

**INTERPRETATION IC 62.2-2016-7 OF
ANSI/ASHRAE STANDARD 62.2-2016
Ventilation and Acceptable Indoor Air Quality in Residential Buildings**

Approval Dates:

January 20, 2021 (Questions 1-3) and January 28, 2021 (Question 4)

Request from: Max Sherman, EPB Consulting Group, Moraga, CA.

Reference: This request for interpretation refers to the requirements presented in ANSI/ASHRAE Standard 62.2-2016, Section 4 and IC 62.2-2016-6 relating to the operational meaning of the term “outdoor air” with particular emphasis as it relates to exhaust systems

Background: Section 4 of the standard defines the requirements for dwelling-unit ventilation systems regardless of what kind of building the units are in (e.g. single-family or multifamily). IC 62.2-2016-6 states without comment that “For attached dwelling units complying with section 4.1, air from adjacent spaces cannot be credited toward outdoor air required by Section 4.1.” The only credit mentioned in Section 4.1 is the infiltration credit (4.1.2), which cannot be taken for multifamily buildings, but can be taken for single-family buildings. This credit lowers the fan ventilation air requirement from Section 4.1.1 for all mechanical ventilation system types.

4.1 Ventilation Rate. A mechanical exhaust system, supply system, or combination thereof shall be installed to operate for each dwelling unit to provide continuous dwelling-unit ventilation with outdoor air at a rate not less than specified in Section 4.1.1.

Both Section 4.1 and Section 4.3 are required (among others) for compliance with section 4. The ventilation airflow of an exhaust system to meet the Section 4.1 requirement is not the infiltrating/make-up flow but rather the flow through the exhaust fan as per Section 4.3 (note underlining):

4.3 Airflow Measurement. The airflow required by this section is the quantity of outdoor ventilation air supplied and/or indoor air exhausted by the mechanical ventilation system as installed and shall be measured according to the ventilation equipment manufacturer’s instructions, or by using a flow hood, flow grid, or other airflow measuring device at the mechanical ventilation fan’s inlet terminals/grilles, outlet terminals/grilles, or in the connected ventilation ducts. Ventilation airflow of systems with multiple operating modes shall be tested in all modes designed to meet this section.

The following definitions from the standard are relevant:

air, outdoor: air from outside the building taken into a ventilation system or air from outside the building that enters a space through infiltration or natural ventilation openings.

infiltration: uncontrolled inward leakage of air through cracks and interstices in any building element and around windows and doors of a building.

ventilation: the process of supplying outdoor air to or removing indoor air from a dwelling by natural or mechanical means. Such air may or may not have been conditioned.

The term “adjacent spaces” is not listed in the definitions but examples are given in the first paragraph of Section 6.1. Section 6.1 reads as follows (note underlined text):

6.1 Adjacent Spaces and Transfer Air. Measures shall be taken to minimize air movement across envelope components to dwelling units from adjacent spaces such as garages, unconditioned crawlspaces, unconditioned attics, and other dwelling units. Pressure boundary wall, ceiling, and floor penetrations shall be sealed, as shall any vertical chases adjacent to dwelling units. Doors between dwelling units and common hallways shall be gasketed or made substantially airtight.

Supply and balanced ventilation systems shall be designed and constructed to provide ventilation air directly from the outdoors.

The Standard makes a distinction between outdoor air that comes directly from outdoors and that which does not. The second paragraph of Section 6.1 (above) implies that exhaust systems may get their infiltrating air *indirectly* from outdoors.

Interpretation No. 1: For dwelling-unit mechanical exhaust systems, whose flow rate is that specified in Section 4.1.1, compliance does not require determination of the source of ventilation air and assumes all other requirements are met.

Question No. 1: Is Interpretation Number 1 correct?

Answer No. 1: Yes.

Interpretation No. 2: The full infiltration credit allowed by Section 4.1.2 may be taken, even if some of the infiltrating air passes through adjacent spaces.

Question No. 2: Is Interpretation Number 2 correct?

Answer No. 2: Yes.

Comments: This response assumes that the full infiltration credit considers that Aext may be less than 1.

Interpretation No. 3: Air which comes into the dwelling unit from adjacent spaces through cracks and interstices or around doors meets the definition of infiltration, regardless of whether it qualifies for any infiltration credit from Section 4.1.2.

Question No. 3: Is Interpretation Number 3 correct?

Answer No. 3: Yes.

Interpretation No. 4: Enclosed corridors adjacent to a dwelling unit are considered adjacent spaces to that dwelling unit whether or not there is a door between the corridor and the dwelling unit.

Question No. 4: Is Interpretation Number 5 correct?

Answer No. 4: Yes.