



Issue Date	August 7, 2007
Code/Section	2018 International Mechanical Code Chapter 4, Section 401.2
Developed By:	David McCarthy, P.E., Mechanical Plans Engineer
Revised By:	John Brean, P.E., Mechanical Plans Engineer, September 17, 2020

Issue:

The purpose of this guideline is to establish the applicability of natural ventilation in commercial buildings.

- **Section 401.2 – Ventilation required:**
Every occupied space shall be ventilated by natural means in accordance with Section 402 or by mechanical means in accordance with Section 403.
- **Section 401.3 – When required:**
Ventilation shall be provided during the periods that the room or space is occupied.

Discussion Summary:

Natural ventilation depends on operable openings such as doors, windows, louvers, or other openings to the outdoors. The minimum openable area to the outdoors shall be 4 percent of the floor area being ventilated per IMC 402.2 and 8 percent for adjoining spaces, but not less than 25 square feet unobstructed, per IMC 402.3. Whenever a room or space has occupants and the qualifying window or door is open to the outdoors, then the ventilation requirement of IMC 401.3 is met. If the window or door is closed, then the ventilation requirement is not met. A typical commercial building with space cooling and heating would rarely leave windows or doors in the open position.

Interpretation:

Natural ventilation shall only be allowed in commercial buildings that have **permanent openings** to the outdoors such as wall louvers with area equal to 4 percent of the floor area being ventilated and 8 percent of the floor area or minimum 25 square feet unobstructed opening for adjoining spaces. Openings such as doors and windows in a commercial building cannot be reliably depended upon to remain open whenever occupants are present. Natural ventilation in dwelling units shall be allowed when in compliance with IMC 402.