ASHRAE Addendum b to
ASHRAE Guideline 12-2020

Managing the Risk of Legionellosis Associated with Building Water Systems

Approved by ASHRAE on April 8, 2021.

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 guideline. Instructions for how to submit a change can be found on the ASHRAE® website (https://www.ashrae.org/continuous-maintenance).

The latest edition of an ASHRAE Standard may be purchased on the ASHRAE website (www.ashrae.org) or from ASHRAE Customer Service, 180 Technology Parkway NW, Peachtree Corners, GA 30092. E-mail: 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.

© 2021 ASHRAE  ISSN 1049-894X
SPECIAL NOTE

This Guideline was developed under the auspices of ASHRAE. ASHRAE Guidelines are developed under a review process, identifying a Guideline for the design, testing, application, or evaluation of a specific product, concept, or practice. As a Guideline it is not definitive but encompasses areas where there may be a variety of approaches, none of which must be precisely correct. ASHRAE Guidelines are written to assist professionals in the area of concern and expertise of ASHRAE’s Technical Committees and Task Groups.

ASHRAE Guidelines are prepared by Project Committees appointed specifically for the purpose of writing Guidelines. 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 Guideline.

Development of ASHRAE Guidelines follows procedures similar to those for ASHRAE Standards except that (a) committee balance is desired but not required, (b) an effort is made to achieve consensus but consensus is not required, (c) Guidelines are not appealable, and (d) Guidelines are not submitted to ANSI for approval.

The Senior Manager of Standards at ASHRAE should be contacted for
a. interpretation of the contents of this Guideline,
b. participation in the next review of the Guideline,
c. offering constructive criticism for improving the Guideline, or
 d. permission to reprint portions of the Guideline.

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.

© ASHRAE. Per international copyright law, additional reproduction, distribution, or transmission in either print or digital form is not permitted without ASHRAE's prior written permission.

ASHRAE Standing Standard Project Committee 188
Co-cognizant TCs: 3.6, Water Treatment; and 6.6, Service Water Heating Systems
SPLS Liaison: Walter T. Grondzik
ASHRAE Staff Liaison: Ryan Shanley

Paul A. Lindahl, Jr.*, Chair
Michael P. Patton*, Vice-Chair
Helen R. Cerra*, Secretary
Shaimaa Ahmed
Tyler Anderson
Stu Asay*
Henry A. Becker*
Robert Booth*
Clive R. Broadbent
Michael S. Castro
Jon J. Cohen
Dustin Cohick
Alberto Comazzi
Peter V. DeMarco

Angela Fasnacht
Katherine K. Flamm
Jonathan J. Flannery
William A. Gaines, III*
Ronald George*
Patricia Graef
Brian J. Hageman*
Dann Holmes
Joshua J. Ince
Lewis Johnson*
Amir Jakar
Sergio La Mura
Paul Lem
Claressa Lucas*

Thomas E. Mastbaum
Ramiro Mata
William F. McCoy
Frank T. Morrison*
Ken Mortensen
Eric R. Myers*
Frank Myers*
Richard J. Pearson*
Heather L. Platt Guiliano*
Mahesh L. Prabhu

Bob Silva
Bill Smith*
Gerald G. Smith
Jessica C. Smith
Janet E. Stout*
Alain Trahan*
Andrew Ward*
Thomas E. Watson
Ronald E. Wood*

Patrick Shaw
Matt Sigler
Bob Silva
Billy Smith*
Gerald G. Smith
Jackson C. Smith
Janet E. Stout*
Alain Trahan*
Andrew Ward*

Michael P. Patton*, Vice-Chair
Helen R. Cerra*, Secretary
Shaimaa Ahmed
Tyler Anderson
Stu Asay*
Henry A. Becker*
Robert Booth*
Clive R. Broadbent
Michael S. Castro
Jon J. Cohen
Dustin Cohick
Alberto Comazzi
Peter V. DeMarco

Angela Fasnacht
Katherine K. Flamm
Jonathan J. Flannery
William A. Gaines, III*
Ronald George*
Patricia Graef
Brian J. Hageman*
Dann Holmes
Joshua J. Ince
Lewis Johnson*
Amir Jakar
Sergio La Mura
Paul Lem
Claressa Lucas*

Thomas E. Mastbaum
Ramiro Mata
William F. McCoy
Frank T. Morrison*
Ken Mortensen
Eric R. Myers*
Frank Myers*
Richard J. Pearson*
Heather L. Platt Guiliano*
Mahesh L. Prabhu

Bob Silva
Bill Smith*
Gerald G. Smith
Jessica C. Smith
Janet E. Stout*
Alain Trahan*
Andrew Ward*
Thomas E. Watson
Ronald E. Wood*

Patrick Shaw
Matt Sigler
Bob Silva
Billy Smith*
Gerald G. Smith
Jackson C. Smith
Janet E. Stout*
Alain Trahan*
Andrew Ward*

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

ASHRAE STANDARDS COMMITTEE 2020–2021

Drury B. Crawley, Chair
Rick M. Heiden, Vice Chair
Els Baert
Charles S. Barnaby
Robert B. Burkhead
Thomas E. Cappellin
Douglas D. Fick
Walter T. Grondzik

Susanna S. Hanson
Jonathan Humble
Srinivas Katipamula
Gerald J. Kettler
Essam E. Khalil
Malcolm D. Knight
Jay A. Kohler
Larry Kouma

Cesar L. Lim
James D. Lutz
Karl L. Peterman
Eric J. Phelps
David Robin
Lawrence J. Schoen
Steven C. Sill
Richard T. Swierczyna

Christian R. Taber
Russell C. Tharp
Theresa A. Weston
Craig P. Wray
Jaap Hogeling, BOD ExO
William F. McQuade, CO

Connor Barbaresi, Senior Manager of Standards

© ASHRAE. Per international copyright law, additional reproduction, distribution, or transmission in either print or digital form is not permitted without ASHRAE's prior written permission.
FOREWORD

Addendum b to Guideline 12-2020 includes reference to the potential use of alternate heat sources, such as electric heat trace, alone or as a supplement to recirculation, to maintain hot water throughout the building hot-water system at or above the recommended minimum temperature. The addendum also updates the reference for the Cooling Technology Institute Guideline from the old designation of WTB-148 to the new designation, GDL-159.

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.

Modify Section 5.3.1 as shown. The remainder of Section 5 is unchanged.

5.3.1 Temperature Control

[e. Alternate heat sources, such as self-regulating electric heat trace, can be used alone or as a supplement to recirculation to maintain hot water consistently at or above 120°F (49°C) throughout the building hot-water system, including water in the pipes returning to the water heater. Where an alternate heat source is used,
1. the alternate heat source should include all controls necessary to prevent overheating and to maintain hot water consistently at or above 120°F (49°C) at every point throughout the hot-water system, including during periods when no hot water is drawn from the taps and when there is no hot-water recirculation;
2. consider the maximum water temperature imparted by the alternate heat source when determining what controls or adjustments are needed at or near the point of use to reduce the risk of scalding and to comply with AHJ discharge temperature requirements, including the maximum water temperature imparted during periods when there is no hot water drawn from the taps and when there is no hot-water recirculation; and
3. for manufactured alternate heat sources, the alternate heat source system must be installed, operated, and maintained following the manufacturer’s instructions.

Modify Appendix A as shown. The remainder of Appendix A is unchanged.

APPENDIX A

BIBLIOGRAPHY


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.
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, 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 edition. For more information, visit the Standards and Guidelines section of the ASHRAE Bookstore at www.ashrae.org/bookstore.

IMPORTANT NOTICES ABOUT THIS GUIDELINE

To ensure that you have all of the approved addenda, errata, and interpretations for this Guideline, visit 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.