

**NC Department of Insurance
Office of the State Fire Marshal - Engineering Division
1202 Mail Service Center, Raleigh, NC 27699-1202
919-661-5880**

Vapor Lounge or Bar Ventilation

Code: 2012 NC Mechanical Code
Section: 403.1, Table 403.3

Date: September 3, 2014

Question:

For ventilation purposes, what occupancy classification in Table 403.3 is a Vapor¹ lounge or bar?

Answer:

Smoking lounges.

NCMC Section 403.3 reads "... Ventilation rates for occupancies not represented in Table 403.3 shall be those for a listed occupancy classification that is most similar in terms of occupant density, activities and building construction; or shall be determined by an approved engineering analysis..."

The Smoking lounge classification² is the closest prescriptive category there is in the North Carolina Mechanical Code to vapor use in a congregate manner. The permit holder has the option of utilizing the services of a registered design professional to engineer a ventilation system that will prevent the maximum concentration of contaminant from exceeding that obtainable by the rate of outdoor air ventilation determined in accordance with Section 403.3, refer to the Exception to NCMC 403.2.

There are limited studies that have measured lower air-borne levels of nicotine, particulates, and VOC's with e-cigarettes than regular cigarettes, but the electronic heating and inhalation process is a much newer category than traditional smoking and the results less studied. Section 403.3 is not intended to limit the analysis and good engineering practice in determining an acceptable ventilation rate, but the code official would not be expected to be knowledgeable of all the variations of e-cigarette formulae or the level of contaminants produced.

In the case of a Vapor shop where the liquids for vaporization are sold, the space would be treated as a retail sales floor. If sampling is offered, the designer can identify that limited area, calculate the occupants, and design a higher rate for that area without treating the entire sales floor as designated for e-smoking, and/or provide local exhaust for the area.

Keyword

propylene glycol

¹ Vapor products include e-cigarettes, e-pens, e-hookahs, etc.

² The code, or this interpretation, makes no effort to prohibit vapor shops.