

ADDENDA

**ANSI/ASHRAE/IES Addendum ao to
ANSI/ASHRAE/IES Standard 90.1-2019**

Energy Standard for Buildings Except Low-Rise Residential Buildings

Approved by ASHRAE and the American National Standards Institute on September 30, 2021, and by the Illuminating Engineering Society on September 27, 2021.

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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FOREWORD

Addendum ao clarifies and corrects the mandatory provisions sections for air curtain units and associated controls.

Under Section 5.4.3.3.3, the added pointers in Exceptions 9 and 10 to 5.4.3.3 are intended to link the requirements for air curtain units to air curtain units' automatic controls as well.

Changes to Section 6.4.3.9 clarify the requirements for air curtain units but do not change them.

Adding the word "performance" to the first sentence of Section 10.4.5 clarifies the "tested in accordance with ANSI/AMCA 220 or ISO 27327-1" clause. Moving the next clause in the first sentence of Section 10.4.5 to a new sentence, with added details, clarifies the requirement and indicates that manufacturer's instructions should contain all necessary installation and operation information. The clause "direction not less than 20 degrees towards the opening" could be overly restrictive and therefore possibly incorrect. The angle of direction is dependent on the location of the air curtain unit and the design of the air curtain unit's discharge nozzle. The air curtain unit manufacturer's instructions identify the correct method of directing the air curtain. Having a prescribed direction may not provide the ideal location of the air curtain and could reduce the energy conserving aspects of the air curtain unit. Therefore, Addendum ao removes that clause.

A reference to Section 10.4.5 is added in Informative Appendix H, Table H-3, "Standard 90.1 Items to Verify."

Throughout the changes proposed in this addendum, adding the word "unit" where appropriate to "air curtain" helps to clarify the difference between the air curtain (the stream of air) and the air curtain unit (the product creating the air curtain).

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

Addendum ao to Standard 90.1-2019

Modify the exceptions to Section 5.4.3.3 as shown (I-P and SI units).

5.4.3.3.3 Vestibule Envelope. The exterior surfaces of both conditioned vestibules and unconditioned vestibules shall comply with the *continuous air barrier* requirements.

Exceptions to 5.4.3.3:

1. Doors not intended to be used as a *building entrance*.
2. Doors opening directly from a *dwelling unit*.
3. *Building entrances* in buildings located in Climate Zone 1 or 2.
4. Doors opening into *semiheated spaces*.
5. Enclosed elevator lobbies for *building entrances* directly from parking garages.
6. *Building entrances* in buildings that are located in Climate Zone 3, where the *building* is less than four stories above grade and less than 10,000 ft² (100 m²) in *gross conditioned floor area*.
7. *Building entrances* in buildings that are located in Climate ~~Zone~~ Zones 0, 4, 5, 6, 7, or 8, where the *building* is less than 1000 ft² in *gross conditioned floor area*.
8. Doors that open directly from a *space* that is less than 3000 ft² in area and is separate from the *building entrance*.
9. Self-closing doors in buildings in Climate Zones 0, 3, and 4 that have an air curtain unit complying with Sections 6.4.3.9 and 10.4.5.
10. Self-closing doors in buildings 15 stories or less in Climate Zones 5 through 8 that have an air curtain unit complying with Sections 6.4.3.9 and 10.4.5.

Modify Section 6.4.3.9 as shown (I-P and SI units).

6.4.3.9 Heated or Cooled Vestibules or Air Curtains with Integral Heating. Heating ~~sys-~~tems for vestibules and ~~for~~ air curtains units with integral heating shall include *automatic controls* capable of and configured to shut off the heating *system* when *outdoor air* temperatures are above

45°F (7.0°C). Vestibule heating and cooling *systems* shall be controlled by a *thermostat* in the vestibule capable of and configured to limit heating to a maximum of 60°F (16°C) and cooling to a minimum of 85°F (29°C).

Modify Section 10.4.5 (I-P and SI units).

10.4.5 Air Curtains. Air curtain units performance shall be tested in accordance with ANSI/AMCA 220 or ISO 27327-1 and ~~installed and commissioned in accordance with the manufacturer's instructions to ensure proper operation and~~ shall have a jet velocity speed of not less than 6.6 ft/s (2.0 m/s) at 6.0 in. (15 cm) above the floor ~~and direction not less than 20 degrees towards the opening.~~ Automatic controls shall be provided that will operate the air curtain unit with the opening and closing of the door and comply with Section 6.4.3.9. To ensure proper operation, each air curtain unit shall be commissioned in accordance with the manufacturer's instructions, including airstream split location and direction.

Modify Appendix H, Table H-3, as shown (I-P and SI units).

Table H-3 Standard 90.1 Items to Verify

| Subsection | Subsection Title | Standard 90.1 Items to Verify for Proper Operation or Inclusion | Status |
|---------------------|--|---|--------|
| [...] | | | |
| 10.4.2 | Service water pressure-booster systems | Required functional testing is completed for service water pressure booster system controls. | |
| <u>10.4.5</u> | <u>Air curtains</u> | <u>Functional testing and adjustment per the manufacturer's installation requirements</u> | |
| 11.2(d), and G1.21I | Energy cost budget and performance paths | If applicable, test or commission any items in the proposed building not already covered in Sections 5 through 10 required to achieve the <i>energy</i> efficiency to meet the chosen performance path. | |

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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.

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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.

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