

Table 403.3 Required Outdoor Ventilation Air. Change to read as shown. Under Public Spaces, change outdoor air for toilet rooms from “75 cfm” to “50 cfm”.

**TABLE 403.3
REQUIRED OUTDOOR VENTILATION AIR**

OCCUPANCY CLASSIFICATION	ESTIMATED MAXIMUM OCCUPANT LOAD, PERSONS PER 1,000 SQUARE FEET ^a	OUTDOOR AIR [Cubic feet per minute (cfm) per person] UNLESS NOTED ^b
Correctional facilities		
Cells		
without plumbing fixtures	20	20
with plumbing fixtures ^{g, h}	20	20
Dining halls	100	15
Guard stations	40	15
Dry cleaners, laundries		
Coin-operated dry cleaner	20	15
Coin-operated laundries	20	15
Commercial dry cleaner	30	30
Commercial laundry	10	25
Storage, pick up	30	35
Education		
Auditoriums	150	15
Classrooms	50	15
Corridors	—	0.10 cfm/ft ²
Laboratories	30	20
Libraries	20	15
Locker rooms ⁱ	—	0.50 cfm/ft ²
Music rooms	50	15
Smoking lounges ^{b, g}	70	60
Training shops	30	20
Food and beverage service		
Bars, cocktail lounges	100	30
Cafeteria, fast food	100	20
Dining rooms	70	20
Kitchens (cooking) ^{f, g}	20	15
Hospitals, nursing and convalescent homes		
Autopsy rooms ^b	—	0.50 cf m/ft ²
Medical procedure rooms	20	15
Operating rooms	20	30
Patient rooms	10	25
Physical therapy	20	15
Recovery and ICU	20	15
Hotels, motels, resorts and dormitories		
Assembly rooms	120	15
Bathrooms ^{g, h}	—	35
Bedrooms	—	30 cfm per room
Conference rooms	50	20
Dormitory sleeping areas	20	15
Gambling casinos	120	30
Living rooms	—	30 cfm per room
Lobbies	30	15

Offices		
Conference rooms	50	20
Office spaces	7	20
Reception areas	60	15
Telecommunication centers and data entry	60	20

OCCUPANCY CLASSIFICATION	ESTIMATED MAXIMUM OCCUPANT LOAD, PERSONS PER 1,000 SQUARE FEET ^a	OUTDOOR AIR (Cubic feet per minute (cfm) per person) UNLESS NOTED ^e
Private dwellings, single and multiple		
Garages, common for multiple units ^b	—	1.5 cfm/ft ²
Garages, separate for each dwelling	—	100 cfm per car
Kitchens ^g	—	100 cfm intermittent or 25 cfm continuous
Living areas ^c	Based upon number of bedrooms. first bedroom: 2; each additional bedroom: 1	0.35 air changes per hour ^a or 15 cfm per person, whichever is greater
Toilet rooms and bathrooms ^{g, h}	—	Mechanical exhaust capacity of 50 cfm intermittent or 20 cfm continuous
Public spaces		
Corridors and utilities	—	0.05 cfm/ft ²
Elevator cars ^g	—	1.00 cfm/ft ²
Locker rooms ^h		0.5 cfm/ft ²
Shower rooms (per shower head) ^{g, h}		50 cfm intermittent or 20 cfm continuous
Smoking lounges ^h	70	60
Toilet rooms ^{g, h}		50 cfm per water closet or urinal
Retail stores, sales floors and showroom floors		
Basement and street	—	0.30 cfm/ft ²
Dressing rooms	—	0.20 cfm/ft ²
Malls and arcades	—	0.20 cfm/ft ²
Shipping and receiving	—	0.15 cfm/ft ²
Smoking lounges ^b	70	60
Storage rooms	—	0.15 cfm/ft ²
Upper floors	—	0.20 cfm/ft ²
Warehouses	—	0.05 cfm/ft ²
Specialty shops		
Automotive motor-		

fuel-dispensing stations	—	1.5 cfm/ft ²
Barber	25	15
Beauty	25	25
Clothiers, furniture	—	0.30 cfm/ft ²
Embalming rooms ^b	—	2.0 cfm/ft ²
Florists	8	15
Hardware, drugs, fabrics	8	15

OCCUPANCY CLASSIFICATION	ESTIMATED MAXIMUM OCCUPANT LOAD, PERSONS PER 1,000 SQUARE FEET ^a	OUTDOOR AIR (Cubic feet per minute (cfm) per person) UNLESS NOTED ^b
Specialty shops—continued		
Nail salons, i	—	50 cfm intermittent or 20 cfm continuous per station
Pet Shops	—	1.00 cfm/ft ²
Reducing salons	20	15
Supermarkets	8	15
Sports and amusement		
Ballrooms and discos	100	25
Bowling alleys (seating areas)	70	25
Game rooms	70	25
Ice arenas	—	0.50 cfm/ft ²
Playing floors (gymnasiums)	30	20
Spectator areas	150	15
Swimming pools (pool and deck area)	—	0.50 cfm/ft ²
Storage		
Repair garages, enclosed parking garages ^d	—	1.5 cfm/ft ²
Warehouses	—	0.05 cfm/ft ²
Theaters		
Auditoriums	150	15
Lobbies	150	20
Stages, studios	70	15
Ticket booths	60	20
Transportation		
Platforms	100	15
Vehicles	150	15
Waiting rooms	100	15
Workrooms		
Bank vaults	5	15
Darkrooms	—	0.50 cfm/ft ²
Duplicating, printing	—	0.50 cfm/ft ²
Meat processing ^e	10	15
Pharmacy	20	15
Photo studios	10	15

For SI: 1 cubic foot per minute = 0.0004719m³/s, 1 ton = 908 kg.

1 cubic foot per minute per square foot = 0.00508m³/(s · m²), °C = [(°F) -32]/1.8, 1 square foot = 0.0929m².

a. Based upon net floor area.

b. Mechanical exhaust required and the recirculation of air from such spaces as permitted by Section 403.2.1 is prohibited (see Section 403.2.1, Items 1 and 3).

c. Spaces unheated or maintained below 50°F are not covered by these requirements unless the occupancy is continuous.

d. Ventilation systems in enclosed parking garages shall comply with Section 404.

e. Where the ventilation rate is expressed in cfm/ft², such rate is based upon cubic feet per minute per square foot of the floor area being ventilated.

f. The sum of the outdoor and transfer air from adjacent spaces shall be sufficient to provide an exhaust rate of not less than 1.5 cfm/ft².

g. Transfer air permitted in accordance with Section 403.2.2.

h. Mechanical exhaust is required and recirculation is prohibited except that recirculation shall be permitted where the resulting supply air stream consists of not more than 10 percent air recirculated from these spaces (see Section 403.2.1, Items 2 and 4).

i. The required exhaust system shall capture the contaminants and odors at their source.