

Is mechanical ventilation (in accordance with Section 403) required by Section 401.2 in either of the following examples:

- 1) In an R-2, R-3, or R-4 dwelling unit regardless of the number of stories where blower door test results are greater than or equal to 3 air changes per hour and natural ventilation in accordance with Section 402 is provided for the occupied space(s)?
- 2) In the dwelling units of an R-2 regardless of the number of stories where the building thermal envelope complies with Sections C402.5.1 through C402.5.8 and natural ventilation in accordance with Section 402 is provided for the occupied space(s)?

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.

Where the air infiltration rate in a **dwelling unit is less than 3 air changes per hour** when tested with a blower door at a pressure of 0.2-inch water column (50 Pa) in accordance with Section R402.4.1.2 of the Florida Building Code, Energy Conservation, **the dwelling unit shall be ventilated by mechanical means in accordance with Section 403.** Ambulatory care facilities and Group I-2 occupancies shall be ventilated by mechanical means in accordance with Section 407.

❖ Two distinct requirements are established by this section: all occupied spaces must be ventilated, and ventilation can be accomplished by either natural (gravity) or mechanical means, with exceptions. The method of ventilation, mechanical or natural, is the choice of the owner or designer except for ambulatory care facilities and Group I-2 occupancies.

403.1 Ventilation system. Mechanical ventilation shall be provided by a method of supply air and return or exhaust air except that mechanical ventilation air requirements for Group R-2, R-3 and R-4 occupancies three stories and less in height above grade plane shall be provided by an exhaust system, supply system or combination thereof. The amount of supply air shall be approximately equal to the amount of return and exhaust air. The system shall not be prohibited from producing negative or positive pressure. The system to convey ventilation air shall be designed and installed in accordance with Chapter 6.

*❖ This section addresses the mechanical method of ventilation. Mechanical ventilation is the **alternative to having natural ventilation**. As discussed in Section 401.2, both natural and mechanical ventilation can be provided to a space; however, one method must be in full compliance with the applicable sections of the code, or the approved design must use both methods. The code does not state acceptance criteria that can be used to evaluate a ventilation system that depends on both natural and mechanical ventilation components. Mechanical ventilation systems must also comply with the applicable sections of Chapters 3, 5 and 6.*

403.3.2 Group R-2, R-3 and R-4 occupancies, three stories and less. The design of local exhaust systems and ventilation systems for outdoor air in Group R-2, R-3 and R-4 occupancies three stories and less in height above grade plane shall comply with Sections 403.3.2.1 through 403.3.2.3.

*❖ This text simplifies the mechanical ventilation compliance path for Group R-2, R-3 and R-4 buildings three stories or less in height above grade plane to be consistent with those in the International Residential Code® (IRC®). One advantage gained by aligning the mechanical ventilation path for these buildings with the IRC Section M1507 is that only one equation is necessary instead of the multiple equations that a designer could have to solve **if following the prescriptive requirements of Section 403**. This new text works in conjunction with Section 401.2, which mandates mechanical ventilation instead of natural ventilation **where the building is tightly constructed**. The IECC and IRC energy code provisions require that these buildings have ACH50 rates not greater than five in certain climate zones and not greater than three in the other climate zones. Because of the energy code requirements, the dwellings will be so airtight that mechanical ventilation will almost always be required by Section 401.2.*