

# ADDENDA

**ANSI/ASHRAE/IES Addendum c to  
ANSI/ASHRAE/IES Standard 100-2024**

# Energy and Emissions Building Performance Standard for Existing Buildings

Approved by ASHRAE and the American National Standards Institute on March 31, 2025, and by the Illuminating Engineering Society on March 10, 2025.

This addendum was approved 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. Instructions for how to submit a change can be found on the ASHRAE® website ([www.ashrae.org/continuous-maintenance](http://www.ashrae.org/continuous-maintenance)).

The latest edition of an ASHRAE Standard may be purchased on the ASHRAE website ([www.ashrae.org](http://www.ashrae.org)) or from ASHRAE Customer Service, 180 Technology Parkway, Peachtree Corners, GA 30092. E-mail: [orders@ashrae.org](mailto:orders@ashrae.org). Fax: 678-539-2129. Telephone: 404-636-8400 (worldwide), or toll free 1-800-527-4723 (for orders in US and Canada). For reprint permission, go to [www.ashrae.org/permissions](http://www.ashrae.org/permissions).

© 2025 ASHRAE

ISSN 1041-2336



**ASHRAE Standing Standard Project Committee 100**

**Cognizant TC: 7.6 Building Energy Performance**

**SPLS Liaison: Abdel Kader Darwich · IES Liaison: Mark Lie**

**ASHRAE Staff Liaison: Emily Toto**

Wayne H. Stoppelmoor, Jr.,* <i>Chair</i>	Ramanathan Dharmarajan	Harold Jepsen*	Daniel G. Salinas*
Glenn Friedman, <i>Vice Chair</i>	Marshall Duer-Balkind	Jamie Kono*	Terry Sharp*
Jamie Kono,* <i>Vice Chair</i>	William G. Eades	Dennis R. Landsberg*	John M. Topmiller*
Jinen Adenwala	James Early	Toby K.W. Lau*	Cedric S. Trueman*
Anna Brannon	Joseph T. Firantello*	Richard J. Liesen	Patrick Villaume
Kara L. Brooks*	Curtis Fong*	Andrea Mengual	Austin Wallace*
Parag Cameron-Rastogi	Joshua A. Gemmell	Thomas Ortiz	Michael P. Williams*
Robert E. Chase	Supriya Goel	Natasha A. Reynolds*	Ted A. Williams
Kimberly Cheslak	Kyle Hasenkox*	Arif Rokoni	Ayman Youssef*
Scott Delo	Luke G. Howard	Steven Rosenstock*	Alexander M. Zhivov*
Sean Denniston	Kinga Porst Hydras*	Aniruddh Roy	

\* Denotes members of voting status when the document was approved for publication

---

**ASHRAE STANDARDS COMMITTEE 2024–2025**

Douglas D. Fick, <i>Chair</i>	Jaap Hogeling	Kenneth A. Monroe	Paolo M. Tronville
Adrienne G. Thomle, <i>Vice Chair</i>	Jennifer A. Isenbeck	Daniel H. Nall	Douglas K. Tucker
Hoy R. Bohanon, Jr.	Satish N. Iyengar	Philip J. Naughton	William F. Walter
Kelley P. Cramm	Phillip A. Johnson	Kathleen Owen	David P. Yuill
Abdel K. Darwich	Paul A. Lindahl, Jr.	Gwelen Paliaga	Susanna S. Hanson, <i>BOD ExO</i>
Drake H. Erbe	Julie Majurin	Karl L. Peterman	Wade H. Conlan, <i>CO</i>
Patricia Graef	Lawrence C. Markel	Justin M. Prosser	
William M. Healy	Margaret M. Mathison	Christopher J. Seeton	

Ryan Shanley, *Senior Manager of Standards*

---

**SPECIAL NOTE**

This American National Standard (ANS) is a national voluntary consensus Standard developed under the auspices of 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 Senior Manager of Standards of ASHRAE should be contacted for

- interpretation of the contents of this Standard,
- participation in the next review of the Standard,
- offering constructive criticism for improving the Standard, or
- permission to reprint portions of the Standard.

---

**DISCLAIMER**

ASHRAE uses its best efforts to promulgate Standards and Guidelines for the benefit of the public in light of available information and accepted industry practices. However, ASHRAE does not guarantee, certify, or assure the safety or performance of any products, components, or systems tested, installed, or operated in accordance with ASHRAE's Standards or Guidelines or that any tests conducted under its Standards or Guidelines will be nonhazardous or free from risk.

---

**ASHRAE INDUSTRIAL ADVERTISING POLICY ON STANDARDS**

ASHRAE Standards and Guidelines are established to assist industry and the public by offering a uniform method of testing for rating purposes, by suggesting safe practices in designing and installing equipment, by providing proper definitions of this equipment, and by providing other information that may serve to guide the industry. The creation of ASHRAE Standards and Guidelines is determined by the need for them, and conformance to them is completely voluntary.

In referring to this Standard or Guideline and in marking of equipment and in advertising, no claim shall be made, either stated or implied, that the product has been approved by ASHRAE.

**(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. Unresolved objectors on informative material are not offered the right to appeal at ASHRAE or ANSI.)**

## FOREWORD

*Addendum c revises the contents of Sections 7.1.2 and 7.1.3 and Normative Appendix B to add U.S. regional tables for source energy use intensity targets and greenhouse gas emissions intensity targets to the normative section of the standard to provide authorities having jurisdictions and local communities in the U.S. with the option to use regional performance target values. The values shown in these tables were reviewed and approved with the 2024 edition of ASHRAE Standard 100.*

*The new tables are available as a downloadable spreadsheet at [www.ashrae.org/100files](http://www.ashrae.org/100files).*

**Informative 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.

## Addendum c to Standard 100-2024

**Modify Section 7 as follows.**

### 7. ENERGY USE AND GREENHOUSE GAS EMISSIONS ANALYSIS AND TARGET REQUIREMENTS

#### 7.1 Building Type, Energy Use Intensity Targets, and Greenhouse Gas Intensity Targets

[ . . . ]

**7.1.2 Energy Use Intensity Targets** *EUI targets* based on *site energy* are shown in Table 7-2 in both I-P and SI units. *EUI targets* based on *source energy* are shown in Table 7-3 in both I-P and SI units. *Site energy* electricity use and fossil fuel use targets listed in Tables 7-5 and 7-6, respectively, are for use in target calculations by *authorities having jurisdiction*.

All *EUI targets* and ~~greenhouse gas intensity (GHGI) targets~~ were derived from 2012 Commercial Building Energy Consumption Survey (CBECS)<sup>3</sup> and 2015 Residential Energy Consumption Survey (RECS)<sup>4</sup> data by Oak Ridge National Laboratory (ORNL) and the U.S. Department of Energy (DOE) and represent the 25th bottom (low energy) percentile of energy use by each *building* category.

The median numbers for each *building* category from CBECS and RECS data representing all *buildings* in the *building* type/activity across all climatic conditions were extrapolated to 20 DOE climate zones using multipliers generated through simulation of a representative *building* for each group of *building* categories. Informative Appendix G gives a detailed explanation of *EUI target* table derivation.

**7.1.2.1 Source Energy Use Intensity Targets with Regional Conversion Factors.** When an authority having jurisdiction (AHJ) or a local community uses the U.S. regional electricity source energy conversion factors provided in Table 5-3, the source *EUI targets* shall be the corresponding *EUI targets* provided in Normative Appendix B, Table B-2.

**7.1.2.2 ~~7.1.2.1~~ Source Energy Use Intensity Targets with Custom Source Energy Conversion Factors.**

[ . . . ]

**7.1.3 Greenhouse Gas Intensity Targets.** *GHGI targets* are shown in Table 7-4 in both I-P and SI units. *GHGI targets* were derived from *EUI targets* based on *site energy* as described in Section 7.1.2 using the GHG conversion factors shown in Table 5-2.

All *GHGI targets* were derived from 2012 CBECS<sup>3</sup> and 2015 (RECS)<sup>4</sup> data by ORNL and DOE and represent the 25th bottom (low energy) percentile of energy use by each *building* category.

The numbers for each *building* category were derived from CBECS and RECS data representing all *buildings* in the *building* type/activity across all climatic conditions extrapolated to 20 DOE climate zones using multipliers generated through simulation of a representative *building* for each group of *building* categories. A detailed explanation of *EUI target* table derivation is provided in Informative Appendix G.

**7.1.3.1 Greenhouse Gas Intensity Targets with Regional Conversion Factors.** When an AHJ or a local community uses the U.S. regional electricity *GHGI* factors provided in Table 5-4, the *GHGI targets* shall be the corresponding *GHGI targets* provided in Normative Appendix B, Table B-2.

**7.1.3.2 7.1.3.1 Greenhouse Gas Intensity Targets with Custom Greenhouse Gas Emission Conversion Factors**

[...]

*Add new Section B2 to Normative Appendix B as follows. For readability, the text has not been underlined.*

[...]

**B2. ENERGY USE INTENSITY AND GREENHOUSE GAS INTENSITY REGIONAL TARGETS TABLES**

The region-specific *energy use intensity (EUI)* and *greenhouse gas intensity (GHGI)* targets tables are available at [www.ashrae.org/100files](http://www.ashrae.org/100files). An index of these tables is provided in Figure B-1.

**Informative Notes:**

1. The tables show all climate zones; however, each e-GRID subregion will not be applicable to all climate zones shown in the tables.
2. The “Regional GHGI Conversion Factor” and “Regional Target” tables were created using Sections 7.1.2.1 and 7.1.3.1 to apply the U.S. regional electricity source and *GHG* factors (Tables 5-3 and 5-4). These tables provide region-specific methodologies that reflect the unique energy use patterns and *GHG* emissions of various subnational geographic areas. By leveraging robust datasets that capture *building* activity energy use at the state, province, or city level, the tables account for diverse climate zones and distinct *building* archetypes within each region. Consequently, the resulting site or source *EUI* and *GHGI* metrics in these tables may vary from other methodologies presented in the ANSI/ASHRAE/IES Standard 100 tables in Section 7 for comparable climate zones. These region-specific conversion factors and region-specific targets allow local jurisdictions to use local, accurate, and relevant benchmarks for energy performance and *GHG* emissions reduction, tailored to their regional characteristics.

**B2.1 Informative Example Using Table B2 to Determine Regional GHGI Conversion Factors and Regional Targets**

A city *buildings* department (*AHJ*), located in Central Texas, decides to substitute the national grid electricity *GHG emissions* conversion factor in Table 5-2 with the appropriate regional factor in Table 5-4.

		Source EUI (IP units)	Source EUI (SI units)	GHGI (IP units)	GHGI (SI units)
AKGD	ASCC Alaska Grid	<a href="#">B2-EUI-AKGD-IP</a>	<a href="#">B2-EUI-AKGD-SI</a>	<a href="#">B2-GHGI-AKGD-IP</a>	<a href="#">B2-GHGI-AKGD-SI</a>
AKMS	ASCC Miscellaneous	<a href="#">B2-EUI-AKMS-IP</a>	<a href="#">B2-EUI-AKMS-SI</a>	<a href="#">B2-GHGI-AKMS-IP</a>	<a href="#">B2-GHGI-AKMS-SI</a>
ERCT	ERCOT All	<a href="#">B2-EUI-ERCT-IP</a>	<a href="#">B2-EUI-ERCT-SI</a>	<a href="#">B2-GHGI-ERCT-IP</a>	<a href="#">B2-GHGI-ERCT-SI</a>
FRCC	FRCC All	<a href="#">B2-EUI-FRCC-IP</a>	<a href="#">B2-EUI-FRCC-SI</a>	<a href="#">B2-GHGI-FRCC-IP</a>	<a href="#">B2-GHGI-FRCC-SI</a>
HIMS	HICC Miscellaneous	<a href="#">B2-EUI-HIMS-IP</a>	<a href="#">B2-EUI-HIMS-SI</a>	<a href="#">B2-GHGI-HIMS-IP</a>	<a href="#">B2-GHGI-HIMS-SI</a>
HIOA	HICC Oahu	<a href="#">B2-EUI-HIOA-IP</a>	<a href="#">B2-EUI-HIOA-SI</a>	<a href="#">B2-GHGI-HIOA-IP</a>	<a href="#">B2-GHGI-HIOA-SI</a>
MROE	MRO East	<a href="#">B2-EUI-MROE-IP</a>	<a href="#">B2-EUI-MROE-SI</a>	<a href="#">B2-GHGI-MROE-IP</a>	<a href="#">B2-GHGI-MROE-SI</a>
MROW	MRO West	<a href="#">B2-EUI-MROW-IP</a>	<a href="#">B2-EUI-MROW-SI</a>	<a href="#">B2-GHGI-MROW-IP</a>	<a href="#">B2-GHGI-MROW-SI</a>
NYLI	NPCC Long Island	<a href="#">B2-EUI-NYLI-IP</a>	<a href="#">B2-EUI-NYLI-SI</a>	<a href="#">B2-GHGI-NYLI-IP</a>	<a href="#">B2-GHGI-NYLI-SI</a>
NEWE	NPCC New England	<a href="#">B2-EUI-NEWE-IP</a>	<a href="#">B2-EUI-NEWE-SI</a>	<a href="#">B2-GHGI-NEWE-IP</a>	<a href="#">B2-GHGI-NEWE-SI</a>
NYCW	NPCC NYC/Westchester	<a href="#">B2-EUI-NYCW-IP</a>	<a href="#">B2-EUI-NYCW-SI</a>	<a href="#">B2-GHGI-NYCW-IP</a>	<a href="#">B2-GHGI-NYCW-SI</a>
NYUP	NPCC Upstate NY	<a href="#">B2-EUI-NYUP-IP</a>	<a href="#">B2-EUI-NYUP-SI</a>	<a href="#">B2-GHGI-NYUP-IP</a>	<a href="#">B2-GHGI-NYUP-SI</a>
RFCE	RFC East	<a href="#">B2-EUI-RFCE-IP</a>	<a href="#">B2-EUI-RFCE-SI</a>	<a href="#">B2-GHGI-RFCE-IP</a>	<a href="#">B2-GHGI-RFCE-SI</a>
RFCM	RFC Michigan	<a href="#">B2-EUI-RFCM-IP</a>	<a href="#">B2-EUI-RFCM-SI</a>	<a href="#">B2-GHGI-RFCM-IP</a>	<a href="#">B2-GHGI-RFCM-SI</a>
RFCW	RFC West	<a href="#">B2-EUI-RFCW-IP</a>	<a href="#">B2-EUI-RFCW-SI</a>	<a href="#">B2-GHGI-RFCW-IP</a>	<a href="#">B2-GHGI-RFCW-SI</a>
SRMW	SERC Midwest	<a href="#">B2-EUI-SRMW-IP</a>	<a href="#">B2-EUI-SRMW-SI</a>	<a href="#">B2-GHGI-SRMW-IP</a>	<a href="#">B2-GHGI-SRMW-SI</a>
SRMV	SERC Mississippi Valley	<a href="#">B2-EUI-SRMV-IP</a>	<a href="#">B2-EUI-SRMV-SI</a>	<a href="#">B2-GHGI-SRMV-IP</a>	<a href="#">B2-GHGI-SRMV-SI</a>
SRSO	SERC South	<a href="#">B2-EUI-SRSO-IP</a>	<a href="#">B2-EUI-SRSO-SI</a>	<a href="#">B2-GHGI-SRSO-IP</a>	<a href="#">B2-GHGI-SRSO-SI</a>
SRTV	SERC Tennessee Valley	<a href="#">B2-EUI-SRTV-IP</a>	<a href="#">B2-EUI-SRTV-SI</a>	<a href="#">B2-GHGI-SRTV-IP</a>	<a href="#">B2-GHGI-SRTV-SI</a>
SRVC	SERC Virginia/Carolina	<a href="#">B2-EUI-SRVC-IP</a>	<a href="#">B2-EUI-SRVC-SI</a>	<a href="#">B2-GHGI-SRVC-IP</a>	<a href="#">B2-GHGI-SRVC-SI</a>
SPNO	SPP North	<a href="#">B2-EUI-SPNO-IP</a>	<a href="#">B2-EUI-SPNO-SI</a>	<a href="#">B2-GHGI-SPNO-IP</a>	<a href="#">B2-GHGI-SPNO-SI</a>
SPSO	SPP South	<a href="#">B2-EUI-SPSO-IP</a>	<a href="#">B2-EUI-SPSO-SI</a>	<a href="#">B2-GHGI-SPSO-IP</a>	<a href="#">B2-GHGI-SPSO-SI</a>
CAMX	WECC California	<a href="#">B2-EUI-CAMX-IP</a>	<a href="#">B2-EUI-CAMX-SI</a>	<a href="#">B2-GHGI-CAMX-IP</a>	<a href="#">B2-GHGI-CAMX-SI</a>
NWPP	WECC Northwest	<a href="#">B2-EUI-NWPP-IP</a>	<a href="#">B2-EUI-NWPP-SI</a>	<a href="#">B2-GHGI-NWPP-IP</a>	<a href="#">B2-GHGI-NWPP-SI</a>
RMPA	WECC Rockies	<a href="#">B2-EUI-RMPA-IP</a>	<a href="#">B2-EUI-RMPA-SI</a>	<a href="#">B2-GHGI-RMPA-IP</a>	<a href="#">B2-GHGI-RMPA-SI</a>
AZNM	WECC Southwest	<a href="#">B2-EUI-AZNM-IP</a>	<a href="#">B2-EUI-AZNM-SI</a>	<a href="#">B2-GHGI-AZNM-IP</a>	<a href="#">B2-GHGI-AZNM-SI</a>

**Figure B-1 Region-specific EUI and GHGI targets table index.**

The *AHJ* performs the following steps:

- a. The *AHJ* first determines the eGrid subregion for their area by searching for the applicable zip codes within the EPA Power Profiler (<https://www.epa.gov/egrid/power-profiler#/>). The *AHJ* determines that the entire city is within the eGrid subregion of ERCT.
- b. The *AHJ* is using I-P units, and their area is in climate zone 3A.
- c. The *AHJ* substitutes the “Source Energy Conversion Factor” value for grid electricity provided in Table 5-2 (2.74) with the “Source Energy Conversion Factor—Captured Energy Efficiency Approach” value for ERCT provided in Table 5-3 (2.51).
- d. The *AHJ* substitutes the “Greenhouse Gas Emissions Factor, GWP<sub>100</sub>,” value for grid electricity provided in Table 5-2 (0.326 lb CO<sub>2</sub>e/kBtu) with the I-P value for ERCT provided in Table 5-4 (0.328 lb CO<sub>2</sub>e/kBtu).
- e. The *AHJ* locates the tables by opening Table B-2 at [www.ashrae.org/100files](http://www.ashrae.org/100files) and finding the tabs labeled “B2-EUI-ERCT-IP” and “B2-GHGI-ERCT-IP.”
- f. The *AHJ* requires that buildings use Tables B2-EUI-ERCT-IP and B2-GHGI-ERCT-IP for their *EUI* and *GHGI* targets.

Next, a qualified person determines the compliance for a high school located in Central Texas (climate zone 3A), where the *AHJ* has specified use of the eGrid subregion conversion factors for source *EUI* and *GHGI* calculations, as shown in the previous example. The high school is 10,000 ft<sup>2</sup> with 400,000 kBtu/yr of grid electricity use and 100,000 kBtu/yr of grid natural gas use. The qualified person performs the following steps:

- a. The qualified person calculates the *building*'s source *EUI* using the *AHJ*-specified conversion factors:
  1. 2.51 (Table 5-3, ERCT value for “Captured Energy Efficiency Approach”) for *source energy* for grid electricity × 400,000 kBtu/yr = 1,004,000 kBtu/yr *source energy*
  2. 1.09 (Table 5-2, “Source Energy Conversion Factor” value for grid natural gas) for *source energy* for grid natural gas × 100,000 kBtu/yr = 109,000 kBtu/yr *source energy*
  3. Total *source energy* = 1,004,000 kBtu/yr + 109,000 kBtu/yr = 1,113,000 kBtu/yr
  4. Source *EUI* = 111.3 kBtu/ft<sup>2</sup>/yr
- b. The qualified person looks up the source *EUI* target in Table B2-EUI-ERCT-IP and finds that the value corresponding to climate zone 3A and the property type, “high school,” is 86 kBtu/ft<sup>2</sup>/yr.
- c. Summary: The *building*'s source *EUI* is 111.3 kBtu/ft<sup>2</sup>/yr and the target source *EUI* is 86 kBtu/ft<sup>2</sup>/yr.
- d. The qualified person then calculates the *building*'s *GHGI* using the *AHJ*-specified conversion factors:
  1. 0.328 lb CO<sub>2</sub>e/kBtu (Table 5-4, I-P value for ERCT) for *GHG* for grid electricity × 400,000 kBtu/yr = 131,200 lb CO<sub>2</sub>e/yr
  2. 0.147 lb CO<sub>2</sub>e/kBtu (Table 5-2, “Greenhouse Gas Emissions Factor” value for grid natural gas) for grid natural gas × 100,000 kBtu/yr = 14,700 lb CO<sub>2</sub>e/yr
  3. Total *GHG* emissions = 131,200 lb CO<sub>2</sub>e/yr + 14,700 lb CO<sub>2</sub>e/yr = 145,900 lb CO<sub>2</sub>e/yr
  4. *GHGI* = 14.59 lb CO<sub>2</sub>e/kBtu/ft<sup>2</sup>/yr
- e. The qualified person looks up the target *GHGI* in Table B2-EUI-ERCT-IP and finds that the value corresponding to climate zone 3A and the property type, “high school,” is 11.3 lb CO<sub>2</sub>e/kBtu/ft<sup>2</sup>/yr.
  1. The *building*'s *GHGI* is 14.59 lb CO<sub>2</sub>e/kBtu/ft<sup>2</sup>/yr and the target *GHGI* is 11.3 lb CO<sub>2</sub>e/kBtu/ft<sup>2</sup>/yr.

## **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.

**ASHRAE · 180 Technology Parkway · Peachtree Corners, GA 30092 · [www.ashrae.org](http://www.ashrae.org)**

### **About ASHRAE**

Founded in 1894, ASHRAE is a global professional society committed to serve humanity by advancing the arts and sciences of heating, ventilation, air conditioning, refrigeration, and their allied fields.

As an industry leader in research, standards writing, publishing, certification, and continuing education, ASHRAE and its members are dedicated to promoting a healthy and sustainable built environment for all, through strategic partnerships with organizations in the HVAC&R community and across related industries.

To stay current with this and other ASHRAE Standards and Guidelines, visit [www.ashrae.org/standards](http://www.ashrae.org/standards), and connect on LinkedIn, Facebook, Twitter, and YouTube.

### **Visit the ASHRAE Bookstore**

ASHRAE offers its Standards and Guidelines in print, as immediately downloadable PDFs, and via ASHRAE Digital Collections, which provides online access with automatic updates as well as historical versions of publications. Selected Standards and Guidelines are also offered in redline versions that indicate the changes made between the active Standard or Guideline and its previous version. For more information, visit the Standards and Guidelines section of the ASHRAE Bookstore at [www.ashrae.org/bookstore](http://www.ashrae.org/bookstore).

### **IMPORTANT NOTICES ABOUT THIS STANDARD**

**To ensure that you have all of the approved addenda, errata, and interpretations for this Standard, visit [www.ashrae.org/standards](http://www.ashrae.org/standards) to download them free of charge.**

**Addenda, errata, and interpretations for ASHRAE Standards and Guidelines are no longer distributed with copies of the Standards and Guidelines. ASHRAE provides these addenda, errata, and interpretations only in electronic form to promote more sustainable use of resources.**