

# ADDENDA

**ANSI/ASHRAE/ASHE Addendum m to  
ANSI/ASHRAE/ASHE Standard 170-2017**

# Ventilation of Health Care Facilities

Approved by ASHRAE and the American National Standards Institute on July 31, 2020, and by the American Society for Healthcare Engineering on July 28, 2020.

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## FOREWORD

*Addendum m addresses changes made as the committee has reviewed and responded to informal and formal interpretation requests. Additionally, in recognition of the changes in the behavioral health care industry, the committee has sought to specifically provide guidance.*

- *Revised lab exhaust discharge requirements in coordination with ANSI/AIHA Z9.5*
- *Updated the standard to allow recirculating room units in sterilizer equipment room*
- *Expanded guidance to address behavioral and mental health patient areas, residential behavioral and mental health patient rooms in coordination with the FGI*
- *Revised Normative and Informative references in coordination with recent publications*

*This addendum includes changes originally made by published Addendum p to the 2017 edition of the standard. Addenda can be downloaded at <http://www.ashrae.org/technical-resources/standards-and-guidelines/standards-addenda>.*

**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 m to Standard 170-2017

**Revise Section 6.1.1 as shown.**

### 6.1 Utilities

**6.1.1 Ventilation Upon Loss of Electrical Power.** The space ventilation and pressure relationship requirements of Tables 7.1, 8.1, and 9.1 shall be maintained for the following spaces, even in the event of loss of normal electrical power:

- a. All rooms
- b. PE rooms
- c. Operating rooms (ORs), including delivery rooms (Caesarean)

**Exception to 6.1.1:** When an essential power system is not provided or required, operation of space ventilation and pressure relationships is not required.

**Informative Note:** For further information, see NFPA 99 (~~2018~~2015) in Appendix B.

**Revise Section 6.3.2.2 as shown.**

### 6.3.2.2 Additional Requirements

[ . . . ]

- b. Exhaust discharge outlets from laboratory work area chemical fume hoods shall discharge with a stack velocity of at least ~~3000-2500~~ fpm (15.24-12.7 m/s).

**Exception to 6.3.2.2(b):** Lower discharge velocity may be permitted when an engineering analysis can demonstrate that the specific design meets the dilution criteria necessary to reduce concentration of hazardous materials in the exhaust to safe levels at all potential receptors. (See ANSI/AIAH Z9.5-2012, Section 2.1.)

[ . . . ]

**Revise Section 7.6 as shown.**

**7.6 Behavioral and Mental Health ~~Psychiatric~~ Patient Areas.** HVAC systems and related controls shall be secured as called for in the patient safety risk assessment. All exposed equipment located with these spaces shall have enclosures with rounded corners and tamper-resistant fasteners. With the exception of HVAC room recirculating units, equipment shall be arranged such that maintenance personnel are not required to enter patient-care spaces for ser-

vice, unless approved by the AHJ when such arrangement is not possible. Seclusion, restraint, and observation rooms intended for behavioral and mental health patients shall use fully recessed, vandal-resistant grilles with diffuser blades designed for ligature-resistant and anti-contraband capability. Spaces intended for the care and treatment of inpatients who do not require acute medical services shall comply with Residential Health in Table 7.1.

***Revise Section 8.6 as shown.***

**8.6 Behavioral and Mental Health ~~Psychiatric~~ Patient Areas.** HVAC systems and related controls shall be secured as called for in the patient safety risk assessment. All exposed equipment located with these spaces shall have enclosures with rounded corners and tamper-resistant fasteners. With the exception of HVAC room recirculating units, equipment shall be arranged such that maintenance personnel are not required to enter patient-care spaces for service, unless approved by the AHJ when such arrangement is not possible. Seclusion, restraint, and observation rooms intended for behavioral and mental health patients shall use fully recessed, vandal-resistant grilles with diffuser blades designed for ligature-resistant and anti-contraband capability.

**Revise Table 7.1 as shown. The remainder of Table 7.1 is unchanged. Note: This table includes changes originally made by published Addendum p to the 2017 edition of the standard.**

**Table 7.1 Design Parameters—Inpatient Spaces**

Function of Space (f)	Pressure Relationship to Adjacent Areas (n)	Minimum Outdoor ach	Minimum Total ach	All Room Air Exhausted Directly to Outdoors (j)	Air Recirculated by Means of Room Units (a)	Unoccupied Turndown	Minimum Filter Efficiencies (c)	Design Relative Humidity (k), %	Design Temperature (l), °F/°C
<b>NURSING UNITS AND OTHER PATIENT CARE AREAS</b>									
[ . . . ]									
<b>BEHAVIORAL AND MENTAL HEALTH FACILITIES (k)</b>									
Patient bedroom, resident room (2.5–2.2.2)	NR	2	2	NR	NR	Yes	8/NR	NR	NR
Seclusion room (2.5–2.24.3)	NR	4	2	NR	NR	Yes	8/NR	NR	NR

**Add new Section 9.3 as shown below.**

### **9.3 Behavioral and Mental Health Facilities**

**9.3.1 General.** These spaces are intended for the care and treatment of inpatients who do not require acute medical services.

**9.3.2 Behavioral and Mental Health Patient Areas.** HVAC systems and related controls shall be secured as called for in the patient safety risk assessment. All exposed equipment located with these spaces shall have enclosures with rounded corners and tamper-resistant fasteners. With the exception of HVAC room recirculating units, equipment shall be arranged such that maintenance personnel are not required to enter patient-care spaces for service, unless approved by the AHJ when such arrangement is not possible. Seclusion, restraint, and observation rooms intended for behavioral and mental health patients shall use fully recessed, vandal-resistant grilles with diffuser blades designed for ligature-resistant and anticontriband capability.

**Revise Section 11 as shown. Add new Normative Reference 14 and revise References 1, 6, 7, 8, 10, and 11. The remainder of Section 11 is unchanged.**

## **11. NORMATIVE REFERENCES**

1. ASHRAE. ~~2010~~2019. ANSI/ASHRAE Standard 62.1, *Ventilation for Acceptable Indoor Air Quality*. Atlanta: ASHRAE.

[ . . . ]

6. ASHRAE. ~~2011~~2016. ANSI/ASHRAE Standard 154-~~2011~~, *Ventilation for Commercial Cooking Operations*. Atlanta: ASHRAE.

7. NFPA. ~~2012~~2019. NFPA 90A, *Standard for the Installation of Air-Conditioning and Ventilating Systems*. Quincy, MA: National Fire Protection Association.

8. NFPA. ~~2014~~2017. NFPA 96, *Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations*. Quincy, MA: National Fire Protection Association.

[ . . . ]

10. NFPA. ~~2012~~2018. NFPA 99, *Standard for Health Care Facilities*. Quincy, Massachusetts: National Fire Protection Association.

11. AAMI. ~~2013~~2017. ANSI/AAMI Standard ST79, *Comprehensive guide to steam sterilization and sterility assurance in health care facilities*. Arlington, VA: Association for the Advancement of Medical Instrumentation.

[ . . . ]

14. ASHRAE. 2016. ANSI/ASHRAE Standard 62.2, *Ventilation and Acceptable Indoor Air Quality in Residential Buildings*. Atlanta: ASHRAE.

**Add new informative references and revise existing references in Informative Appendix B as shown. The remainder of Informative Appendix B is unchanged.**

ASHRAE. 2016. ANSI/ASHRAE Standard 62.2, *Ventilation and Acceptable Indoor Air Quality in Residential Buildings*. Atlanta: ASHRAE.

ASHRAE. 2017. ANSI/ASHRAE Standard 55, *Thermal Environmental Conditions for Human Occupancy*. Atlanta: ASHRAE.

ASHRAE. ~~2016a~~2019a. ANSI/ASHRAE Standard 62.1, *Ventilation for Acceptable Indoor Air Quality*. Atlanta: ASHRAE.

ASHRAE. ~~2015~~2019b. *ASHRAE Handbook—HVAC Applications*. Atlanta: ASHRAE.

BHFC. 2019. *Behavioral Health Design Guide (Design Guide 9.0)*. Behavioral Health Facility Consulting, LLC.

FGI. ~~2014~~2018. *Guidelines for Design and Construction of Health Care FacilitiesHospitals*. Chicago, IL-St Louis, MO: Facility Guidelines Institute.

FGI. 2018. *Guidelines for Design and Construction of Outpatient Facilities*. St Louis, MO: Facility Guidelines Institute.

FGI. 2018. *Guidelines for Design and Construction of Residential Health, Care, and Support Facilities*. St Louis, MO: Facility Guidelines Institute.

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NFPA. ~~2015~~2018. NFPA 99, *Standard for Health Care Facilities*. Quincy, MA: National Fire Protection Association.

USP. ~~2017a~~2019 National Formulary USP-797, *Pharmaceutical Compounding—Sterile Preparations*. Rockville, MD: U.S. Pharmacopeial Convention.

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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.

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