

Insert pages for September 1, 2011, Wisconsin Commercial Building Code, Comm 61-66, into the International Mechanical Code, 2009 edition

Safety and Buildings Division - Wisconsin Department of Safety and Professional Services

IMC Chapter 4, Insert 4D, Page 1 of 2
Insert between pages 30 and 31

Comm 64.0403 Mechanical ventilation. (1) OUTDOOR AIR REQUIRED. (a) Substitute the following wording for the exception in IMC section 403.2: Where it can be demonstrated that an engineered ventilation system design will prevent the maximum concentration of contaminants from exceeding the maximum obtainable by providing the rate of outdoor air ventilation determined in accordance with IMC section 403.3, as modified by subs. (2) to (6), the minimum required rate of outdoor air may be reduced in accordance with such engineered system design. A ventilation system complying with IMC section 403.3 without the modifications of subs. (2) to (6) is recognized as meeting this exception.

(b) This is a department rule in addition to the requirements in IMC section 403.2: The outdoor air shall be free from contamination of any kind in proportions detrimental to the health and comfort of the general population exposed to it.

(2) RECIRCULATION PROHIBITED. Substitute the following wording for exception 3 in IMC section 403.2.1: Where mechanical exhaust is governed by Table 64.0403 footnote c., recirculation of air from such spaces is prohibited. All air supplied to such spaces shall be exhausted, including any air in excess of that required by Table 64.0403.

(3) RECIRCULATION OF AIR. This is a department informational note to be used under IMC section 403.2.1:

Note: The following are examples where the department will accept air transferred from: corridor to toilet room; corridor to cloak room or janitor closet; dining room to kitchen; locker room to toilet room; gymnasium to locker room; showroom to garage; and corridor to school vocational shops.

(4) TRANSFER AIR. Substitute the following wording for the requirements in IMC section 403.2.2: Except where recirculation from such spaces is prohibited by Table 64.0403, air transferred from occupied spaces is not prohibited from serving as makeup air for required exhaust systems in such spaces as kitchens, baths, toilet rooms, elevators and smoking lounges. The amount of transfer air and exhaust air shall be sufficient to provide the flow rates as specified in sub. 5. The required outdoor air rates specified in Table 64.0403 shall be introduced directly into such spaces or into the occupied spaces from which air is transferred or a combination of both.

(5) VENTILATION RATE. Substitute the following wording for the requirements and exception in IMC section 403.3:

(a) *Ventilation rate determination.* 1. Except as provided in sub. (1) (a) and s. Comm 64.0300, a mechanical ventilation system shall be designed to have the capacity to supply a minimum outdoor airflow rate of 7.5 cfm per person as determined in accordance with Table 64.0403 based on the occupancy of the space and the occupant load or other parameters stated therein. A mechanical ventilation system shall be designed to have the capacity to exhaust air as specified in Table 64.0403 except as provided in par. (c).

2. a. Except as provided in subd. 2. b. to d., the occupant load utilized for design of the ventilation system shall not be less than the number determined from the estimated maximum occupant load rate indicated in Table 64.0403.

b. The estimated maximum occupant load rate may be determined using other means with justification acceptable to the department to show that a different number of occupants is reasonable.

c. Where there is no value indicated for the net square feet per person in Table 64.0403, the actual number of occupants shall be used to determine the required amount of outside air.

d. Ventilation rates for occupancies not represented in Table 64.0403 shall be determined by an approved engineering analysis, or by using the most similar occupancy in the table.

(b) Adjacent spaces with differing ventilation requirements.

1. Except as provided in subd. 2., spaces with different ventilation requirements shall be provided with a complete solid separation, or the most stringent ventilation requirement shall apply to all unseparated areas.

2. The separation as specified in subd. 1. is not required where an engineered ventilation design system will prevent the concentration of contaminants from exceeding that obtainable by providing a physical separation.

(c) Exceptions for certain occupancies. 1. 'Toilet rooms.' A toilet room that has only one water closet or urinal and no bathtub or shower may be provided with either natural ventilation via a window or louvered opening with at least 2 square feet of area openable directly to the outside or mechanical exhaust ventilation as specified in Table 64.0403.

2. 'Janitor closets.' A janitor closet that has only one service sink may be provided with either natural ventilation via a window or louvered opening with at least 2 square feet of area openable directly to the outside or mechanical exhaust ventilation as specified in Table 64.0403.

3. 'Locker and shower rooms.' An adjoining locker room, shower room and toilet room shall be exhausted at the rate specified in Table 64.0403 based on the largest amount of exhaust required for any of the three rooms. A negative pressure relationship shall be maintained in the shower and toilet rooms with respect to the locker room.

5. 'Pool ventilation.' In a natatorium, the volume of supply air and exhaust air may be reduced to a minimum of 1 cfm per square foot of pool surface provided automatic humidity controls perform so as not to create accelerated building material deterioration from moisture condensation.

(d) Common ventilation system airflow. 1. Substitute the following wording for the requirements in IMC sections 403.3.1 through 403.3.2.3.4: Where multiple spaces having different ventilation rate requirements are served by a common ventilation system, the minimum amount of outdoor airflow supplied by the ventilation system shall equal the total outdoor airflow required for each space if each space is provided with minimum air changes in accordance with this paragraph. 2. a. Except as provided in subd. 2. d., an air change rate of 6 air changes per hour shall be provided in each space.

b. The air change air rate under this subsection shall be determined upon either the actual height of the space or 10 feet from the floor level of the space which ever is less.

c. The air movement providing the required minimum air change shall be that amount that is transferred through the air handling equipment where the return air is diluted or replaced with outside air and supplied back to the space.

d. Air change rate of less than 6 air changes per hour is permitted where mechanical cooling is provided to maintain an interior design temperature of 78°F or lower. The air change rate may not be less than the alternative minimum air change rate per hour specified in Table 64.0403. Air changes are not required to be provided for spaces required to be mechanically exhausted.