

ADDENDA

**ANSI/ASHRAE/ASHE Addendum c
to ANSI/ASHRAE/ASHE Standard 170-2013**

Ventilation of Health Care Facilities

Approved by ASHRAE on May 31, 2016; by the American Society for Healthcare Engineering on May 23, 2016; and by the American National Standards Institute on June 1, 2016.

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FOREWORD

This addendum updates the terminology used for laboratories to align with FGI-2014 (reference 2.1-4.1.2) and includes

provisions to reduce air total change rates in these spaces in certain circumstances.

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 170-2013

Revise Table 6.4 as follows. The remainder of Table 6.4 is unchanged.

TABLE 6.4 Minimum Filter Efficiencies

| Space Designation (According to Function) | Filter Bank No. 1 (MERV) ^a | Filter Bank No. 2 (MERV) ^a |
|--|--|--|
| [. . .] | | |
| Laboratories <u>Laboratory work areas</u> , procedure rooms, and associated semirestricted spaces | 13 ^b | NR |
| [. . .] | | |

NR = not required

Notes:

- a. The minimum efficiency reporting value (MERV) is based on the method of testing described in ANSI/ASHRAE Standard 52.2, Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particle Size ([ASHRAE 2012] in Informative Appendix B).
- b. Additional prefilters may be used to reduce maintenance for filters with efficiencies higher than MERV 7.

Revise Table 7.1 as follows. The remainder of Table 7.1 is unchanged.

TABLE 7.1 Design Parameters

| Function of Space | Pressure Relationship to Adjacent Areas (n) | Minimum Outdoor ach | Minimum Total ach | All Room Air | | Design Relative Humidity (k), % | Design Temperature (l), °F/°C |
|--|---|---------------------|-------------------|------------------------------------|---|---------------------------------|-------------------------------|
| | | | | Exhausted Directly to Outdoors (j) | Recirculated by Means of Room Units (a) | | |
| [...] | | | | | | | |
| RADIOLOGY (†) | | | | | | | |
| [...] | | | | | | | |
| DIAGNOSTIC AND TREATMENT | | | | | | | |
| [...] | | | | | | | |
| Laboratory work area, general (f ₂) (v) | Negative | 2 | 6 | NR | NR | NR | 70–75/21–24 |
| Laboratory work area, bacteriology (f ₂) (v) | Negative | 2 | 6 | Yes | NR | NR | 70–75/21–24 |
| Laboratory work area, biochemistry (f ₂) (v) | Negative | 2 | 6 | Yes | NR | NR | 70–75/21–24 |
| Laboratory work area, cytology (f ₂) (v) | Negative | 2 | 6 | Yes | NR | NR | 70–75/21–24 |
| Laboratory work area, glasswashing (f) | Negative | 2 | 10 | Yes | NR | NR | NR |
| Laboratory work area, histology (f ₂) (v) | Negative | 2 | 6 | Yes | NR | NR | 70–75/21–24 |
| Laboratory work area, microbiology (f ₂) (v) | Negative | 2 | 6 | Yes | NR | NR | 70–75/21–24 |
| Laboratory work area, nuclear medicine (f ₂) (v) | Negative | 2 | 6 | Yes | NR | NR | 70–75/21–24 |
| Laboratory work area, pathology (f ₂) (v) | Negative | 2 | 6 | Yes | NR | NR | 70–75/21–24 |
| Laboratory work area, serology (f ₂) (v) | Negative | 2 | 6 | Yes | NR | NR | 70–75/21–24 |
| Laboratory work area, sterilizing (f) | Negative | 2 | 10 | Yes | NR | NR | 70–75/21–24 |
| Laboratory work area, media transfer (f ₂) (v) | Positive | 2 | 4 | NR | NR | NR | 70–75/21–24 |
| [...] | | | | | | | |

Table 7-1 Notes:

- [...] This letter is not used in this table. Higher ventilation rates above the total ach listed shall be used when dictated by the laboratory program requirements and the hazard level of the potential contaminants in each laboratory work area. Lower total ach ventilation rates shall be permitted when a Hazard Assessment performed as part of an effective Laboratory Ventilation Management Plan per the ANSI/ASHRAE/ASHE Z99.5, *Laboratory Ventilation Standard*,¹³ determines that either (a) acceptable exposure concentrations in the laboratory work area can be achieved with a lower minimum total ach ventilation rate than is listed in Table 7.1 or (b) a demand control approach with active sensing of contaminants or appropriate surrogates is used as described in *ASHRAE Handbook—HVAC Applications*, Chapter 16, “Laboratories” (see ASHRAE [2015] in Informative Appendix B).
- [...] When required, appropriate hoods and exhaust devices for the removal of noxious gases or chemical vapors shall be provided in accordance with NFPA 99.⁸ Room temperature ranges that exceed the minimum indicated range shall be permitted if required by the laboratory program or laboratory equipment.
- [...]

Add a new reference to Section 9 as follows. The remainder of Section 9 is unchanged.

9. NORMATIVE REFERENCES

- ¹³ ANSI/AIHA/ASSE Z9.5-2012 *Laboratory Ventilation Standard*, American Society of Safety Engineers. Park Ridge, IL.

Add a new reference to Informative Appendix B as follows. The remainder of Informative Appendix B is unchanged.

INFORMATIVE APPENDIX B INFORMATIVE REFERENCES AND BIBLIOGRAPHY

- ASHRAE. 2015. *ASHRAE Handbook—Applications*, Chapter 16, “Laboratories.” Atlanta: ASHRAE.

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