

ASHRAE/ASHE ADDENDA

Ventilation of Health Care Facilities

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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.

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- b. participation in the next review of the Standard,
- c. offering constructive criticism for improving the Standard, or
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FOREWORD

This proposed addendum clarifies the use of recirculating HVAC units through modifications to four parts of the current standard.

Note: This addendum makes proposed changes to the current standard. These changes are indicated in the text by underlining (for additions) and ~~striking through~~ (for deletions), except where the reviewer instructions specifically describe some other means of showing the changes. Only these changes to the current standard are open for review and comment at this time. Additional material is provided for context only and is not open for comment except as it relates to the proposed changes.

Addendum h to Standard 170-2008

[Revise Section 6.4 as shown below.]

6.4 Filtration. Filter banks shall be provided in accordance with Table 6-1. Each filter bank with an efficiency of greater than MERV 12 shall be provided with an installed manometer or differential pressure measuring device that is readily accessible and provides a reading of differential static pressure across the filter to indicate when the filter needs to be changed. (For further information, see AIA [2006] and CDC [2003] in the Informative Annex B: Bibliography.) All of the air provided to a space shall be filtered in accordance with Table 6-1, except as otherwise indicated in Section 7.1 for spaces that allow recirculating HVAC room units.

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[Revise Section 6.5.3 as shown below. The new sentence has been relocated from Note "a" of Table 7-1.]

6.5.3 Radiant Heating Systems. If radiant heating is provided for an AII room, a protective environment room, a wound intensive care unit (burn unit), or a room for any class of surgery, either flat and smooth radiant ceiling panels with exposed cleanable surfaces or radiant floor heating shall be used. Gravity-type heating or cooling units, such as radiators or convectors, shall not be used in operating rooms and other special care areas.

[Revise Section 7.1 as shown below.]

7.1 General Requirements. The following general requirements shall apply for space ventilation:

1. Spaces shall be ventilated according to Table 7-1.
 - a. Design of the ventilation system shall provide air movement that is generally from clean to less clean areas. If any form of variable-air-volume or load-shedding system is used for energy conservation, it

shall not compromise the pressure balancing relationships or the minimum air changes required by the table. See Table 7.1 note (t) for additional information.

- b. The ventilation rates in this table are intended to provide for comfort as well as for asepsis and odor control in areas of a health care facility that directly affect patient care. The air change rates specified are for supply in positive pressure rooms and for exhaust in negative pressure rooms. Ventilation rates for many areas not specified here can be found in ANSI/ASHRAE Standard 62.1 (see Informative Annex B: Bibliography). Where areas with prescribed rates in both Standard 62.1-2007 and Table 7-1 of this standard exist, the higher of the two air change rates shall be used.
- c. For design purposes, the minimum number of total air changes indicated shall be either supplied for positive pressure rooms or exhausted for negative pressure rooms. Spaces that are required in Table 7-1 to be at a negative pressure relationship and are not required to be exhausted shall utilize the supply airflow rate to compute the Minimum Total Air Changes per Hour required. For spaces that require a positive or negative pressure relationship, the number of air changes can be reduced when the space is unoccupied, provided that the required pressure relationship to adjoining spaces is maintained while the space is unoccupied and that the minimum number of air changes indicated is reestablished anytime the space becomes occupied. Air change rates in excess of the minimum values are expected in some cases in order to maintain room temperature and humidity conditions based upon the space cooling or heating load.
- d. The entire Minimum Outdoor Air Changes per Hour required by Table 7-1 for the space shall meet the filtration requirements of Section 6.4.
- e. For spaces where Table 7-1 permits air to be recirculated by room units, the portion of the Minimum Total Air Changes per Hour required for a space that is greater than the Minimum Outdoor Air Changes per Hour required component may be provided by recirculating room HVAC units. Such recirculating room HVAC units shall
 1. not receive nonfiltered, nonconditioned outdoor air;
 2. serve only a single space; and
 3. provide a minimum MERV 6 filter for airflow passing over any surface that is designed to condense water. This filter shall be located upstream of any such cold surface, so that all of the air passing over the cold surface is filtered.
2. Air filtration for spaces shall comply with Table 6-1.
3. Supply air outlets for spaces shall comply with Table 6-2.
4. In AII rooms, protective environment rooms, wound intensive care units (burn units), and rooms for all classes of surgery, heating with supply air or radiant panels that meet the requirements of Section 6.5.3 shall be provided.

[Revise the following Table 7-1 notes as shown below. Note "q" was previously revised in Addendum b to Standard 170-2008.]

- a. ~~Except where indicated by a "No" in this column, recirculating~~ Recirculating room HVAC units (with heating or cooling coils) are acceptable for providing that portion of the minimum total air changes per hour that is permitted by Section 7.1 (subparagraph 1-e) to achieve the required air change rates. Because of the cleaning difficulty and potential for buildup of contamination, recirculating room units shall not be used in areas marked "No." ~~Isolation and intensive care unit rooms may be ventilated by reheat~~

~~induction units in which only the primary air supplied from a central system passes through the reheat unit. Gravity type heating or cooling units, such as radiators or convectors, shall not be used in operating rooms and other special care areas.~~

....

- q. In a recirculating ventilation system, HEPA filters shall be permitted instead of exhausting the air from these spaces to the outdoors provided that the return air passes through the HEPA filters before it is introduced into any other spaces. The entire Minimum Total Air Changes per Hour of recirculating airflow shall pass through HEPA filters.

**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.