ADDENDA

ANSI/ASHRAE Addendum a to
ANSI/ASHRAE Standard 62.2-2022

Ventilation and Acceptable Indoor Air Quality in Residential Buildings

Approved by ASHRAE and the American National Standards Institute on February 29, 2024.

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

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 ISSN 1041-2336

Approved American National Standard
ANSI
www.ansi.org

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FOREWORD

Standard 62.2 has recently updated the minimum filtration requirement. Addendum a simplifies the filtration credit available in Section 4.1.4, "Ventilation-Rate Reduction for Particle Filtration." Currently this section allows a wide range of filter efficiencies to qualify. Addendum a narrows that range and significantly simplifies this section. Other than eliminating the credit for low-performing filters, the update does not substantially change the technical aspects of this section.

New Section 7.6, "Filtered Air Delivery Rate," establishes the minimum qualifying filter that is allowed to get credit for particulate matter (PM) reductions. A qualifying filter is roughly MERV 13 or better depending on which test method is used. The section then calculates the particle reduction factor (PRF) resulting from the design of the system. The equation for PRF is based on the continuity equation (i.e., mass balance) with and without additional air cleaning; it assumes typical values for Standard 62.2-compliant air change rates and particle deposition rates. Addendum a also adds a new reference to Section 10.

Informative 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 a to Standard 62.2-2022

Revise Section 4.1.4 and delete Tables 4-2, 4-3, 4-4 as shown.

4.1.4 Ventilation-Rate Reduction for Particle Filtration. This section describes the requirements necessary to apply a credit against the minimum total ventilation rate of this standard. This credit applies during any period of not less than one day in which the requirements of Sections 4.1.4.1, 4.1.4.2, and 4.1.4.3 are met. In these cases,

$$Q_{filtration,\,credit} = 0.2 \times Q_{tot} \tag{4-8}$$

where Q_{tot} is the total ventilation rate of Section 4.1.1 as modified by Section 4.1.3 and any required additional airflow of Section A3, and $Q_{filtration,credit}$ is the credit for filtration, which shall be used to reduce Q_{tot} in Section 4.1 for that period.

4.1.4.1 Air Distribution System. ~~The f~~Filtered air shall be supplied to or returned from all rooms in the habitable space through not less than one permanently installed air-moving device~~an air-handling system~~. ~~Systems that combine filtration air distribution and HVAC distribution, such as an air-handling system that~~

Informative Note: A system of one or more permanently installed air-moving devices that provides or does not provide space conditioning and supplies air from or returns air to the system's associated filter(s) from every bedroom and living area~~,~~ complies~~y~~ with this requirement ~~but are not required~~.

4.1.4.2 Particle Filtration. ~~Recirculated air shall be passed through a *filter* with a maximum filtration factor of 4.3 as determined in accordance with Section 4.1.4.2.1~~The particle reduction factor (PRF) shall be at least 2.1 based on the daily average filtered air delivery rate (FADR; see Section 7.6). Outdoor and recirculated air are also subject to the requirements of Section 6.7, which may require additional filtration depending on the system design.

~~**4.1.4.2.1 Filtration Factor.** The filtration factor of an air filter (f_f) shall be determined using one of the following methods:.~~

~~a. Filters tested to ASHRAE Standard 52.2: Identify the filtration factor from the row in Table 4-2 associated with the MERV designation.~~

~~b. Filters tested to AHRI 680: Identify the filtration factor from the row in Table 4-3 for which the measured particle size efficiencies are no less than the values listed in the row.~~

~~c. Filters with an alternative method providing PM2.5 efficiency as approved by the authority having jurisdiction: Identify the filtration factor from the row in Table 4-4 for which the PM2.5 efficiency is no less than the value listed in the row.~~

~~**4.1.4.3 Airflow Rate.** The minimum airflow rate passing through the filter is shown in Equation 4-9:~~

~~**Table 4-2 Filtration Factor for Filters Tested to ASHRAE Standard 52.2**~~

~~MERV~~	f_{fr}
~~11~~	~~4.3~~
~~12~~	~~3.0~~
~~13~~	~~2.1~~
~~14~~	~~1.8~~
~~15~~	~~1.7~~
~~16~~	~~1.6~~

~~**Table 4-3 Filtration Factor for Filters Tested to AHRI 680**~~

~~Particle Size Efficiency (0.30 to 1.0 µm)~~	~~Particle Size Efficiency (1.0 to 3.0 µm)~~	f_{fr}
~~0~~	~~65~~	~~4.3~~
~~0~~	~~80~~	~~3.0~~
~~25~~	~~85~~	~~2.1~~
~~75~~	~~90~~	~~1.8~~
~~85~~	~~90~~	~~1.7~~
~~95~~	~~95~~	~~1.6~~

~~**Table 4-4 Filtration Factor for Filters with a PM2.5 Efficiency Designation**~~

~~PM2.5 Efficiency~~	f_{fr}
~~35%~~	~~4.3~~
~~50%~~	~~3.0~~
~~70%~~	~~2.1~~
~~85%~~	~~1.8~~
~~90%~~	~~1.7~~
~~95%~~	~~1.6~~

$$\dot{Q}_{fr} = f_{fr}\dot{Q}_{tot} \qquad (4\text{-}9)$$

4.1.4.3~~4.1.4.4~~ Installation and Maintenance. All filters shall be readily accessible from within the occupiable space. Filters shall be installed using methods to minimize air bypass. In addition to the instruction and labeling requirements of Section 6.2, the filter designation required to meet the filtration requirements for this system shall be prominently displayed on or near the filter housing access door.

Add new Section 7.6 as shown.

7.6 Filtered Air Delivery Rate. Where qualifying filters are used in conjunction with permanently installed air-moving devices, this section shall be used to determine the filtered air delivery rate (FADR) and the particle reduction factor (PRF) as needed. The FADR at any one time shall be the sum of the individual FADRs from permanently installed air-moving devices operating at that time, calculated using Equation 7-1.

$$\text{FADR} = \sum_{i=1}^{n} \text{FADR}_i \qquad (7\text{-}1)$$

where

FADR = filtered air delivery rate at any one time

n = the number of permanently installed air-moving devices providing an FADR at any one time

FADR_i = the FADR for the i^{th} permanently installed air-moving device, cfm/ft^2 (L/s/m^2)

If no air-moving devices are in operation, the FADR shall be zero.

7.6.1 Permanently Installed Air-Moving Devices. The FADR for a permanently installed air-moving device using a qualifying filter shall be determined using Equation 7-2.

$$FADR_i = 0.85 \times Q_{recirculated,i} / A_{floor} \quad (7\text{-}2)$$

where

$FADR_i$ = filtered air delivery rate for the i^{th} permanently installed air-moving device, cfm/ft^2 (L/s/m^2)

$Q_{recirculated,i}$ = recirculated airflow of the i^{th} permanently installed air-moving device, cfm (L/s)

A_{floor} = dwelling-unit floor area, ft^2 (m^2)

7.6.2 Qualifying Filters. A filter is qualifying if it meets any of the following criteria:

a. It has a certified filtration efficiency not less than 50% for 1 µm particles.
b. It has a designation not less than MERV 13 as determined by ASHRAE Standard 52.2.
c. It has an efficiency rating not less than 85% in the 1.0 to 3.0 µm range as determined by AHRI 680.
d. It has an ePM1 efficiency not less than 50% as determined by ISO 16890.
e. It is accepted as a high-efficiency particle air (HEPA) filter by the authority having jurisdiction.

7.6.3 Particle Reduction Factor. The PRF shall be calculated using Equation 7-3a (I-P) or 7-3b (SI).

$$PRF = 1 + 8.8 \times FADR_a \quad (7\text{-}3a)$$

where

PRF = particle reduction factor, unitless

$FADR_a$ = daily average filtered air delivery rate, cfm/ft^2

$$PRF = 1 + 1.7 \times FADR_a \quad (7\text{-}3b)$$

where

PRF = particle reduction factor, unitless

$FADR_a$ = daily average filtered air delivery rate, L/s/m^2

Add new reference to Section 10 as shown.

10. REFERENCES

International Organization for Standardization (ISO)
Ch. de Blandonnet 8, CP 401
CH-1214 Vernier, Geneva, Switzerland
+41 22 749 01 11; www.iso.org

ISO 16890 (2016)	Air Filters for General Ventilation	7.6.3

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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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