



**ASHRAE Addendum a
to ASHRAE Standard 241-2023**

First Public Review Draft

**Proposed Addendum a to
Standard 241-2023, Control of
Infectious Aerosols**

**First Public Review (September 2024)
(Draft shows Proposed Changes to Current Standard)**

This draft has been recommended for public review by the responsible project committee. To submit a comment on this proposed standard, go to the ASHRAE website at <https://www.ashrae.org/technical-resources/standards-and-guidelines/public-review-drafts> and access the online comment database. The draft is subject to modification until it is approved for publication by the Board of Directors and ANSI. Until this time, the current edition of the standard (as modified by any published addenda on the ASHRAE website) remains in effect. The current edition of any standard may be purchased from the ASHRAE Online Store at www.ashrae.org/bookstore or by calling 404-636-8400 or 1-800-727-4723 (for orders in the U.S. or Canada).

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(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 proposed addendum adds two references to the allowable test methods in Appendix A. This proposed addendum also clarifies the use of an AHAM standard for non-residential applications.

Note: This addendum makes proposed changes to the current standard. These changes are indicated in the text by underlining (for additions) and ~~striketrough~~ (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 a to Standard 241-2023

Modify Section 7 as follows. The remainder of Section 7 remains unchanged.

7. AIR CLEANING

[...]

- 7.3.2.2 Commercial and Industrial In-Room Air Cleaners Using Only Mechanical Fibrous Filters.** The *equivalent clean airflow rate (VACS)* of commercial and industrial in-room air cleaners using only mechanical fibrous filters shall be determined in accordance with ANSI/AHAM AC-1⁸ adapted for non-residential applications with the chamber size criterion outlined in Section A1.2.2 or Normative Appendix A. ~~Normative Appendix A using a custom test method similar to that described in ANSI/AHAM AC-1⁸ adapted with the chamber size criterion outlined in Section A1.2.2.~~

[...]

- 7.4.1.1 In-Duct Ultraviolet Germicidal Irradiation.** The infectious aerosol reduction efficiency of ultraviolet lights for use in AHUs and air ducts shall be determined in accordance with ANSI/ASHRAE Standard 185.1 ¹¹⁺⁰ or ISO 15714 ¹² methodology with MS2 as the challenge organism. The safety of in-duct ultraviolet germicidal irradiation shall be determined in accordance with the safety requirements of Normative Appendix A.

[...]

Modify Section 11 as follows. The remainder of Section 11 remains unchanged.

11. NORMATIVE REFERENCES

[...]

10. ASHRAE. 2024. ANSI/ASHRAE Standard 185.3, *Method of Testing Commercial and Industrial In-Room Air-Cleaning Devices and Systems for Microorganism Bioaerosol Removal or Inactivation in a Test Chamber*. Peachtree Corners, GA: ASHRAE.
- ~~11+0~~. ASHRAE. 2020. ANSI/ASHRAE Standard 185.1, *Method of Testing UV-C Lights for Use in Air-Handling Units or Air Ducts to Inactivate Airborne Microorganisms*. Peachtree Corners, GA: ASHRAE.
12. ISO. 2019. ISO 15714, *Method of evaluating the UV dose to airborne microorganisms transiting in-duct ultraviolet germicidal irradiation devices*. Geneva, Switzerland: International Organization for Standardization.

[...]

Note to Reviewers: Renumber remaining references accordingly in this section and throughout the standard.

[...]

Modify Normative Appendix A as follows. The remainder of Normative Appendix A remains unchanged.

NORMATIVE APPENDIX A DETERMINING AIR CLEANING SYSTEM EFFECTIVENESS AND SAFETY

A1. TESTING PROCEDURE

Where testing of the effectiveness or safety elements of *air cleaning* systems falls within the scope of a national consensus standard approved by the *AHJ*, these elements of the systems shall be tested in accordance with the applicable standard per the requirements of Section 7.

The consensus standards that shall be ~~permitted~~ used for determining effectiveness are as follows:

- a. ANSI/ASHRAE Standard 52.2⁵ (both the regular filter test and the bioaerosol test for non-UV-only devices specified in Appendix L). (**Informative Note:** After January 1, 2025, MERV-A ratings using Appendix J shall be required.)
- b. ISO 16890-1⁶
- c. ANSI/AHAM AC-1⁸
- d. ANSI/AHAM AC-5⁹
- e. ANSI/ASHRAE Standard 185.1¹¹⁴⁰
- f. ANSI/ASHRAE Standard 185.3¹⁰ (using MS2 as challenge organism)
- g. ISO 15714¹²

[...]