ADDENDA

ANSI/ASHRAE/ASHE Addendum d to
ANSI/ASHRAE/ASHE Standard 170-2017

Ventilation of Health Care Facilities

Approved by ASHRAE Standards Committee on November 4, 2020; by the ASHRAE Board of Directors on November 18, 2020; by the American Society for Health Care Engineering on September 30, 2020; and by the American National Standards Institute on December 16, 2020.

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 (https://www.ashrae.org/continuous-maintenance).

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c. offering constructive criticism for improving the Standard, or
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FOREWORD

Addendum d adds requirements and language similar to those required in ASHRAE Standard 62.1, Section 5, "Systems and Equipment." Requirements include the following:

a. Air intake separation distance table adapted for Standard 170 requirements
b. Outdoor air verification requirements while operating
c. Measures to prevent vehicle combustion in parking garages from entering the building
d. Air balancing requirements

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 d to Standard 170-2017

Modify 6.3 as shown. The remainder of Section 6.3 is unchanged.

6.3.1 Outdoor Air Intakes

6.3.1.1 General. ~~Outdoor air intakes for AHUs shall be located a minimum of 25 ft (8 m) from cooling towers and all exhaust and vent discharges. Outdoor air intakes shall be located such that the bottom of the air intake is at least 6 ft (2m) above grade.~~ Outdoor air intakes for AHUs shall be located such that the shortest distance from the intake to any specific potential outdoor contaminant source shall be equal to or greater than the separation distance listed in Table 6.3.1.1 and comply with all other requirements of this section. New facilities with moderate-to-high risk of natural or man-made extraordinary incidents shall locate air intakes away from public access. All intakes shall be designed to prevent the entrainment of wind-driven rain, shall contain features for draining away precipitation, and shall be equipped with a bird-screen of mesh no smaller than 0.5 in. (13 mm).

Exceptions to 6.3.1.1:

1. For gas fired, packaged rooftop units, the separation distance of the unit's outdoor air intake from its flue may be less than 25 ft (8 m). The separation distance shall be greater than or equal to the distance prescribed in ANSI/ASHRAE Standard 62.1, Section 5.5.1.2.
2. For plumbing vents terminating with stack-type air admittance valves installed less than 3 ft (1m) above the level of the outdoor air intake, the minimum separation distance may be 10 ft (3 m). For plumbing vents terminating with stack-type air admittance valves installed at least 3 ft (1m) above the level of the outdoor air intake, the minimum separation distance may be 3 ft (1 m).
3. If permitted by the AHJ, based on an engineering analysis of reentrainment, separation distances may be decreased below Table 6.3.1.1 values for cooling towers and exhaust and vent discharges, and an alternate location may be used. The submitted reentrainment analysis shall demonstrate that an exhaust discharge outlet located at a distance less than required by Table 6.3.1.1 provides a lower concentration of reentrainment than all the areas located at a distance greater than required by Table 6.3.1.1 on the roof level where the exhaust discharge is located. (***Informative Note:*** For example, located adjacent to an air intake but with the exhaust discharge point above the top of the air intake.)

6.3.1.2 Air-Handling System Controls. Provide air-handling systems and equipment with manual or automatic controls to maintain the required space minimum outdoor airflow and space minimum total air changes per hour under all design conditions, including any space unoccupied turndown conditions.

6.3.1.2.1 All systems shall allow for field verification of outdoor air intake flow during operation and be provided with manual or automatic controls to maintain not less than the out-

Table 6.3.1.1 Air Intake Minimum Separation Distance

Potential Outdoor Contaminant Source	Minimum Distance, ft (m)
Class 2 air outlet	10 (3)
Required exhaust from ASHRAE Standard 62.1, Table 6.5, or other codes	25 (7.5)
Required exhaust from Table 7.1, 8.1, or 9.1 or Class 3 air exhaust outlet	25 (7.5)
Required exhaust from Section 6.3.2.2 or Class 4 air exhaust outlet	30 (10)
Plumbing vents	25 (7.5)
Vents, chimneys, and flues from combustion appliances and equipment	25(7.5)
Garage entry, automobile loading area, or drive-in queue	See Note 1
Truck loading area or dock, bus parking/idling area	See Note 1
Driveway, landscaped grade, sidewalk, street, or parking place directly below intake	5 (1.6)
Thoroughfare with high vehicle traffic volume	See Note 1
Roof or other above-grade surface directly below intake	3 (1)
Garbage storage/pick-up area, dumpsters	See Note 1
Cooling tower exhaust, intake, or basin	25 (7.5)

Note 1: Refer to ANSI/ASHRAE Standard 62.1[1], Table 5.5.1.

door air intake flow required by Section 7, Section 8, and Section 9 under all load conditions or unoccupied turndown conditions.

~~6.3.1.2~~6.3.1.3 Relief Air. ~~Relief air is exempt from the 25 ft (8 m) separation requirement. Relief air is defined as the Class 1 a~~Air that could be returned to the air-handling unit from the occupied spaces but is being discharged to the outdoors to maintain building pressurization (such as during air-side economizer operation) is exempt from the separation requirement listed in Table 6.3.1.1 for the respective air-handling unit's outdoor air intake opening.

Informative Note: For more information, see ASHRAE Standard 62.1 (ASHRAE 2016a) in Appendix B.

~~**6.3.1.3 Roof Locations.** Intakes on top of buildings shall be located with the bottom of the air intake a minimum of 3 ft (1 m) above roof level.~~

6.3.1.4 Areaways. [. . .]

6.3.2 Exhaust Discharges [. . .]

6.3.2.3 Health Care Facilities with attached Parking Garages. In order to minimize the entry of vehicular exhaust into occupiable spaces, health care facilities with attached parking garages shall comply with ANSI/ASHRAE Standard 62.1[1], Section 5.15.

6.3.3 Combustion Air. Fuel-burning appliances, both vented and unvented, shall comply with ANSI/ASHRAE Standard 62.1[1], Section 5.7.

Add new Sections 6.7.6 and 6.7.7 as shown.

6.7.6 Air Balancing

6.7.6.1 Designing for Air Balancing. The air distribution system shall be provided with means to adjust the system to achieve at least the minimum outdoor airflow and the minimum total air changes per hour as required by Section 7, Section 8, and Section 9 under any load condition.

6.7.6.2 Plenum Systems. When the ceiling or floor plenum is used to recirculate return to ceiling- or floor-mounted terminal units, the plenum system shall not be used to distribute outdoor air.

Informative Note: Systems with direct connection of outdoor air ducts to terminals units, for example, comply with this requirement

6.7.6.3 Documentation. The design documents shall specify minimum requirements for air balance testing, or reference applicable national standards for measuring and balancing airflow.

6.7.7 Building Exfiltration. Outdoor air ventilation systems for a building shall be designed such that the total building outdoor air intake equals or exceeds the total building exhaust under all load and unoccupied turndown conditions.

Exception to 6.7.7: Where an imbalance is required by process considerations and approved by the AHJ.

Modify Section 6.9 as shown.

6.9 Insulation and Duct Lining

a. ~~An exterior vapor barrier shall be provided for insulation on cold surfaces.~~ Pipes, ducts, and other surfaces within the building whose surface temperatures are expected to fall below the surrounding dew-point temperature shall be insulated to prevent condensation and provided with an exterior vapor barrier. A vapor barrier is not required for insulation materials that do not absorb or transmit moisture.
b. Existing insulation and duct lining accessible during a renovation project shall be inspected, repaired, and/or replaced as appropriate.
c. Duct lining shall not be used in ductwork located down-stream of Filter Bank No. 2. Duct lining with an impervious cover may be allowed in terminal units, sound attenuators, and air distribution devices downstream of Filter Bank No. 2. This lining and cover shall be factory installed.
d. Duct lining shall not be installed within 15 ft (4.57 m) downstream of humidifiers.

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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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.

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