



# ADDENDA

**ANSI/ASHRAE/ASHE Addendum s to  
ANSI/ASHRAE/ASHE Standard 170-2021**

# Ventilation of Health Care Facilities

Approved by the ASHRAE Standards Committee on June 25, 2025; by the American Society for Health Care Engineering on July 18, 2025; and by the American National Standards Institute on July 18, 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 170**

**Cognizant TC: 9.6, Healthcare Facilities**

**SPLS Liaison: Abdel K. Darwich**

Jeremy P. Fauber,* <i>Chair</i>	Mark Davidson	Paul R. Kondrat*	Jonathan Rajala
Aaron L. Johnson,* <i>Secretary</i>	John M. Dombrowski*	Roger W. Lautz*	Michael Reilly, Jr.
Brian Abel	James M Dunn, Jr	Jennifer E. Leach	Edward Renshaw*
George A. Augustini	Travis R. English	Linda D. Lee	Adel Rizkalla
Sean D. Beilman	Lawrence Enright	Pavel V. Likhonin	Maya Salabasheva
Jenny M. Berens	Karen Estela	John M. Martin	Shannon Schmidt
Amit Bhansali*	Jack R. Evans	David M. Mason	Carl C. Schultz
Robert Booth*	Jonathan J. Flannery*	Ryan F. McCulloch	Kevin A. Scarlett*
Randy Brannen	Glenn Saint Aubin Gall*	Matthew McLaurin	Gina M. Semerad
Brendon J. Burley	Frederick E. Granzow*	Kenneth R. Mead*	Charles J. Seyffer
Philip T. Cantin	Yanzheng Guan	Kenneth A. Monroe	Michael P. Sheerin
Frankie Catalfumo	Danette J. Hauck*	Steven Mumm	Premkumar Siddharth
Sarah Clock*	Caleb Haynes	Dylan Neu	Steven C. Sill
Dana F. Coliano	Robert N. Heinlein, Jr.	Russell N. Olmsted	Dianthe Van Weerden
Gregory Corso	Peter J. Hoch	Justin M. Opperman*	Michael Witt*
Amy Courtney	Louis Iglhaut	Erick A. Phelps	Junjing Yang
Abdel K. Darwich	Michael R. Keen	Heather Platt Gullledge	

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

**ASHRAE STANDARDS COMMITTEE 2025–2026**

Adrienne G. Thomle, <i>Chair</i>	Susanne Dormann	Paul A. Lindahl, Jr.	Paolo M. Tronville
Jennifer A. Isenbeck-Pille, <i>Vice Chair</i>	Drake H. Erbe	Kenneth A. Monroe	Douglas K. Tucker
Anthony M. Abate	Marcus Hassen	Philip J. Naughton	Thomas E. Watson
Omar A. Abdelaziz	William M. Healy	Kathleen Owen	David P. Yuill
Charles S. Barnaby	Jaap Hogeling	Michael P. Patton	Patrick C. Marks, <i>BOD ExO</i>
Hoy R. Bohanon	Satish N. Iyengar	Karl L. Peterman	Devin A. Abellon, <i>CO</i>
Kelley P. Cramm	Phillip A. Johnson	Christopher J. Seeton	
Abdel K. Darwich	Tatsuro Kobayashi	Russell C. Tharp	

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

## **FOREWORD**

*Addendum s revises portions of Sections 7 and 8 to provide clarity of intent and/or correlate elements (indicated below) of the current standard. Addendum s also follows the continuing maintenance process in further coordination with the FGI Infection Preventionist team and SSPC 170 to result in a coordinated document for use by all stakeholders in the health care community.*

*This addendum makes the following general edits:*

- *Deletes parts of Tables 7-1 and 8-1 related to space designation*
- *Deletes related notes detailing the use of the specific room type*
- *Deletes a note that resulted in unnecessary confusion*
- *Deletes a note that was not in use*
- *Adds a note application to specific room type*
- *Adds footnotes to Examination type spaces in Tables 7-1, 8-1, and 8-2 regarding patients with undiagnosed gastrointestinal symptoms, undiagnosed respiratory symptoms, or undiagnosed skin symptoms*

**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 s to Standard 170-2021**

***Revise Tables 7-1, 8-1 and 8-2, and related notes as shown. The remainder of the tables are unchanged.***

**Table 7-1 Design Parameters—Inpatient Spaces**

Function of Space (ee)	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 (cc)	Design Relative Humidity (k), %	Design Temperature (l), °F/°C
<b>NURSING UNITS AND OTHER PATIENT CARE AREAS</b>									
[...]									
Cesarean Delivery Room ( <i>FGI 2.2-2.9.11.1</i> ) (m), (o)	Positive	4	20	NR	No	Yes	MERV-16 ( <u>hh</u> )	20-60	68-75/20-24
[...]									
Operating/surgical cystoscopic rooms ( <i>FGI 2.2-3.4 &amp; Table T2.2-2; also see Class 3 Imaging</i> ) (m), (o)	Positive	4	20	NR	No	Yes	MERV-16 ( <u>hh</u> )	20-60	68-75/20-24
[...]									
<b>DIAGNOSTIC AND TREATMENT</b>									
[...]									
ECT procedure room ( <i>FGI 2.2-2.12.4.1 &amp; 2.5-3.4</i> )	NR	2	4	NR	NR	Yes	MERV-8	Max 60	72-78/22-26
Gastrointestinal endoscopy procedure room ( <i>FGI 2.2-3.11.2 &amp; Table 2.2-1</i> ) (x)	NR	2	6	NR	No	Yes	MERV-8	20-60	68-73/20-23
General examination room ( <i>FGI 2.1-3.2</i> ) ( <u>aa</u> )	NR	2	4	NR	NR	Yes	MERV-8	Max 60	70-75/21-24
Hydrotherapy ( <i>FGI 2.1-8.4.3.9</i> )	Negative	2	6	NR	NR	Yes	MERV-8	NR	72-80/22-27
Instrument processing room ( <i>FGI 2.2-3.11.4</i> )	Negative	2	10	Yes	No	No	MERV-8 ( <u>gg</u> )	NR	NR
Medication room ( <i>FGI 2.1-2.8.8.2[1]</i> )	NR	2	4	NR	NR	Yes	MERV-8	Max 60	70-75/21-24
Nuclear medicine hot lab ( <i>FGI 2.2-3.4.8.22</i> )	Negative	NR	6	Yes	No	Yes (ff)	MERV-8	NR	70-75/21-24
Physical therapy ( <i>FGI 2.2-2.13.8.16 &amp; 2.6-3.1</i> )	Negative	2	6	NR	NR	Yes	MERV-8	Max 65	72-80/22-27
Special examination room ( <u>aa</u> )	NR	2	6	NR	NR	Yes	MERV14 ( <u>ii</u> )	Max 60	70-75/21-24
Treatment room ( <i>FGI 2.2-3.1.2.4</i> )	NR	2	6	NR	NR	Yes	MERV-8	Max 60	70-75/21-24
[...]									

**Informative Notes:** (1) NR = no requirement; (2) FGI paragraph numbers are shown in parentheses in the “Function of Space” column.

*Normative Notes for Table 7-1:*

[...]

- aa. Patients with undiagnosed gastrointestinal symptoms, undiagnosed respiratory symptoms, or undiagnosed skin symptoms may require increased air changes or exhaust. (*Informative Note:* The clinical space programming identifies the requirements for air changes or exhaust, refer to paragraph 5.2[a].)  
~~Examination rooms programmed for use by patients with undiagnosed gastrointestinal symptoms, undiagnosed respiratory symptoms, or undiagnosed skin symptoms.~~

[...]

- dd. Not used. ~~As an alternative to the requirement for HEPA filters in Filter Bank No. 2, MERV 14 rated filters may be used in Filter Bank No. 2 if a tertiary terminal HEPA filter is provided for this space. (*Informative Note:* HEPA filters are those filters that remove at least 99.97% of 0.3 micron sized particles at the rated flow in accordance with the testing methods of IEST RP-CC001.3 [2005] in Informative Appendix E).~~

[...]

- ii. ~~A minimum MERV 8 filter may be utilized for this space in lieu of a minimum MERV 14 filter if all room air is exhausted directly to the outdoors and the pressure relationship to adjacent areas is kept negative. If a filter rated less than MERV 14 is utilized, the space shall be considered "Negative" with regards to the table and must comply with all other requirements for negative spaces within the standard.~~

[...]

**Table 8-1 Design Parameters—Specialized Outpatient 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)	Minimum Filter Efficiencies (c)	Design Relative Humidity (k), %	Design Temperature (l), °F/°C
[ . . . ]								
DIAGNOSTIC AND TREATMENT <i>(Continued)</i>								
Examination/observation <i>(FGI 2.1–3.2.1) (y)</i>	NR	2	4	NR	NR	MERV-8	Max 60	70–75/21–24
<del>Specialty IC exam room <i>(FGI xxx) (y)</i></del>	<del>Negative</del>	<del>2</del>	<del>6</del>	<del>Yes</del>	<del>NR</del>	<del>MERV-8</del>	<del>Max 60</del>	<del>70–75/21–24</del>
Laboratory work room <i>(FGI 2.1–4.1.2.1) (z)</i>	Negative	2	6	Yes	NR	MERV-8	NR	70–75/21–24
Pharmacy/med prep <i>(FGI 2.1–3.8.8.2 &amp; 2.1–4.2.2) (b)</i>	Positive	2	4	NR	NR	MERV-8	NR	NR
Laser eye room <i>(FGI 2.1–3.2.2)</i>	NR	2	6	NR	No	MERV-8	Max 60	68–73/20–23
Nuclear medicine (see Section 8.7) <i>(FGI 2.1–3.5.7)</i>	Negative	2	6	Yes	No	MERV-8	NR	70–75/21–24
Toilet or Toilet/Shower room <i>(FGI 2.1–3.10.2)</i>	Negative	NR	10	Yes	No	MERV-8	NR	NR
[ . . . ]								

*Informative Note:* NR = no requirement

*Normative Notes for Table 8-1:*

[ ... ]

- y. Patients with undiagnosed gastrointestinal symptoms, undiagnosed respiratory symptoms, or undiagnosed skin symptoms may require increased air changes or exhaust. (*Informative Note:* The clinical space programming identifies the requirements for air changes or exhaust, refer to paragraph 5.2[a]). Examination rooms (identified as “specialty infection control [IC] exam rooms”) programmed for use by patients with undiagnosed gastrointestinal symptoms, undiagnosed respiratory symptoms, or undiagnosed skin symptoms.

[ ... ]

**Table 8-2 Design Parameters—General Outpatient Spaces (q)**

Function of Space (f)	Pressure Relationship to Adjacent Areas (d)	ach Design Option		All Room Air Exhausted Directly to Outdoors (j)	Air Recirculated by Means of Room Units (a)	Min. Filter Efficiencies (c)	Design RH% (i)	Design Temperature °F/°C (k)	$R_p$ - $R_a$ Air-Class Design Option		
		Min. Outdoor ach (q)	Min. Total ach (q)						Air Class (q)	$R_p$ cfm/(L·s)/ person and Min. Space Population (q)	$R_a$ cfm/ft/ (L·s/m) (q)
GENERAL DIAGNOSTIC AND TREATMENT											
Birthing room (FGI 2.4-2.2)	NR	2	3	NR (h)	NR	MERV-14	Max 60	70–75/21–24	2	10 (5) / 4	0.18 / (0.9)
Urgent care exam (FGI 2.5-3.2.1) (b) <sub>1</sub> (e)	NR	2	3	NR	NR	MERV-8	NR	70–75/21–24	2	7.5 (3.8) / 3	0.12 / (0.6)
Urgent care treatment (FGI 2.5-3.2.2) (e)	NR	2	3	NR	NR	MERV-8	NR	70–75/21–24	2	7.5 (3.8) / 3	0.18 / (0.9)
Urgent care triage (FGI 2.5-3.2.3)	Negative	2	3	Yes	NR	MERV-8	Max 60	70–75/21–24	3	10 (5) / 3	0.18 / (0.9)
Urgent care observation (FGI 2.5-3.3)	NR	2	2	NR	NR	MERV-8	NR	70–75/21–24	2	5 (2.5) / 2	0.12 / (0.6)
General examination room (FGI 2.1-3.2.1) (b)	NR	2	2	NR	NR	MERV-8	NR	70–75/21–24	1	7.5 (3.8) / 3	0.12 / (0.6)
Specialty-IC exam room (b)	Negative	2	3	Yes	NR	MERV-8	Max 60	70–75/21–24	3	10 (5) / 3	0.18 / (0.9)
Laboratory work room (FGI 2.1-4.1.2.1) (l)	NR	2	3	NR (h)	NR	MERV-8	NR	70–75/21–24	2	7.5 (3.8) / 2	0.12 / (0.6)
Medication room (FGI 2.1-3.8.8.2)	NR	2	2	NR	NR	MERV-8	Max 60	70–75/21–24	1	5 (2.5) / 2	0.18 / (0.9)
Class 1 Imaging rooms (FGI 2.1-3.5) (g)	NR	2	3	NR	NR	MERV-8	Max 60	72–78/22–26	1	7.5 (3.8) / 2	0.12 / (0.6)
Psychiatric examination room (FGI 2.11-3.2.2)	NR	2	3	NR	NR	MERV-8	NR	70–75/21–24	1	5 (2.5) / 2	0.06 / (0.3)
Psychiatric consultation room (FGI 2.11-3.2.4)	NR	2	3	NR	NR	MERV-8	NR	70–75/21–24	1	5 (2.5) / 2	0.06 / (0.3)
Psychiatric group room (FGI 2.11-3.2.5)	NR	2	3	NR	NR	MERV-8	NR	70–75/21–24	1	5 (2.5) / 2	0.06 / (0.3)
Psychiatric seclusion room (FGI 2.11-3.2.7)	NR	2	2	NR	NR	MERV-8	NR	70–75/21–24	2	10 (5) / 3	0.12 / (0.6)
ECT procedure room (FGI 2.11-3.2.9.2)	NR	2	2	NR	NR	MERV-8	NR	70–75/21–24	1	7.5 (3.8) / 3	0.12 / (0.6)
Physical therapy individual room (FGI 2.12-3.2.2.1)	NR	2	3	NR (h)	NR	MERV-8	NR	70–75/21–24	2	10 (5) / 3	0.12 / (0.6)
Physical therapy exercise area (FGI 2.12-3.2.3)	NR	2	3	NR (h)	NR	MERV-8	NR	70–75/21–24	2	20 (10) / 2	0.18 / (0.9)
Hydrotherapy (FGI 2.12-3.2.4)	Negative	2	3	Yes	NR	MERV-8	NR	72–80/22–27	3	20 (10) / 2	0.12 / (0.6)
Physical therapeutic pool (FGI 2.12-3.2.4)	Negative	2	10	Yes	NR	MERV-8	NR	72–80/22–27	3	—	0.48 / (2.4)
Speech therapy room (FGI 2.12-3.3.2)	NR	2	2	NR	NR	MERV-8	NR	70–75/21–24	1	5 (2.5) / 2	0.06 / (0.3)
Occupational therapy (FGI 2.12-3.3)	NR	2	3	NR	NR	MERV-8	NR	70–75/21–24	1	5 (2.5) / 2	0.06 / (0.3)
Prosthetics and orthotics room (FGI 2.12-3.3.1)	NR	2	3	NR	NR	MERV-8	NR	70–75/21–24	2	10 (5) / 3	0.18 / (0.9)
Dental treatment (FGI 2.14-3.1.1)	NR	2	3	NR	NR	MERV-8	NR	70–75/21–24	1	10 (5) / 3	0.18 / (0.9)
Other dental treatment areas (FGI 2.14-3.2)	NR	2	3	NR	NR	MERV-8	NR	70–75/21–24	1	5 (2.5) / 2	0.06 / (0.3)
Toilet room (FGI 2.1-3.10.2)	Negative	NR	4	Yes	No	MERV-8	NR	NR	3	—	—

[ . . . ]

**Informative Note:** NR = no requirement



*Normative Notes for Table 8-2:*

[ . . . ]

- b. Patients with undiagnosed gastrointestinal symptoms, undiagnosed respiratory symptoms, or undiagnosed skin symptoms may require increased air changes or exhaust. (*Informative Note:* The clinical space programming identifies the requirements for air changes or exhaust, refer to paragraph 5.2[a]). Examination rooms (identified as “specialty infection control [IC] exam rooms”) programmed for use by patients with undiagnosed gastrointestinal symptoms, undiagnosed respiratory symptoms, or undiagnosed skin symptoms.

[ . . . ]

## **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.**