

**NC Department of Insurance
Office of the State Fire Marshal - Engineering Division
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Ventilation Rate Requirements

Code: 2012 Mechanical Code
Section: 403.3

Date: September 1, 2011

Question:

Must the estimated maximum occupant load from Table 403.3 of the NC Mechanical Code be used when determining the minimum required outdoor ventilation air requirements?

Answer:

No. Section 403.3 requires that ventilation systems be designed to have the capacity to supply the minimum outdoor airflow rate determined in accordance with Table 403.3. The occupant density entries in Table 403.3 are based on empirical data and are reasonably accurate for the typical cases in each type of occupancy; however, there are actually three acceptable options.

Options:

- 1) Use the values in Table 403.3.
- 2) The occupancy shall be determined by an approved engineering analysis.
- 3) Approved statistical data shall document the accuracy of an alternate anticipated occupant density. An example of this would be a factory setting where statistical data shows that the occupant load in the table is much higher than would be required for a particular industrial process.