

**Interpretation IC 170-2008-2 of
ANSI/ASHRAE/ASHE Standard 170-2008
Ventilation of Health Care Facilities**

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Request from: Nelson Fontaine (nelsonf@baamech.com), BAA Mechanical Engineers, Inc., 500 Bishop Street, Suite F-3, Atlanta, GA 30318.

Reference: This request for interpretation refers to the requirements in ANSI/ASHRAE/ASHE Standard 170-2008, Section 7.4.1b, regarding Class B and C Operating Rooms.

Background: Mechanical design for a laser eye surgery surgical suite in Hall County Georgia. Section 7.4.1b states that "No more than 30% of the primary supply diffuser array area shall be used for non-diffuser uses such as lights, gas columns, etc." We interpret the statement to mean only devices attached to, or a part of, the ceiling shall not exceed 30% of the area, not the ceiling itself. We are not interpreting this section of the Standard to mean that 70% of the "primary diffuser array" area must be supply diffusers, rather we are interpreting it literally to mean that devices attached to, or part of, the ceiling shall not exceed 30% of the area. Is this correct and the intent of this section of the Standard? We believe that a properly designed and installed combination of laminar flow diffusers over the operating table, and a perimeter linear slot air curtain system, along with low return devices as described in this section, can achieve the intent of the Standard of keeping the air over the operating table as clean as possible, without the "primary diffuser array" area necessarily being 70% diffusers.

Interpretation: In Section 7.4.1b the statement "No more than 30% of the primary supply diffuser array area shall be used for non-diffuser uses such as lights, gas columns, etc." means only devices attached to, or a part of, the ceiling shall not exceed 30% of the area, not the ceiling itself.

Question: Is this interpretation correct?

Answer: No. This interpretation is not correct.

Comments: The intent of Section 7.4.1b is that the area above the operating table, extending 12" beyond in the table in each direction, shall be supply diffusers so as to continually wash this area with clean air and create a clean field condition, as reflected in the ASHRAE/NIH research as in Section 7.4.1a. The allowance for the 30% non-diffuser use is recognition that some portion of this space is needed for ceiling mounted equipment and the ceiling grid system as related to the functionality of the operating room.