

# ADDENDA

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

# Ventilation of Health Care Facilities

Approved by ASHRAE and the American National Standards Institute on July 30, 2021, and by the American Society for Health Care Engineering on July 14, 2021.

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## **FOREWORD**

*Addendum c filter changes align Standard 170 requirements with FGI requirements for residential health care facilities.*

**Note:** In this addendum, changes to the current standard are indicated in the text by underlining (for additions) and ~~strike through~~ (for deletions) unless the instructions specifically mention some other means of indicating the changes.

### **Addendum c to Standard 170-2021**

*Revise Table 9-1 as shown. The remainder of Table 9-1 is unchanged.*

**Table 9-1 Design Parameters for Residential Health, Care, and Support-Specific Spaces**

Function of Space (l)	Pressure Relationship to Adjacent Areas (d)	Minimum Outdoor ach	Minimum Total ach	All Room Air			Unoccupied Turndown	Minimum Filter Efficiencies (i)	Design Relative Humidity (g), %	Design Temperature (h), °F/°C
				Exhausted Directly to Outdoors (f)	Air Recirculated by Means of Room Units (a)	Air Recirculated				
<b>RESIDENTIAL HEALTH</b>										
<b>NURSING HOMES</b>										
All room (FGI 3.1-2.2.4.1) (b)	Negative	2	12	Yes	No	Yes	MERV- <del>4</del> 13	Max 60	70-78/21-29	
All anteroom (FGI 3.1-2.2.4.1) (b)	Negative	NR	10	Yes	No	Yes	MERV- <del>4</del> 13	Max 60	70-78/21-29	
Occupational therapy (FGI 3.1-3.3.3)	NR	2	6	NR	NR	Yes	MERV- <del>4</del> 13	NR	70-78/21-29	
Physical therapy (FGI 3.1-3.3.2)	Negative	2	6	NR	NR	Yes	MERV- <del>4</del> 13	NR	70-78/21-29	
Resident living/activity/dining (FGI 3.1-2.3.3)	NR	4	4	NR	NR	Yes	MERV- <del>4</del> 13	Max 60	70-78/21-29	
Resident room (FGI 3.1-2.2.2)	NR	2	2	NR	NR	Yes	MERV- <del>4</del> 13	Max 60	70-78/21-29	
Resident corridor (FGI 2.4-2.2.2)	NR	NR	4	NR	NR	Yes	MERV- <del>4</del> 13	NR	70-78/21-29	
Toilet/bathing room (FGI 3.1-2.2.2.6)	Negative	NR	10	Yes	No	No	MERV- <del>4</del> 13	NR	70-78/21-29	
<b>HOSPICE FACILITIES</b>										
All room (FGI 3.2-2.2.3.1) (c)	Negative	2	12	Yes	No	Yes	MERV- <del>4</del> 13	Max 60	70-75/21-24	
All anteroom (FGI 3.2-2.2.3.1) (c)	(e)	NR	10	Yes	No	Yes	MERV- <del>8</del> 13	Max 60	NR	
Resident room (FGI 3.2-2.2.2)	NR	2	2	NR	NR	Yes	MERV- <del>8</del> 13	Max 60	70-75/21-24	
Resident corridor (FGI 2.4-2.2.2)	NR	NR	4	NR	NR	Yes	MERV- <del>8</del> 13	NR	NR	
Toilet/bathing room (FGI 3.2-2.2.2.6)	Negative	NR	10	Yes	No	Yes	MERV- <del>8</del> 13	NR	70-75/21-24	
<b>RESIDENTIAL CARE AND SUPPORT</b>										
<b>ASSISTED LIVING FACILITIES</b>										
Resident living/activity/dining (FGI 4.1-2.3.3)	NR	NR	NR	NR	NR	Yes	MERV-8	NR	NR	
Resident room (FGI 4.1-2.2.2)	NR	NR	NR	NR	NR	Yes	MERV-8	NR	70-78/21-29	
Resident corridor (FGI 2.4-2.2.2)	NR	NR	NR	NR	NR	Yes	MERV-8	NR	NR	
Toilet/bathing room (FGI 4.1-2.2.2.7)	NR	NR	NR	NR	NR	Yes	MERV-8	NR	NR	
<b>SERVICE</b>										
Clean linen storage (FGI 2.3-4.6)	Positive	NR	2	NR	NR	No	MERV-8	NR	72-78/22-26	
Dietary storage (FGI 2.3-4.5)	NR	NR	2	NR	No	No	MERV-8	NR	72-78/22-26	
Food preparation center (FGI 2.3-4.5.3.3) (e)	NR	2	10	NR	No	Yes	MERV-8	NR	72-78/22-26	
Hair salon (FGI 2.3-2.3.5 & 4.1-2.3.5)	Negative	NR	10	Yes	NR	Yes	MERV-8	NR	70-78/21-29	
Laundry, central and personal (FGI 2.3-4.2.7)	Negative	2	10	Yes	No	No	MERV-8	NR	NR	
Linen and trash chute room (FGI 2.3-4.6 & 2.3-4.9)	Negative	NR	10	Yes	No	No	MERV-8	NR	NR	
Medication room (FGI 2.3-4.2.2.2)	NR	2	4	NR	NR	Yes	MERV-8	Max 60	70-75/21-24	
Soiled linen sorting and storage (FGI 2.3-4.6)	Negative	NR	10	Yes	No	No	MERV-8	NR	NR	
Warewashing (FGI 2.3-4.5.3.6)	Negative	NR	10	Yes	No	Yes	MERV-8	NR	NR	
<b>SUPPORT SPACE</b>										
Clean utility (FGI 2.3-4.2.5)	Positive	2	4	NR	NR	No	MERV-8 (k)	NR	NR	
Environmental services room (FGI 2.3-4.9) (j)	Negative	NR	10	Yes	NR	No	MERV-8	NR	NR	
Hazardous waste storage (FGI 2.3-4.8)	Negative	2	10	Yes	No	No	MERV-8	NR	NR	
<u>Nonrefrigerated body holding room</u>	<u>Negative</u>	<u>NR</u>	<u>10</u>	<u>Yes</u>	<u>No</u>	<u>No</u>	<u>MERV-8</u>	<u>NR</u>	<u>68-75/20-24</u>	
Soiled utility or soiled holding (FGI 2.3-4.2.6)	Negative	2	10	Yes	No	No	MERV-8	NR	NR	

**Informative Note:** NR = No requirement

**Add a new Section 9.4.3 as shown.**

**9.4.3 Nonrefrigerated Body Holding Rooms.** A nonrefrigerated body holding room is applicable only to facilities that do not perform autopsies on-site and use the space for short periods while waiting for the body to be transferred. All exhaust air from nonrefrigerated body holding shall be discharged directly to the outdoors without mixing with air from any other room or exhaust system.

**Revise Informative Appendix D as below.**

**INFORMATIVE APPENDIX D  
RECOMMENDED FILTER EFFICIENCIES BY SPACE TYPE**

Spaces in Table 7-1, 8-1, 8-2, and 9-1 of this standard have filter efficiencies assigned based on Table D-1. This table is provided here for information, to allow users to understand the intent of the filter assignments and make engineering judgments on spaces not specifically named in the standard.

**Table D-1 Recommended Filter Efficiencies by Space Type**

Level	Space Category	Filter Efficiency Recommendations <sup>a,b</sup>
I	<ul style="list-style-type: none"> <li>Primarily exhausted space (e.g., restrooms, janitor's rooms)</li> <li>Any human-occupied space</li> <li>Any room, inpatient or outpatient, where a patient stays less than 6 hours including waiting rooms</li> <li>Laboratories</li> <li>Resident rooms in assisted living or hospice</li> <li>Storage of packaged sterile material, clean linen, or pharmaceuticals<sup>c</sup></li> <li>Treatment rooms, endoscopy procedure room</li> <li>Dirty side of decontamination process</li> </ul>	MERV 8 (equivalent to ASHRAE 62.1 or Standard 62.2)
II	<ul style="list-style-type: none"> <li>Skilled nursing and hospice residential health facilities</li> </ul>	MERV 13 <sup>f,g</sup>
III	<ul style="list-style-type: none"> <li>Inpatient spaces, including medical-surgical, airborne isolation<sup>d</sup></li> <li>Special exam room for suspect airborne cases, emergency department exam rooms<sup>e</sup></li> <li>Resident room in a skilled nursing area</li> <li>Workroom for packing of sterile materials</li> <li>CT or MRI procedure, interventional radiology (including biopsy), or bronchoscopy</li> <li>ER procedure or trauma room</li> </ul>	MERV14 <sup>f,g</sup>
IIIV	<ul style="list-style-type: none"> <li>Operating room<sup>h</sup></li> </ul>	MERV16 <sup>f</sup>
IVV	<ul style="list-style-type: none"> <li>Operating room designated for orthopedic, transplants, neurosurgery, or dedicated burn unit procedures</li> <li>Protective environments, including burn units</li> </ul>	HEPA

**Notes:**

- Where listed, MERV rating is assumed to be nondegrading.
- Transfer air due to differences in pressure between spaces may be unfiltered.
- Pharmacy compounding spaces are not covered in this table. Follow USP 795, USP 797, or USP 800, as applicable (see Section 11 references).
- Does not include recirculated air. Air recirculated in an AII room requires HEPA filters.
- Air from spaces where suspected airborne cases may be treated or examined should be filtered at level III prior to recirculation to other spaces. If exhausted, supply air filtration may be level I.
- Minimum MERV rating of the highest efficiency filter in the airstream.
- Filter efficiency if supply air is used; not intended to exclude natural ventilation if otherwise allowed.
- An optional risk assessment, conducted with the user group, may indicate a need to increase from Level IIIV to Level IVV.

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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.

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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.

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