



STANDARDS ACTIONS

PUBLIC REVIEW—CALL FOR COMMENTS

Constructive comments are invited for the following Public Review Drafts, which can be accessed on ASHRAE's website. All activity for reviewing and commenting on public review drafts can be accomplished completely online at <https://osr.ashrae.org>. To obtain a paper copy of any Public Review Draft contact ASHRAE, Inc. Attn: Standards Public Review, 1791 Tullie Circle, NE, Atlanta, GA 30329-2305, or via email at: standards.section@ashrae.org. Paper copies are \$35.00/ copy if 100 pages or less and \$45.00 if over 100 pages.

**30-day Public Review from
March 22, 2019 to April 21, 2019**

♦ **1st Public Review of BSR/ASHRAE Addendum p to ANSI/ASHRAE Standard 62.1-2016, Ventilation for Acceptable Indoor Air Quality**

The current standard contains exceptions for leakage from energy recovery systems. These exceptions have been misinterpreted and misapplied. The current definition of energy recovery ventilation systems is not used, and the term energy recovery device is not defined. The definition is therefore modified.

♦ **3rd Public Review of BSR/ASHRAE Addendum y to ANSI/ASHRAE Standard 62.1-2016, Ventilation for Acceptable Indoor Air Quality**

Since the original publication of Standard 62.1, ASHRAE published Standard 188-2015 Legionellosis: Risk Management for Building Water Systems. This proposed addendum requires advising the owner of the basic requirements of ASHRAE Standard 188.

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♦ **3rd ISC Public Review of BSR/ASHRAE Addendum aa to ANSI/ASHRAE Standard 62.1-2016, Ventilation for Acceptable Indoor Air Quality**

The indoor air quality procedure has a long history going back to the 1981 standard. Weaknesses in the requirements for identifying the contaminants of concern, identifying concentration limits and exposure periods, and specifying the percentage of building occupants to be satisfied with perceived IAQ. Although the percentage of building occupants to be satisfied with perceived IAQ may be specified, and the standard requires that it be measured; this measurement usually would take place after occupancy so is often ignored or omitted. This proposed addendum adds requirements for designing to specific targets. The target design compounds and mixtures are specifically identified.

♦ **2nd Public Review of BSR/ASHRAE Addendum ad to ANSI/ASHRAE Standard 62.1-2016, Ventilation for Acceptable Indoor Air Quality**

Table 6.5 (Minimum Exhaust Rates) lists minimum exhaust rates for certain spaces in which contaminants generation have been deemed high enough that it contaminant cannot be diluted and thus need to be exhausted. However, the standard does not require these spaces to be at any pressure. This proposed addendum adds the requirement for these spaces to be at a negative pressure with respect to adjacent spaces in order to minimize contaminants leakage to adjacent spaces.

♦ **2nd ISC Public Review of BSR/ASHRAE Addendum ae to ANSI/ASHRAE Standard 62.1-2016, Ventilation for Acceptable Indoor Air Quality**

This proposed addendum adds a maximum indoor air dewpoint in mechanically cooled buildings. The 60°F indoor air dewpoint limit avoids the microbial growth problems frequently observed when humid outdoor air infiltrates into buildings. Humidity-related requirements of earlier versions of 62.1 were intended to address both mold growth and comfort concerns by limiting indoor humidity to 65%RH but did not explicitly extend to unoccupied hours when microbial growth often accelerates and because it did not establish a coincident dry bulb temperature and did not limit the mass of water vapor available for surface absorption during periods when cooling is intermittent to conserve energy.



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♦ **2nd ISC Public Review of BSR/ASHRAE Addendum af to ANSI/ASHRAE Standard 62.1-2016, Ventilation for Acceptable Indoor Air Quality**

The 2018 FGI (Facilities Guidelines Institute) guideline requires certain outpatient spaces to meet local ventilation codes and not ASHRAE/ASHE Standard 170: Neither one of the two mechanical model codes (IMC and UMC) has ventilation rates for these spaces. The IMC and UMC use ASHRAE Standard 62.1 as basis for their ventilation table. This proposed addendum adds ventilation rates for those spaces in order to bridge the gap with ASHRAE/ASHE Standard 170. It was developed in consultation with FGI in order to understand the activity in each space.

♦ **1st Public Review of BSR/ASHRAE Addendum ai to ANSI/ASHRAE Standard 62.1-2016, Ventilation for Acceptable Indoor Air Quality**

This proposed addendum removes language published in Addendum q to Standard 62.1-2016. It reinstates the option of using indirect measurement techniques in testing and balancing (TAB) of the ventilation system in startup.

♦ **1st Public Review of BSR/ASHRAE Addendum aj to ANSI/ASHRAE Standard 62.1-2016, Ventilation for Acceptable Indoor Air Quality**

The current standard is silent on producing ozone within HVAC equipment. In some countries, ozone generators are accepted as air cleaners. Ozone is harmful for health and exposure to ozone creates risk for a variety of symptoms and diseases associated with the respiratory tract. However, there is no consensus on the safe level of ozone. The current state of the science regarding the health effects of ozone strongly suggests that the use of air cleaners that emit ozone by design should not be permitted; the same information and advice is given by the U.S. EPA, among others. There are devices that emit ozone but at the same time reduce concentrations of other harmful contaminants.

♦ **1st Public Review of BSR/ASHRAE Addendum ak to ANSI/ASHRAE Standard 62.1-2016, Ventilation for Acceptable Indoor Air Quality**

This proposed addendum reduces the leakage of class 2 air into outdoor air from 10% to 5%. Leakage is measured as Exhaust Air Transfer Rate (EATR). From the AHRI-1060 database of air to air energy recovery: (1) Of the 670 plate and frame heat exchangers, 70 records show that the plates have exhaust air transfer ratio (EATR) The highest EATR = 3.7 (2) There are 1820 wheel records. 1040 of those are at 5% EATR or below. More than half of the certified products are below the threshold of 5% EATR. Further, fan orientation and pressure design can reduce or eliminate the EATR in the system design.

♦ **1st Public Review of BSR/ASHRAE Addendum al to ANSI/ASHRAE Standard 62.1-2016, Ventilation for Acceptable Indoor Air Quality**

The current standard has no requirements for accuracy of CO2 sensors used for demand control ventilation. Various research projects show wide variation in accuracy and drift. This addendum proposes to adopt language from the 2013 California Title 24 Section 120.1(c)4.F.

♦ **1st Public Review of BSR/ASHRAE Addendum am to ANSI/ASHRAE Standard 62.1-2016, Ventilation for Acceptable Indoor Air Quality**

When Addendum r to 62.1-2016 was published, the footnote to old Table 5.16.1 (Airstreams or Sources) did not transfer to new the Table 6.5.2 (Airstreams or Sources). This proposed addendum reinstates the note into Section 6.

♦ **1st Public Review of BSR/ASHRAE Addendum an to ANSI/ASHRAE Standard 62.1-2016, Ventilation for Acceptable Indoor Air Quality**

Table 6.2.2.1 (Minimum Ventilation Rates in Breathing Zone) includes educational space types including Classroom (age 9 plus) and Lecture Classroom. The first of these does not have note H assigned and ventilation shutoff is not allowed. Lecture Classroom has note H and ventilation shutoff is allowed. However, for college buildings, it is not clear which of these space types should be assigned to the classroom spaces. This proposed addendum clarifies that college classrooms may use note H and have the ventilation shut off when they are unoccupied.



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<ul style="list-style-type: none"> ♦ 1st Public Review of BSR/ASHRAE Addendum <i>ap</i> to ANSI/ASHRAE Standard 62.1-2016, <i>Ventilation for Acceptable Indoor Air Quality</i> This proposed addendum updates some of the edition year and web references to the references listed in Section 9 and Informative Appendix J. ♦ 1st Public Review of BSR/ASHRAE Addendum <i>aq</i> to ANSI/ASHRAE Standard 62.1-2016, <i>Ventilation for Acceptable Indoor Air Quality</i> Many manufacturing occupancies do not use hazardous materials. This proposed addendum changes the air class for those spaces to air class 2. That allows the air to be recirculated to other similar manufacturing areas. Manufacturing spaces using hazardous materials will remain air class 3. ♦ 1st Public Review of BSR/ASHRAE Addendum <i>ar</i> to ANSI/ASHRAE Standard 62.1-2016, <i>Ventilation for Acceptable Indoor Air Quality</i> This proposed addendum modifies language in Informative Appendix E (Acceptable Mass Balance Equations for Use with the IAQ Procedure) to be consistent with the current IAQP. It also clarifies that the equations do not include any potential compounds added by the HVAC system. ♦ 1st Public Review of BSR/ASHRAE Addendum <i>as</i> to ANSI/ASHRAE Standard 62.1-2016, <i>Ventilation for Acceptable Indoor Air Quality</i> This proposed addendum adds a reference to ASHRAE/ASHE Standard 170 and exception to direct users to use the ventilation rates in ASHRAE/ASHE Standard 170 for asepsis and odor control for healthcare spaces listed in ASHRAE/ASHE Standard 170. ♦ 2nd ISC Public Review of BSR/ASHRAE Addendum <i>t</i> to ANSI/ASHRAE Standard 62.2-2016, <i>Ventilation and Acceptable Indoor Air Quality in Residential Buildings</i> This proposed change removes the potential for people to claim they would have installed a balanced system to avoid installing an unbalanced system. It also aligns the maximum airflow requirement that precludes the need to install a fan between new and existing homes. 	<ul style="list-style-type: none"> ♦ 1st Public Review of BSR/ASHRAE/ASHE Addendum <i>c</i> to ANSI/ASHRAE/ASHE Standard 170-2017, <i>Ventilation of Health Care Facilities</i> This proposed addenda provides guidance to users of Standard 170 on how to incorporate air classifications into their design of Standard 170 spaces if they are required to utilize them in conjunction with ASHRAE Standard 62.1. ♦ 1st Public Review of BSR/ASHRAE/ASHE Addendum <i>d</i> to ANSI/ASHRAE/ASHE Standard 170-2017, <i>Ventilation of Health Care Facilities</i> This proposed addendum adds requirements and language similar to those required in Section 5 (Systems and Equipment) of ASHRAE Standard 62.1. Requirements include: (1) Air intake separation distance table adapted for 170 requirements (2) Outdoor air verification requirements while operating (3) Measures to prevent vehicle combustion in parking garages from entering the building (4) Air balancing requirements. ♦ 2nd ISC Public Review of BSR/ASHRAE/ASHE Addendum <i>p</i> to ANSI/ASHRAE/ASHE Standard 170-2017, <i>Ventilation of Health Care Facilities</i> A summary of the original changes: (1) Create a column indicating spaces where unoccupied turndown is acceptable (2) Incorporate Table 6.4 into Table 7.1 to remove confusion so that filter requirements will be uniformly applied (3) Revise space names to align with names appearing in FGI 2014 and indicating the appropriate sections in FGI 2014 where that space is referenced. Based on commenter feedback the following additional changes are proposed: (1) In Section 7.1(a)(3) the term “humidity” is changed to “design relative humidity” (2) Some spaces previously marked as not permitting unoccupied turndown are being changed to permit it (3) Some of the proposed new spaces would not be added to the standard (4) Addendum a are proposed changes to the filter column created in this addendum and represents and updated approach to filtration in healthcare facilities.



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**45-day Public Review from
March 22, 2019 to May 6, 2019**

- ♦ **1st Public Review of Addendum a to ASHRAE Guideline 0-2013, *The Commissioning Process***
This proposed addendum to Guideline 0 recognizes and address changes in industry terminology resulting from the evolution of whole-building commissioning into the life cycle and sustainable facilities measurement and verification processes. Additionally, this addendum addresses achieving consistency of the defined commissioning terms between Guideline 0 and ANSI/ASHRAE/IES Standard 202, *Commissioning Process for Systems and Buildings*.
- ♦ **3rd Public Review of BSR/ASHRAE Addendum ac to ANSI/ASHRAE Standard 62.1-2016, *Ventilation for Acceptable Indoor Air Quality***
Informative Appendix C (Summary of Selected Air Quality Guidelines) in 62.1-2016 was deleted in a previous addendum. This proposed addendum adds a new Informative Appendix C with content supportive of changes to the Indoor Air Quality Procedure (IAQP).
- ♦ **1st Public Review of BSR/ASHRAE Addendum ag to ANSI/ASHRAE Standard 62.1-2016, *Ventilation for Acceptable Indoor Air Quality***
This proposed addendum replaces the calculation method in current Normative Appendix B2 (Separation of Exhaust Outlets and Outdoor Air Intakes) with a new method based upon ASHRAE RP-1635 (2016). This research was sponsored by ASHRAE TC 4.3. The purpose of this Research Project is to provide a simple, yet accurate procedure for calculating the minimum distance required between the outlet of an exhaust system and the outdoor air intake to a ventilation system to avoid re-entrainment of exhaust gases. The new procedure addresses the technical deficiencies in the simplified equations and tables that are currently in Standard 62.1-2016 and model building codes.

- ♦ **1st Public Review of BSR/ASHRAE Addendum ah to ANSI/ASHRAE Standard 62.1-2016, *Ventilation for Acceptable Indoor Air Quality***
This proposed addendum clarifies and expands the values of zone air distribution effectiveness (Ez) in Table 6.2.2.1 and adds Normative Appendix X (Zone Air Distribution Effectiveness – Alternate Procedures) to provide a procedure for calculating zone air distribution effectiveness. Notes on Table 6.2.2.1 have also been removed and replaced with definitions or specific requirements within the language of the standard.
- ♦ **2nd Public Review of BSR/ASHRAE Standard 118.2-2006R, *Method of Testing for Rating Residential Water Heaters and Residential-Duty Commercial Water Heaters***
This revision of Standard 118.2-2006 provides test procedures for rating the efficiency and hot water delivery capabilities of directly heated residential water heaters and residential-duty commercial water heaters.
- ♦ **1st Public Review of BSR/ASHRAE/ASHE Addendum b to ANSI/ASHRAE/ASHE Standard 170-2017, *Ventilation of Health Care Facilities***
This proposed addendum removes several spaces from Tables 7.1, 8.1, and 9.1 based on those spaces being adequately addressed in other standards. The addendum also proposes to modify minimum total air change requirements for several spaces based on the results of CO-RP 3.
- ♦ **1st Public Review of BSR/ASHRAE Standard 195-2013R, *Method of Test for Rating Air Terminal Unit Controls***
This revision of Standard 195-2013 specifies instrumentation and facilities, test installation methods, and procedures for determining the accuracy and stability of airflow control systems for terminal units at various airflow setpoints.



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ERRATA

New errata sheets for the following standards are now available on the ASHRAE website at <http://www.ashrae.org/standards-errata>.

- ♦ **ANSI/ASHRAE/IES Standard 90.1-2010 (I-P Edition), *Energy Standard for Buildings Except Low-Rise Residential Buildings***, dated March 18, 2019. This replaces the version dated March 8, 2018.
- ♦ **ANSI/ASHRAE/IES Standard 90.1-2010 (SI Edition), *Energy Standard for Buildings Except Low-Rise Residential Buildings***, dated March 18, 2019. This replaces the version dated July 26, 2018.
- ♦ **ANSI/ASHRAE/IES Standard 90.1-2013 (I-P Edition), *Energy Standard for Buildings Except Low-Rise Residential Buildings***, dated March 18, 2019. This replaces the version dated December 3, 2018.
- ♦ **ANSI/ASHRAE/IES Standard 90.1-2013 (SI Edition), *Energy Standard for Buildings Except Low-Rise Residential Buildings***, dated March 18, 2019. This replaces the version dated December 3, 2018.
- ♦ **ANSI/ASHRAE/IES Standard 90.1-2016 (I-P Edition), *Energy Standard for Buildings Except Low-Rise Residential Buildings***, dated March 18, 2019. This replaces the version dated February 27, 2018.
- ♦ **ANSI/ASHRAE/IES Standard 90.1-2016 (SI Edition), *Energy Standard for Buildings Except Low-Rise Residential Buildings***, dated March 18, 2019. This replaces the version dated February 27, 2018.
- ♦ **ANSI/ASHRAE/ICC/USGBC/IES Standard 189.1-2017, *Standard for the Design of High-Performance Green Buildings Except Low-Rise Residential Buildings***, dated March 20, 2019. This replaces the version dated February 22, 2019.

INTERIM MEETINGS

A complete listing of project committee interim meetings is provided on ASHRAE's website at:

<https://www.ashrae.org/technical-resources/standards-and-guidelines/project-committee-interim-meetings>.

- ♦ **SPC 210P, *Method of Testing for Rating Commercial Walk-in Cooler and Freezer Equipment***, will hold conference calls from 3:00 pm to 5:00 pm (Eastern) on the following dates:
 - ⇒ April 10, 2019
 - ⇒ May 15, 2019
 - ⇒ June 5, 2019

For additional information contact Lauren MacGowens, Chair of SPC 210 (lmacgowens@ahrinet.org).



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Click on the link below to learn more about ASHRAE Standards Activities!

- ⇒ [ASHRAE Standards Actions](#)
- ⇒ [SSPC 41 — Standard Methods for Measurement](#)
- ⇒ [SSPC 62.1 — Ventilation for Acceptable Indoor Air Quality](#)
- ⇒ [SSPC 62.2 — Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings](#)
- ⇒ [SSPC 90.1 — Energy Standard for Buildings Except Low-Rise Residential Buildings](#)
- ⇒ [SSPC 90.2 — Energy Efficient Design of Low-Rise Residential Buildings](#)
- ⇒ [SPC 90.4 — Energy Standard for Data Centers and Telecommunications Buildings](#)
- ⇒ [SSPC 161 — Air Quality within Commercial AirCraft](#)
- ⇒ [SSPC 188 — Legionellosis: Risk Management for Building Water Systems](#)
- ⇒ [SSPC 189.1 — Standard for the Design of High-Performance Green Buildings Except Low-Rise Residential Buildings](#)
- ⇒ [Code Interaction Subcommittee \(CIS\) Listserve](#)