Every effort is made to balance the concerned interests on all Project Committees.

The Manager of Standards of ASHRAE should be contacted for:

a. interpretation of the contents of this Standard,
b. participation in the next review of the Standard,
c. offering constructive criticism for improving the Standard,
d. permission to reprint portions of the Standard.

(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.)

FOREWORD

The proposed changes to Section 5.2.2.1.4 and Table 5-1 reflect modifications to the text to accurately depict the material under consideration in Table 5-1. This is accomplished in part by substituting the word "steel" for "metal." The modifications to Table 5-1, by changing one category to "Nominal Stud Size" and deleting "Gauge of Stud," are necessary as a matter of coordination and consistency with steel industry standard terminology and dimensional designations as well as coordination with the national model building codes and standards. The changes to the note below Table 5-1 remove the inconsistency that was present between the note and the category "Gauge of Stud" and insert in its place language that is consistent with current industry standards and terminology.

Unless otherwise noted, underlining indicates addition and strikethrough indicates deletion.

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Change 5.2.2.1.4 as indicated below.

5.2.2.1.4 ~~Metal~~ Steel Stud Walls. The thermal transmittance of frame walls that contain ~~metal~~ steel stud assemblies shall be calculated using a series path procedure that corrects for parallel paths, as presented in Equations 5-3 and 5-4.

(Equation and abbreviations/definitions to remain unchanged.)

Change Table 5-1 as indicated below.

TABLE 5-1
Wall Sections with ~~Metal~~ Steel Studs Parallel Path Correction Factors[a]

~~Size of Members~~ Nominal Stud Size (a)	~~Gauge of Studs (a)~~	Spacing of Framing, in.	Cavity Insulation R-Value	Correction Factor	Effective Framing/ Cavity R-Values
2 × 4	~~18 – 16~~	16 o.c.	R-11 R-13 R-15	0.50 0.46 0.43	R-5.5 R-6.0 R-6.4
2 × 4	~~18 – 16~~	24 o.c.	R-11 R-13 R-15	0.60 0.55 0.52	R-6.6 R-7.2 R-7.8
2 × 6	~~18 – 16~~	16 o.c.	R-19 R-21	0.37 0.35	R-7.1 R-7.4
2 × 6	~~18 – 16~~	24 o.c.	R-19 R-21	0.45 0.43	R-8.6 R-9.0
2 × 8	~~18 – 16~~	16 o.c.	R-25	0.31	R-7.8
2 × 8	~~18 – 16~~	24 o.c.	R-25	0.38	R-9.6

~~a These factors can be applied to metal studs of this gauge or thinner:~~
(a) Applies to steel member studs up to a maximum uncoated thickness of 0.064 in. (64 mil) (16 gauge).

POLICY STATEMENT DEFINING ASHRAE'S CONCERN FOR THE ENVIRONMENTAL IMPACT OF ITS ACTIVITIES

ASHRAE is concerned with the impact of its members' activities on both the indoor and outdoor environment. ASHRAE's members will strive to minimize any possible deleterious effect on the indoor and outdoor environment of the systems and components in their responsibility while maximizing the beneficial effects these systems provide, consistent with accepted standards and the practical state of the art.

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.

ASHRAE will take the lead with respect to dissemination of environmental information of its primary interest and will seek out and disseminate information from other responsible organizations that is pertinent, as guides to updating standards and guidelines.

The effects of the design and selection of equipment and systems will be considered within the scope of the system's intended use and expected misuse. The disposal of hazardous materials, if any, will also be considered.

ASHRAE's primary concern for environmental impact will be at the site where equipment within ASHRAE's scope operates. However, energy source selection and the possible environmental impact due to the energy source and energy transportation will be considered where possible. Recommendations concerning energy source selection should be made by its members.