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Hospitality: a Special Case

An environmental consultant argues that ASHRAE should have a separate ventilation standard for restaurants, hotels and other hospitality areas.

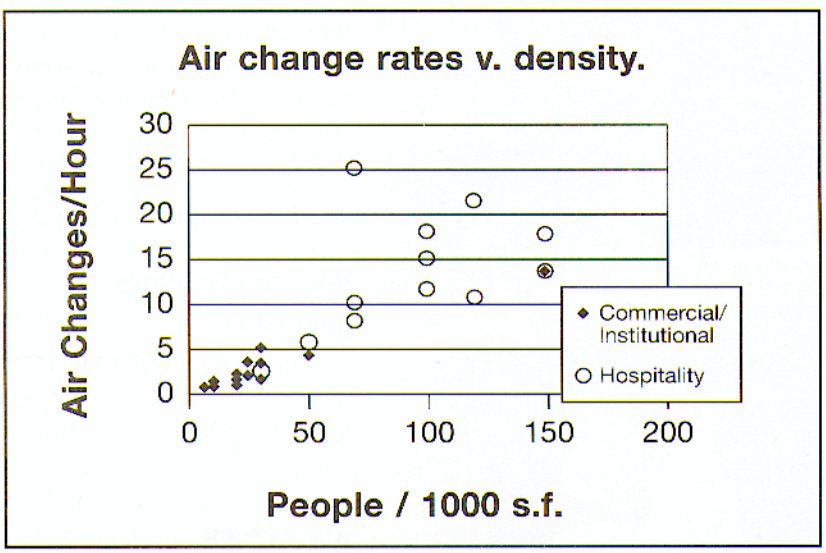
Hospitality is one of the largest and fastest growing industry sectors in North America. It includes everything from small venues such as bars, night clubs, restaurants and dinner theatres, to amenities such as bowling alleys, pool halls, bingo halls and motels, and large complexes housing casinos, hotels and resorts.

The influential American Society for Heating, Refrigerating and Air-Conditioning Engineers/ASHRAE Standard 62, "Ventilation for Acceptable Indoor Air Quality" has provided engineering guidance for hospitality occupancies since 1973. However, the ASHRAE committee responsible for maintaining the standard has not recognized the unique indoor air quality issues faced by hospitality occupancies and has shown little understanding of their special requirements.

This omission is not surprising since until recently the hospitality sector had no representation as voting members on the committee. Of 36 total members of the ASHRAE committee responsible for Standard 62.1 there are only two representatives from the gaming sector, and virtually none from any other hospitality industry sector. Conversely, one third of the types of spaces covered by the standard are in hospitality facilities.

The lack of hospitality sector experts on the committee has resulted in changes to the standard that have introduced complex, burdensome and costly requirements that do not recognize advances in HVAC design and technology developed for hospitality facilities. Over the past decade, for example, there have been advances in laminar flow ventilation, high efficiency and electronically enhanced filtration, heat recovery ventilation, IAQ sensor technology, and techniques for humidity and moisture control that are able to address the air quality issues of hospitality facilities.

The ASHRAE committee appears to have adopted a philosophy that "One Size Fits All" without recognizing that hospitality facilities have different ventilation requirements for indoor air quality than offices and other commercial and institutional facilities.



Densities and ventilation rates are selected from Table 2, ASHRAE Standard 62-2001. Air exchange rates are calculated assuming a 10-ft. ceiling. Commercial/institutional spaces include laundry, dry cleaners, coin-op laundry, coin-op dry cleaners, office space, retail (street), retail (mall), barber, beauty, florist, hardware, supermarkets, meat processing, photographic studios, pharmacy, classrooms, laboratories, training shops, music rooms, libraries, auditoriums, and correctional cells. Hospitality spaces include dining, cafeteria, bars, lobbies.

Why hospitality facilities are different

The special ventilation requirements that set restaurants, bars, casinos and other hospitality buildings apart include the following.

- Occupant densities. Hospitality areas are generally more densely occupied than commercial or institutional spaces. According to Table 2 in standard 62-2001, a prevalent type of commercial/institutional space has only seven people per 1,000 square feet. Many hospitality venues including cafeterias, bars, casinos and theatres have 100 or more people per 1,000 square feet.
- Occupancy duration. Commercial buildings have fairly stable occupancy levels throughout working shifts, whereas in hospitality venues patrons come and go, staying for varying lengths of time.
- Diverse activities. Large working kitchens are more likely present in hospitality venues than in other com-

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mercial buildings. Higher plumbing concentrations means that cooking, moisture and washroom odours are a more significant problem.

• The large differences in sources of potential air contamination in hospitality venues are accounted for in the ASHRAE standard by by dramatically different ventilation rates required for hospitality vs. commercial/institutional spaces (see table).

The figure on page 29 illustrates the discrepancy in ventilation rates and occupancy levels. Commercial/institutional spaces are inhabited by less than 50 people per 1,000 square feet and are ventilated at less than five air changes per hour. Hospitality spaces are occupied by more than 50 people per 1,000 square feet and are ventilated at rates between five and 25 air changes per hour. The demands on the HVAC system in these two cases are quite different! Because the difference is so large, the kind of equipment, the application of the HVAC equipment and the mechanical engineering needs are also different from other types of commercial and institutional space. This variance alone justifies having a different standard.

• Satisfaction of visitors and occupants. Hospitality facilities must have ventilation systems that satisfy both visitors and occupants. Steps being taken to change the 62-2001 rates, such as decreasing ventilation — in most cases by half — to satisfy occupants as opposed to visitors, may not satisfy the industry's needs.

Smoking and non-smoking

Today, hospitality venues are about the only commercial establishments in North America where smoking is still generally permitted. Hospitality businesses are service-oriented establishments where many patrons choose to smoke. Because Standard 62-2001 is being changed to apply only to non-smoking spaces (those in the commercial/institutional realm), the hospitality sector is being deprived of an engineering standard that accommodates patron preferences. Essentially, the changes assume zero as an acceptable level for tobacco smoke, which can hardly be achieved by HVAC or air cleaning. The only method of achieving zero is by banning smoking in the establishment.

In conclusion, recent ASHRAE standards make it virtually impossible to engineer and operate hospitality establishments to comply with ASHRAE requirements. Consequently, the hospitality industry in Canada and the U.S., including the American Gaming Association, Canadian Restaurant and Food Service Association and Hotel Association of Canada, has been joined by HVAC industry organizations to petition ASHRAE to create a new ventilation standard for their facilities. CCE

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