ADDENDA

ANSI/ASHRAE/ASHE Addenda k, n, v to
ANSI/ASHRAE/ASHE Standard 170-2008

Ventilation of
Health Care Facilities

Approved by the ASHRAE Standards Committee on January 26, 2013; by the ASHRAE Board of Directors on January 29, 2013; by the ASHE Board of Directors on January 18, 2013; and by the American National Standards Institute on January 30, 2013.

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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.

The Manager of Standards of ASHRAE should be contacted for:

a. interpretation of the contents of this Standard,
b. participation in the next review of the Standard,
c. offering constructive criticism for improving the Standard, or
d. permission to reprint portions of the Standard.

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

FOREWORD

This addendum clarifies the requirement that "all" room air be exhausted directly to the outdoors and provides limitations as to the reuse of exhaust air for energy recovery.

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

Addendum k to Standard 170-2008

Add the following new Section 6.8.

6.8 Energy Recovery Systems

6.8.1 General. Energy recovery systems shall be located upstream of Filter Bank Number 2. If energy recovery systems are utilized, the systems shall not allow for any amount of cross-contamination of exhaust air back to the supply airstream via purge, leakage, carryover, or transfer except as allowed in Section 6.8.3.

6.8.2 Airborne Infectious Isolation Room Exhaust Systems. Airborne infectious isolation room exhaust systems serving AII rooms or combination AII/PE rooms shall not be utilized for energy recovery.

Exception: Airborne infectious isolation room exhaust systems serving AII rooms or combination AII/PE rooms may be served by an energy recovery system where the supply airstream components and the exhaust airstream components are fully separated by an air gap of adequate distance to prevent cross-contamination that is open to the atmosphere (e.g., run-around pumped coils).

6.8.3 Energy Recovery Systems with Leakage Potential. If energy recovery systems with leakage potential are utilized, they shall be arranged to minimize the potential to transfer exhaust air directly back into the supply airstream. Energy recovery systems with leakage potential shall be designed to have no more than 5% of the total supply airstream consisting of exhaust air. Energy recovery systems with leakage potential shall not be utilized from these exhaust airstream sources: ER waiting rooms, triage, ER decontamination, radiology waiting rooms, darkroom, bronchoscopy sputum collection and pentamidine administration, laboratory fume hood and other directly ducted laboratory equipment exhaust, waste anesthesia gas disposal, autopsy, nonrefrigerated body holding, endoscope cleaning, central medical and surgical supply soiled or decontamination room, laundry general, hazardous material storage, dialyzer reprocessing room, nuclear medicine hot lab, nuclear medicine treatment room, and any other space identified by the *authority having jurisdiction* or the ICRA team.

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FOREWORD

This addendum clarifies requirements for the calculation of outside air quantities for air-handling systems. This addendum provides designers with two alternative calculation pathways.The project committee considers these multiple methods to afford flexibility to a designer as appropriate to the varying system sizes and objectives that are involved in the outdoor air calculation process. As this standard provides specific guidance on the type of supply air outlets that shall be utilized in the varied healthcare environments, as indicated in Table 6-2, the committee has determined that the minimum outdoor air change rates indicated in Table 7-1 represent the zone outdoor airflow, (thus defining the zone air distribution effectiveness for these spaces at 1.0 and factored into the determination of these total and outdoor air change rates) as may be needed for use in calculations defined by this addendum, including the Ventilation Rate Procedure of ASHRAE Standard 62.1.

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

Addendum n to Standard 170-2008

Revise the Standard as follows. Not all the subparagraphs of 7.1 are shown. Subsection 7.1 was previously revised in Addendum h, which modified subparagraph c and added subparagraphs d and e. Addendum h is published for free on the ASHRAE website at http://www.ashrae.org/standards-research--technology/standards-addenda.

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

1. Spaces shall be ventilated according to Table 7-1.

…

f. For air-handling systems serving multiple spaces, system minimum outdoor air quantity shall be calculated utilizing one of the following methods:
   1. System minimum outdoor air quantity for an air-handling system shall be calculated as the sum of the individual space requirements as defined by this standard.
   2. System minimum outdoor air quantity shall be calculated by the Ventilation Rate Procedure (multiple zone formula) of ASHRAE Standard 62.1.[XX] The minimum outdoor air change rate listed in this standard shall be interpreted as the V_{oz} (zone outdoor airflow) for purposes of this calculation.

…

Add the following reference to Section 9.

9. NORMATIVE REFERENCES

[XX] ANSI/ASHRAE Standard 62.1-2010, *Ventilation for Acceptable Indoor Air Quality,* ASHRAE, Atlanta, GA.

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FOREWORD

This addendum provides clarification concerning design relative humidity requirements for spaces whose function is recovery. Addendum d noted that, based on recent research, a reduction in the lower limit of the design humidity range for eight spaces designed for short-term patient stays was warranted. Addendum v recognizes the applicability of that research to the clinical use of spaces whose function is recovery that are also designed for short-term patient stays. This change reduces the lower design humidity limit from 30% to 20% RH to match that of those spaces noted in Addendum d to Standard 170-2008.

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

Addendum v to Standard 170-2008

Revise Table 7-1 as follows. Table 7-1 column headers were previously revised in Addendum b to Standard 170-2008 currently published and posted on the ASHRAE website at http://www.ashrae.org/standards-research--technology/standards-addenda. See the Standard for the remaining portions of Table 7-1 and other footnotes not repeated here.

TABLE 7-1 Design Parameters

Function of Space	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)	RH (k), %	Design Temperature (l), °F/°C
SURGERY AND CRITICAL CARE							
Recovery room	N/R	2	6	N/R	No	20~~30~~-60	70–75/21–24

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.

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