© 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.

CONTENTS

ANSI/ASHRAE Standard 188-2021
Legionellosis: Risk Management for Building Water Systems

SECTION	PAGE
Foreword	2
1 Purpose	2
2 Scope	2
3 Definitions	3
4 Compliance	4
5 Building Survey	5
6 General Requirements	6
7 Requirements for Building Water Systems	8
8 Requirements for Designing Building Water Systems	14
9 References	15
Normative Appendix A: Health Care Facilities	16
Informative Appendix B: Bibliography	21
Informative Appendix C: Guidance if *Legionella* Testing Is Utilized in the Absence of Suspected or Confirmed Facility-Associated Disease	22
Informative Appendix D: Addenda Description	23

NOTE

Approved addenda, errata, or interpretations for this standard can be downloaded free of charge from the ASHRAE website at www.ashrae.org/technology.

© 2021 ASHRAE

180 Technology Parkway NW · Peachtree Corners, GA 30092 · www.ashrae.org · All rights reserved.

ASHRAE is a registered trademark of the American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.
ANSI is a registered trademark of the American National Standards Institute.

© 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.

(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

ASHRAE Standard 188 establishes minimum legionellosis risk management requirements for building water systems. The 2021 edition has benefited from the continuous maintenance proposals received and from revisions that replaced permissive language with enforceable language that will facilitate adoption of the standard for code and regulatory purposes.

Legionellosis refers to two distinct clinical illnesses. When the bacterium Legionella *causes pneumonia, the disease is referred to as "Legionnaires' disease" (LD). Legionella can also cause a less-severe influenza-like illness known as "Pontiac fever." The U.S. Centers for Disease Control and Prevention (CDC) estimates that each year there are between 8000 and 18,000 cases of LD in the United States and that more than 10% of these cases are fatal. Additionally, a 2019 National Academy of Sciences, Engineering and Medicine (NASEM) report estimated that 52,000 to 70,000 Americans suffer from LD each year, which is many times higher than the number of reported cases. Most outbreak cases of legionellosis are the result of exposure to* Legionella *associated with building water systems.*

The presence of Legionella *bacteria in building water systems is not sufficient to cause LD. Other necessary factors include building water system design and use conditions that promote the growth of* Legionella*; a means of transmitting the bacteria to people in the building, such as aerosol generation; and exposure of susceptible persons to LD-colonized water that is inhaled or aspirated into the lungs.* Legionella *bacteria have only once been attributed to transmission from person to person and are not generally transmitted into the lungs through normal eating or drinking of contaminated water. Susceptible persons considered at risk for Legionnaires' disease include but are not limited to those receiving treatment for burns, chemotherapy for cancer, solid organ transplantation, or bone marrow transplantation; those with underlying diseases, such as cancer, renal disease, diabetes, and chronic lung disease; the immunocompromised and those taking drugs that weaken the immune system; the elderly; and smokers.*

This standard is intended for use by owners and managers of human-occupied buildings and those involved in the design, construction, installation, commissioning, operation, maintenance, and service of centralized building water systems and components.

Standard 188 comprises numbered normative sections followed by normative and informative appendices. The normative sections and the normative appendix contain the requirements that must be met in order to comply with this standard. Building water systems vary substantially in their design, use, and capability for transmission of Legionella*. The informative appendices contain additional information that may be helpful for a given building water system.*

ASHRAE Standing Standard Project Committee (SSPC) 188 has devoted a considerable amount of time and thought to reviewing and responding to continuous maintenance proposals and public review comments by affected and interested parties. The committee thanks everyone who participated in the development of the standard, especially those who submitted proposals and public review comments.

Because changes to improve Standard 188 are anticipated, it is on continuous maintenance, which allows it to be updated through the publication of approved addenda. The current schedule anticipates republication of Standard 188, with approved addenda and errata, every third year.

1. PURPOSE

The purpose of this standard is to establish minimum *legionellosis risk management* requirements for *building water systems*.

2. SCOPE

2.1 This standard provides minimum *legionellosis risk management* requirements for the design, construction, commissioning, operation, maintenance, repair, replacement, and expansion of new and existing buildings and their associated (*potable* and *nonpotable*) *water* systems and components.