



**BSR/ASHRAE Addendum p
to ANSI/ASHRAE Standard 62.1-2010**

Public Review Draft

Proposed Addendum p to Standard 62.1-2010, Ventilation for Acceptable Indoor Air Quality

**First Public Review (March 2013)
(Draft shows Proposed Changes to Current Standard)**

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(This foreword is not part of this standard. It is merely informative and does not contain requirements necessary for conformance to the standard. It has not been processed according to the ANSI requirements for a standard and may contain material that has not been subject to public review or a consensus process. Unresolved objectors on informative material are not offered the right to appeal at ASHRAE or ANSI.)

FOREWORD

At present, all occupancy types are required to provide no less than the area component of the minimum ventilation rate during periods when the space is “expected to be occupied.” A previous interpretation clarified that this prohibited the use of occupancy sensors to reduce the ventilation rate to zero during these times. This proposed addendum would allow the ventilation to be reduced to zero through the use of occupancy sensors (not through contaminant or CO₂ measurements) for spaces of selected occupancy types. These occupancy types are identified by a new Note H to Table 6-1. The occupancy types where this is allowed are those with an Area Outdoor Air Rate of 0.06 cfm/ft².

[Note to Reviewers: This addendum makes proposed changes to the current standard. These changes are indicated in the text by underlining (for additions) and ~~strikethrough~~ (for deletions) except where the reviewer instructions specifically describe some other means of showing the changes. Only these changes to the current standard 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 changes.]

Addendum p to 62.1-2010

Add the following definitions to Section 3:

occupied: when a space has one or more person(s) located within the space.

unoccupied: when a space does not have any persons within it as determined by an occupant sensor or during times that are outside of periods of expected occupancy.

occupant sensor: a device that detects the presence of one or more person(s) within a space, such as motion detectors or captive key systems.

Revise Section 6.2.7.1.2 as follows:

6.2.7.1.2 The breathing zone outdoor airflow (V_{bz}) shall be reset in response to current occupancy and shall be no less than the building component ($R_a \cdot A_z$) of the DCV zone during hours of expected occupancy.

Exception: Outdoor air is not required for the building component of the DCV zone when the space is unoccupied as allowed in Table 6-1.

Note: Examples of reset methods or devices include population counters, carbon dioxide (CO₂) sensors, timers, occupancy schedules or occupancy sensors.

Revise Table 6-1 as shown below. The rest of Table 6-1 remains unchanged. Changes are shown highlighted in yellow to help identify them.

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TABLE 6-1 MINIMUM VENTILATION RATES IN BREATHING ZONE
 (This table is not valid in isolation; it must be used in conjunction with the accompanying notes.)

Occupancy Category	People Outdoor Air Rate R_p		Area Outdoor Air Rate R_a		Notes	Default Values			Air Class
	cfm/person	L/s•person	cfm/ft ²	L/s•m ²		Occupant Density (see Note 4)	Combined Outdoor Air Rate (see Note 5)		
						#/1000 ft ² or #/100 m ²	cfm/person	L/s•person	
Correctional Facilities									
Cell	5	2.5	0.12	0.6		25	10	4.9	2
Dayroom	5	2.5	0.06	0.3	H	30	7	3.5	1
Guard stations	5	2.5	0.06	0.3	H	15	9	4.5	1
Booking/waiting	7.5	3.8	0.06	0.3	H	50	9	4.4	2
Educational Facilities									
Daycare (through age 4)	10	5	0.18	0.9		25	17	8.6	2
Daycare sickroom	10	5	0.18	0.9		25	17	8.6	3
Classrooms (ages 5-8)	10	5	0.12	0.6		25	15	7.4	1
Classrooms (age 9 plus)	10	5	0.12	0.6		35	13	6.7	1
Lecture classroom	7.5	3.8	0.06	0.3	H	65	8	4.3	1
Lecture hall (fixed seats)	7.5	3.8	0.06	0.3	H	150	8	4.0	1
Art classroom	10	5	0.18	0.9		20	19	9.5	2
Science laboratories	10	5	0.18	0.9		25	17	8.6	2
University/college laboratories	10	5	0.18	0.9		25	17	8.6	2
Wood/metal shop	10	5	0.18	0.9		20	19	9.5	2
Computer lab	10	5	0.12	0.6		25	15	7.4	1
Media center	10	5	0.12	0.6	A	25	15	7.4	1
Music/theater/dance	10	5	0.06	0.3	H	35	12	5.9	1
Multi-use assembly	7.5	3.8	0.06	0.3	H	100	8	4.1	1
Food and Beverage Service									
Restaurant dining rooms	7.5	3.8	0.18	0.9		70	10	5.1	2
Cafeteria/fast food dining	7.5	3.8	0.18	0.9		100	9	4.7	2
Bars, cocktail lounges	7.5	3.8	0.18	0.9		100	9	4.7	2
Kitchen (cooking)	7.5	3.8	0.12	0.6		20	14	7.0	2
General									
Break rooms	5	2.5	0.06	0.3	H	25	7	3.5	1
Coffee stations	5	2.5	0.06	0.3	H	20	8	4	1
Conference/meeting	5	2.5	0.06	0.3	H	50	6	3.1	1
Corridors	-	-	0.06	0.3	H	-			1
Occupiable storage rooms for liquids or gels	5	2.5	0.12	0.6	B	2	65	32.5	2
Hotels, Motels, Resorts, Dormitories									
Bedroom/living Room	5	2.5	0.06	0.3	H	10	11	5.5	1
Barracks sleeping areas	5	2.5	0.06	0.3	H	20	8	4.0	1
Laundry rooms, central	5	2.5	0.12	0.6		10	17	8.5	2
Laundry rooms within dwelling units	5	2.5	0.12	0.6		10	17	8.5	1

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Lobbies/prefunction	7.5	3.8	0.06	0.3	H	30	10	4.8	1
Multipurpose assembly	5	2.5	0.06	0.3	H	120	6	2.8	1

TABLE 6-1 MINIMUM VENTILATION RATES IN BREATHING ZONE (Continued)
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Occupancy Category	People Outdoor Air Rate R_p		Area Outdoor Air Rate R_a		Notes	Default Values			Air Class
	cfm/person	L/s•person	cfm/ft ²	L/s•m ²		Occupant Density (see Note 4)	Combined Outdoor Air Rate (see Note 5)		
						#/1000 ft ² or #/100 m ²	cfm/person	L/s•person	
Office Buildings									
Breakrooms	5	2.5	0.12	0.6		50	7	3.5	1
Main entry lobbies	5	2.5	0.06	0.3	H	10	11	5.5	1
Occupiable storage rooms for dry materials	5	2.5	0.06	0.3	H	2	35	17.5	1
Office space	5	2.5	0.06	0.3	H	5	17	8.5	1
Reception areas	5	2.5	0.06	0.3	H	30	7	3.5	1
Telephone/data entry	5	2.5	0.06	0.3	H	60	6	3.0	1
Miscellaneous Spaces									
Bank vaults/safe deposit	5	2.5	0.06	0.3	H	5	17	8.5	2
Banks or bank lobbies	7.5	3.8	0.06	0.3	H	15	12	6.0	1
Computer (not printing)	5	2.5	0.06	0.3	H	4	20	10.0	1
General manufacturing (excludes heavy industrial and processes using chemicals)	10	5.0	0.18	0.9		7	36	18	3
Pharmacy (prep. area)	5	2.5	0.18	0.9		10	23	11.5	2
Photo studios	5	2.5	0.12	0.6		10	17	8.5	1
Shipping/receiving	10	5	0.12	0.6	B	2	70	35	2
Sorting, packing, light assembly	7.5	3.8	0.12	0.6		7	25	12.5	2
Telephone closets	-	-	0.00	0.0		-			1
Transportation waiting	7.5	3.8	0.06	0.3	H	100	8	4.1	1
Warehouses	10	5	0.06	0.3	B, H	-			2
Public Assembly Spaces									
Auditorium seating area	5	2.5	0.06	0.3	H	150	5	2.7	1
Places of religious worship	5	2.5	0.06	0.3	H	120	6	2.8	1
Courtrooms	5	2.5	0.06	0.3	H	70	6	2.9	1
Legislative chambers	5	2.5	0.06	0.3	H	50	6	3.1	1
Libraries	5	2.5	0.12	0.6		10	17	8.5	1
Lobbies	5	2.5	0.06	0.3	H	150	5	2.7	1
Museums (children's)	7.5	3.8	0.12	0.6		40	11	5.3	1

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Museums/galleries	7.5	3.8	0.06	0.3	H	40	9	4.6	1
Residential									
Dwelling Unit	5	2.5	0.06	0.3	F, G ₂ H	F			1
Common Corridors	-	-	0.06	0.3	H				1
Retail									
Sales (except as below)	7.5	3.8	0.12	0.6		15	16	7.8	2
Mall common areas	7.5	3.8	0.06	0.3	H	40	9	4.6	1
Barber shop	7.5	3.8	0.06	0.3	H	25	10	5.0	2
Beauty and nail salons	20	10	0.12	0.6		25	25	12.4	2
Pet shops (animal areas)	7.5	3.8	0.18	0.9		10	26	12.8	2
Supermarket	7.5	3.8	0.06	0.3	H	8	15	7.6	1
Coin-operated laundries	7.5	3.8	0.12	0.6		20	14	7.0	2

TABLE 6-1 MINIMUM VENTILATION RATES IN BREATHING ZONE (Continued)
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	cfm/person	L/s•person	cfm/ft ²	L/s•m ²		Occupant Density (see Note 4)	Combined Outdoor Air Rate (see Note 5)		
						#/1000 ft ² or #/100 m ²	cfm/person	L/s•person	
Sports and Entertainment									
Sports arena (play area)	-	-	0.30	1.5	E	-			1
Gym, stadium (play area)	-	-	0.30	1.5		30			2
Spectator areas	7.5	3.8	0.06	0.3	H	150	8	4.0	1
Swimming (pool & deck)	-	-	0.48	2.4	C	-			2
Disco/dance floors	20	10	0.06	0.3	H	100	21	10.3	2
Health club/aerobics room	20	10	0.06	0.3	H	40	22	10.8	2
Health club/weight rooms	20	10	0.06	0.3	H	10	26	13.0	2
Bowling alley (seating)	10	5	0.12	0.6		40	13	6.5	1
Gambling casinos	7.5	3.8	0.18	0.9		120	9	4.6	1
Game arcades	7.5	3.8	0.18	0.9		20	17	8.3	1
Stages, studios	10	5	0.06	0.3	D, H	70	11	5.4	1

ITEM-SPECIFIC NOTES FOR TABLE 6-1

H Ventilation air for this occupancy category shall be permitted to be reduced to zero when the space is unoccupied.