



**BSR/ASHRAE/ASHE Addendum b  
to ANSI/ASHRAE/ASHE Standard 170-2017**

**Public Review Draft**

**Proposed Addendum b to  
Standard 170-2017, Ventilation of  
Health Care Facilities**

**Second Public Review Draft (July 2019)  
(Draft Shows Proposed Independent Substantive  
Changes to Previous Public Review Draft)**

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## **FOREWORD**

*This proposed addendum removes several spaces from Table 7.1, 8.1, and 9.1 based on those spaces being adequately addressed in other standards. The addendum also proposes to modify minimum total air change requirements for several spaces based on the results of CO-RP 3.*

*2<sup>nd</sup> ISC Public Review:*

- *For Tables 8.1 and 9.1 revise AII anteroom and Combination AII/PE anteroom air changes per hour back to the 10 total air change requirements based on comments and CO-RP-3.*
- *Modify note (bb) to reference the ASHRAE Standard 62.1 exhaust ventilation performance path in lieu of the IAQ procedure path. The IAQ procedure path is intended for calculation of outdoor air requirements whereas note (bb) is intended to modify exhaust requirements. Note (bb) was removed from Table 9.1 because dialyzer reprocessing room is removed from Table 9.1 in Addendum n.*
- *For Tables 7.1 and 9.1 a note that was deleted in the first public review has added text indicating they are not used.*

***[Note to Reviewers: This public review draft makes proposed independent substantive changes to the previous public review draft. These changes are indicated in the text by underlining (for additions) and ~~striketrough~~ (for deletions) except where the reviewer instructions specifically describe some other means of showing the changes. Only these changes to the previous draft are open for review and comment at this time. Additional material is provided for context only and is not open for comment except as it relates to the proposed substantive changes.]***

## **Addendum b to 170-2017**

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***Revise Section 7.5.3 and Table 7.1 excerpts as shown below. The remainder of Section 7.1 is unchanged.***

**Table 7.1 Design Parameters—Hospital Spaces**

Function of Space	Pressure Relationship to Adjacent Areas (n)	Minimum Outdoor ach	Minimum Total ach	All Room Air Exhausted Directly to Outdoors (j)	Air Recirculated by Means of Room Units (a)	Design Relative Humidity (k), %	Design Temperature (l), °F/°C
<b>DIAGNOSTIC AND TREATMENT</b>							
Dialyzer reprocessing room	Negative	NR	10 (bb)	Yes	No	NR	NR
<b>SERVICE</b>							
Warewashing (r)	Negative	NR	NR	Yes	No	NR	NR

*Note:* NR = no requirement

- i. Not used.
- r. Exhaust rate shall meet or exceed local requirements.
- bb. Lower total ach ventilation rates shall be permitted when use of the ASHRAE 62.1<sup>1</sup> ~~IAQ Procedure~~ Section 6.5.2 (Exhaust Ventilation) Performance Compliance Path determines that concentration of the contaminants of concern is lower than the corresponding concentration of interest. In addition to other contaminants of concern required by Standard 62,1 section 6.5.2 the following contaminants of concern shall be considered for the space and maintained not greater than the concentration level indicated: hydrogen peroxide 1 ppm; glutaraldehyde 0.05 ppm; ethyl alcohol 1000 ppm; isopropyl alcohol 400 ppm. (*Informative Note:* listed concentrations of interest were determined by ACGIH, see appendix B.)

## 7.5 Support Spaces

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**7.5.3 Medical/Anesthesia Gas Storage Rooms.** Ventilation for medical/anesthesia gas storage rooms shall comply with NFPA 99<sup>10</sup>.

**7.5.4 Food preparation areas.** Provide proper makeup air to kitchen exhaust systems as specified in ANSI/ASHRAE Standard 154.<sup>4</sup> Kitchens with Type I hoods shall be designed to have a negative pressure with respect to adjacent areas.

**Informative note:** In some cases, excess exfiltration or infiltration to or from exit corridors compromises the exit corridor restrictions of NFPA 90A<sup>5</sup> or the pressure requirements of NFPA 96.<sup>6</sup>

**Revise Section 8.5.3 and Table 8.1 excerpts as shown below. The remainder of Section 8.1 is unchanged. Note that the Dialyzer reprocessing room note shall be applied the “dialyzer reprocessing room” proposed under Addenda J.**

**Table 8.1 Design Parameters—Outpatient Spaces**

Function of Space	Pressure Relationship to Adjacent Areas (n)	Minimum Outdoor ach	Minimum Total ach	All Room Air Exhausted Directly to Outdoors (j)	Air Recirculated by Means of Room Units (a)	Design Relative Humidity (k), %	Design Temperature (l), °F/°C
<b>INPATIENT NURSING</b>							
All anteroom (u)	(e)	NR	<del>NR</del> <u>10</u>	Yes	No	NR	NR
Combination All/PE anteroom	(e)	NR	<del>NR</del> <u>10</u>	Yes	No	NR	NR
<b>DIAGNOSTIC AND TREATMENT</b>							
Dialyzer reprocessing room	Negative	NR	10 (bb)	Yes	No	NR	NR
<b>SERVICE</b>							
Warewashing (r)	Negative	NR	NR	Yes	No	NR	NR

*Note:* NR = no requirement

r. Exhaust rate shall meet or exceed local requirements.

bb. Lower total ach ventilation rates shall be permitted when use of the ASHRAE 62.1<sup>1</sup> ~~AC Procedure~~ Section 6.5.2 (Exhaust Ventilation) Performance Compliance Path determines that concentration of the contaminants of concern is lower than the corresponding concentration of interest. In addition to other contaminants of concern required by Standard 62.1 section 6.5.2 the following contaminants of concern shall be considered for the space and maintained not greater than the concentration level indicated: hydrogen peroxide 1 ppm; glutaraldehyde 0.05 ppm; ethyl alcohol 1000 ppm; isopropyl alcohol 400 ppm. (Informative Note: listed concentrations of interest were determined by ACGIH, see appendix B.)

## **8.5 Support Spaces**

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**8.5.3 Medical/Anesthesia Gas Storage Rooms.** Ventilation for medical/anesthesia gas storage rooms shall comply with NFPA 99<sup>10</sup>.

**Revise Section 9.5.3 and Table 9.1 excerpts as shown below. The remainder of Section 9.1 is unchanged.**

**Table 9.1 Design Parameters—Nursing Home Spaces**

Function of Space	Pressure Relationship to Adjacent Areas (n)	Minimum Outdoor ach	Minimum Total ach	All Room Air Exhausted Directly to Outdoors (j)	Air Recirculated by Means of Room Units (a)	Design Relative Humidity (k), %	Design Temperature (l), °F/°C
<b>INPATIENT NURSING</b>							
All anteroom (u)	(e)	NR	<del>NR</del> <sub>10</sub>	Yes	No	NR	NR
Combination All/PE anteroom	(e)	NR	<del>NR</del> <sub>10</sub>	Yes	No	NR	NR
<b>DIAGNOSTIC AND TREATMENT</b>							
Dialyzer reprocessing room	Negative	NR	10 ( <del>bb</del> )	Yes	No	NR	NR
<b>SERVICE</b>							
Warewashing (r)	Negative	NR	NR	Yes	No	NR	NR

*Note:* NR = no requirement

i. Not used.

r. Exhaust rate shall meet or exceed local requirements.

~~bb. Lower total ach ventilation rates shall be permitted when use of the ASHRAE 62.1<sup>+</sup> A-Q Procedure determines that concentration of the contaminants of concern is lower than the corresponding concentration of interest.~~

## 9.5 Support Spaces

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**9.5.3 Medical/Anesthesia Gas Storage Rooms.** Ventilation for medical/anesthesia gas storage rooms shall comply with NFPA 99<sup>10</sup>.

**9.5.4 Food preparation areas.** Provide proper makeup air to kitchen exhaust systems as specified in ANSI/ASHRAE Standard 154.<sup>4</sup> Kitchens with Type I hoods shall be designed to have a negative pressure with respect to adjacent areas.

**Informative note:** In some cases, excess exfiltration or infiltration to or from exit corridors compromises the exit corridor restrictions of NFPA 90A<sup>5</sup> or the pressure requirements of NFPA 96.<sup>6</sup>

### ***Add to Informative Appendix B Informative References and Bibliography.***

ACGIH. *Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. American Conference of Governmental Industrial Hygienists 1330 Kemper Meadow Drive, Cincinnati, OH 45240-1634 [www.acgih.org](http://www.acgih.org)