

**INTERPRETATION IC 62.2-2007-10 OF
ANSI/ASHRAE STANDARD 62.2-2007
Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings**

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Reference: This request for interpretation refers to the requirements presented in ANSI/ASHRAE Standard 62.2-2007, Section 5.3 and Table 5.2, relating to continuous mechanical exhaust requirements for kitchens.

Background: The Passive House Institute US is advocating and promoting the international Passive House Building Energy Standard to be widely adopted in the United States. The Passive House Building Energy Standard core technical piece is an optimized continuous balanced mechanical ventilation system. The supply and exhaust airflows required under this standard are determined a) by indoor air quality fresh air requirements based on occupants under consideration of the airtightness of the envelope and b) the exhaust air requirements based on the number of bathrooms and kitchens. Bathrooms require 24 cfm continuous exhaust and kitchens require 35 cfm continuous exhaust. The kitchen exhaust is part of the continuous balanced mechanical ventilation system with very high heat recovery efficiency and does not need to be vented directly to the outside. Charcoal filtration at the source of cooking is required before the kitchen exhaust air enters the kitchen exhaust intake. In fact, direct venting is to be avoided in a Passive House to minimize unnecessary heat loss through penetrations of the envelope and to optimize the overall energy balance of the home.

The Passive House kitchen exhaust requirement of 35 cfm continuous is significantly smaller than the ventilation airflow required as stated in Table 5.2. Passive House ventilation requirements, optimized to provide exceptional indoor air quality as well as minimizing unnecessary ventilation losses, seem to be not in compliance with the kitchen exhaust requirements as specified in Standard 62.2 Table 5.2 for continuous exhaust requirements of kitchens with 5 ach minimum. While an override control in the kitchen of a Passive House is desired to temporarily turn the balanced ventilation system on high of 100 cfm intermittent (100 cfm is the continuous required exhaust under 5.3 based on a 15x10 foot kitchen footprint with 8 foot ceilings, for larger kitchens the discrepancy and continuous ventilation airflow rate required is even larger) to exhaust temporarily occurring unwanted odors, it appears that Table 5.2 requires to exhaust the kitchen at that rate continuously at all times. This would, using a balanced ventilation system, significantly increase the unwanted ventilation losses in a Passive House while the kitchen is not in use bringing in more fresh air than is required to assure indoor air quality. This would increase unnecessarily the overall energy consumption of the home.

Interpretation No.1: The Passive House kitchen exhaust requirement of 35 cfm continuous does not meet the requirements of Table 5.2 of Standard 62.2.

Question No.1: Is this Interpretation correct?

Answer No.1: Yes, unless 35 cfm continuous is equivalent to at least 5 ACH for the kitchen.

Interpretation No.2: The requirement that a continuous kitchen exhaust have a capacity to provide 5 air changes per hour is due to the difficulty of a non-hood exhaust to adequately capture and remove

contaminants released during cooking from kitchens which may be quite large, have an open-plan design, or have high ceilings.

Question No.2: Is this Interpretation correct?

Answer No.2: Requests for justification or derivation of requirements where no justification is included in the standard are not covered by interpretations and thus is not being responded to by the project committee.