

CHAPTER 12

INTERIOR ENVIRONMENT

SECTION BC 1201 GENERAL

1201.1 Scope. The provisions of this chapter shall govern ventilation, temperature control, lighting, yards and courts, sound transmission, room dimensions, surrounding materials and rodent proofing associated with the interior spaces of buildings.

SECTION BC 1202 DEFINITIONS

1202.1 General. The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

HABITABLE SPACE. All rooms and spaces within a dwelling unit in Group R or I-1, including bedrooms, living rooms, studies, recreation rooms, kitchens, dining rooms and other similar spaces.

Exception: The following spaces within a dwelling unit shall not be considered habitable spaces:

1. A dining space 55 square feet (5.1 m²) or less located off a living room, foyer or kitchen;
2. A kitchenette;
3. A bathroom or toilet room;
4. A laundry room; and
5. A corridor, passageway, or private hall; and a foyer used as an entrance hall in a dwelling unit: not exceeding 10 percent of the total floor area of the dwelling unit; or not exceeding 20 percent of the floor area of the dwelling unit where every habitable room is at least 20 percent larger than the required minimum room sizes established by the *New York City Housing Maintenance Code*.

KITCHEN. A room with 80 square feet (7.4 m²) or more of floor area which is intended, arranged, designed or used for cooking or warming of food.

KITCHENETTE. A space with less than 80 square feet (7.4 m²) of floor area which is intended, arranged, designed or used for cooking or warming of food.

OCCUPIABLE SPACE. A room or enclosed space, other than a habitable space, designed for human occupancy or use in which individuals may remain for a period of time for rest, amusement, treatment, education, dining, shopping, employment, labor or other similar purposes.

SUNROOM. A one-story structure attached to a building with a glazing area in excess of 40 percent of the gross area of the structure's exterior walls and roof.

THERMAL ISOLATION. Physical and space conditioning separation from conditioned space(s). The conditioned space(s) shall be controlled as separate zones for heating and cooling or conditioned by separate equipment.

SECTION BC 1203 VENTILATION

1203.1 General. Buildings shall be provided with natural ventilation in accordance with Section 1203.4, and/or mechanical ventilation in accordance with the *New York City Mechanical Code*. All habitable spaces shall be provided with natural ventilation in accordance with Section 1203.4.

1203.2 Attic spaces. Enclosed attics and enclosed rafter spaces formed where ceilings are applied directly to the underside of roof framing members shall have cross ventilation for each separate space by ventilating openings protected against the entrance of rain and snow. Blocking and bridging shall be arranged so as not to interfere with the movement of air. A minimum of 1 inch (25 mm) of airspace shall be provided between the insulation and the roof sheathing. The net free ventilating area shall not be less than 1/150 of the area of the space ventilated, with 50 percent of the required ventilating area provided by ventilators located in the upper portion of the space to be ventilated at least 3 feet (914 mm) above eave or cornice vents with the balance of the

required ventilation provided by eave or cornice vents.

1203.2.1 Openings into attic. Exterior openings into the attic space of any building intended for human occupancy shall be protected to prevent the entry of birds, squirrels, rodents, snakes and other similar creatures. Openings for ventilation having at least a dimension of 1/16 inch (1.6 mm) minimum and ¼ inch (6.4 mm) maximum shall be permitted. Openings for ventilation having a least dimension larger than ¼ inch (6.4 mm) shall be provided with corrosion-resistant wire cloth screening, hardware cloth, perforated vinyl or similar material with openings having a least dimension of 1/16 inch (1.6 mm) minimum and ¼ inch (6.4 mm) maximum. Where combustion air is obtained from an attic area, it shall be in accordance with Chapter 7 of the *New York City Mechanical Code*.

1203.3 Under-floor ventilation. The space between the bottom of the floor joists and the surface under any building except spaces occupied by basements or cellars shall be provided with ventilation openings through foundation walls or exterior walls. Such openings shall be placed so as to provide cross ventilation of the under-floor space.

1203.3.1 Openings for under-floor ventilation. The minimum net area of ventilation openings shall not be less than 1 square foot for each 150 square feet (0.09 m² for each 13.9 m²) of crawl-space area. Ventilation openings shall be covered for their height and width with any of the following materials, provided that the least dimension of the covering shall not exceed 1/4 inch (6.4 mm):

1. Perforated sheet metal plates not less than 0.070 inch (1.8 mm) thick.
2. Expanded sheet metal plates not less than 0.047 inch (1.2 mm) thick.
3. Cast-iron grilles or gratings.
4. Extruded load-bearing vents.
5. Hardware cloth of 0.035 inch (0.89 mm) wire or heavier.
6. Corrosion-resistant wire mesh, with the least dimension not exceeding 1/8 inch (3.2 mm).

1203.3.2 Exceptions. The following are exceptions to Sections 1203.3 and 1203.3.1:

1. Where warranted by climatic conditions, ventilation openings to the outdoors are not required if ventilation openings to the interior are provided.
2. The total area of ventilation openings is permitted to be reduced to 1/1,500 of the under-floor area where the ground surface is covered with a Class I vapor retarder material and the required openings are placed so as to provide cross ventilation of the space. The installation of operable louvers, in accordance with Section 1203.3.1, shall not be prohibited.
3. Ventilation openings are not required where continuously operated mechanical ventilation is provided at a rate of 1.0 cubic foot per minute (cfm) for each 50 square feet (1.02 L/s for each 10 m²) of crawl space floor area and the ground surface is covered with a Class I vapor retarder.
4. Ventilation openings are not required when the ground surface is covered with a Class I vapor retarder, the perimeter walls are insulated and the space is conditioned in accordance with the *New York City Energy Conservation Code*.
5. For buildings in areas of special flood hazard, the openings for under-floor ventilation shall also comply with Appendix G.

1203.4 Natural ventilation. Natural ventilation of occupiable and habitable space shall be through openings to the outdoors. The openings shall be of a type permitted under Sections 1203.4.1.1, 1203.4.1.2, 1203.4.1.3 and 1203.4.1.4. The operating mechanism for such openings shall be provided with ready access so that the openings are readily controllable by the building occupants.

Exception: An opening providing the required dimensional operable area shall be permitted to be reduced by limiting devices in accordance with the *New York City Health Code*, provided that the owner shall remove such limiting devices where requested by the occupant. In such cases, where required by the *New York City Health Code*, alternative means of compliance shall be provided in accordance with the *New York City Health Code*.

1203.4.1 Ventilation area required. Ventilation areas shall be as set forth in Sections 1203.4.1.1 through 1203.4.1.4.

1203.4.1.1 Occupiable spaces. Where occupiable spaces are not required to be provided with mechanical ventilation in accordance with the *New York City Mechanical Code*, natural ventilation shall be provided in accordance with Section 1203.4.1.1. Openings providing required natural ventilation to occupiable spaces shall be windows, doors, louvers, skylights or other similar ventilating openings.

Exceptions:

1. Bathrooms and toilet rooms in R or I-1 occupancies shall comply with Section 1203.4.1.3.
2. Kitchenettes in R or I-1 occupancies shall comply with Section 1203.4.1.4.

1203.4.1.1.1 Minimum opening. The minimum openable area to the outdoors shall be 4 percent of the floor area of the occupiable space being ventilated.

1203.4.1.1.2 Adjoining spaces. Where occupiable rooms and spaces without openings to the outdoors are ventilated through an adjoining room, the opening to the adjoining room shall be unobstructed and shall have an area of not less than 8 percent of the floor area of the interior room or space, but not less than 25 square feet (2.3 m²). The minimum openable area to the outdoors shall be based on the total floor area being ventilated.

Exception: Exterior openings required for ventilation shall be permitted to open into a sunroom or covered patio provided that the openable area between such sunroom addition or covered patio and the interior room shall have an area of not less than 8 percent of the floor area of the interior room or space, but not less than 20 square feet (1.9 m²). The minimum openable area to the outdoors shall be based on the total floor area being ventilated.

1203.4.1.1.3 Openings below grade. Where openings below grade provide required natural ventilation, the outside horizontal clear space measured perpendicular to the opening shall be one and one-half times the depth of the opening. The depth of the opening shall be measured from the average adjoining ground level to the bottom of the opening.

1203.4.1.1.4 Mezzanines. Where an interior balcony or mezzanine opens to form part of another room or space, its area shall be added to the area of the room or space in which it is located to compute the ventilation required for both spaces.

1203.4.1.2 Habitable spaces. All habitable spaces shall be provided with natural ventilation in accordance with Section 1203.4.1.2. Openings providing required natural ventilation to habitable spaces shall be windows and/or glazed doors.

Exception: R-3 occupancies. Openable skylights opening directly to the outer air, transparent or translucent panels, or other natural light-transmitting media may be substituted for window openings in R-3 occupancies provided that they meet the minimum dimensional requirements of Section 1203.4.1.2.1.

1203.4.1.2.1 Minimum opening. The minimum openable area to the outdoors shall be 5 percent of the floor area of the habitable space being ventilated. Every opening providing required natural ventilation shall be at least 12 square feet (1.1 m²) of glazed area, providing a minimum of 6 square feet (0.56 m²) of openable area.

Exceptions:

1. Where fresh air is furnished in any habitable room or space by mechanical means supplying a minimum of 40 cubic feet per minute (0.02 m³/s), the free openable area of the openings may be reduced to 2½ percent of the floor area but each such opening shall provide not less than 5½ square feet (0.51 m²) of openable area.
2. The minimum free openable area of a mullioned casement window shall be 5½ square feet (0.51 m²), provided that the minimum ratio of floor area to openable area is met.

1203.4.1.2.2 Adjoining spaces. An alcove or room opening off another room or space shall be considered as a separate room in determining its requirements for ventilation.

Exceptions:

1. **Alcoves within R-3 dwelling units.** In R-3 occupancies, where an opening between the alcove and the room or space is at least 80 percent of the area of the common wall and the floor area of the alcove does not exceed twice the area of the opening, the alcove and the room opening into the alcove may be considered as a single space.
2. **Balconies, partially enclosed.** Exterior openings required for ventilation shall be permitted to open upon a partially enclosed balcony or space above a setback when:
 - 2.1. Such balcony or space faces upon a public street, space, alley, park, highway, or right of way; or upon a yard, court, plaza, or space above a setback where such yard, court, plaza, or space above a setback complies with Section 1206;

- 2.2. The maximum depth of any habitable room is 30 feet (9144 mm) measured from the outer face of the exterior wall forming the partial or full enclosure of the balcony or space;
- 2.3. The enclosure of the balcony or space is not more than one story in height; and
- 2.4. The front of a partially enclosed balcony or space above a setback shall be open to the outer air with an open area equal to at least 75 percent of the floor surface area of such balcony or space.
3. **Balconies, fully enclosed.** Exterior openings required for ventilation shall be permitted to open upon a fully enclosed balcony or space above a setback, including sunroom and patio covers, when:
 - 3.1. Such balcony or space faces upon a public street, space, alley, park, highway, or right of way; or upon a yard, court, plaza, or space above a setback where such yard, court, plaza, or space above a setback complies with Section 1206;
 - 3.2. The maximum depth of any habitable room is 30 feet (9144 mm) measured from the outer face of the exterior wall forming the partial or full enclosure of the balcony or space;
 - 3.3. The enclosure of the balcony or space is not more than one story in height;
 - 3.4. The building is Type I or II construction;
 - 3.5. The outer enclosing walls of the balcony or space are glazed with an area at least 50 percent of the area of the interior enclosing walls of such balcony or space; the glazing may be clear plate glass or slow burning plastic;
 - 3.6. At least 50 percent of the glazed area required by Exception 3.5 of this section is openable; and
 - 3.7. No window from any bathroom, toilet room, kitchen or kitchenette shall open on such balcony or space.
4. **Mezzanines and split-level rooms.** Where a habitable mezzanine or portion of a split-level room or space is not directly served by an opening providing natural ventilation in accordance with Section 1203.4.1.2, such mezzanine or space shall open for its full width with no obstruction, except for railings, to an adjoining habitable room which is provided with natural ventilation. The floor area of such mezzanine or portion of the split-level room or space shall be added to the floor area of the adjoining room to compute the required ventilation in accordance with Section 1203.4.1.2.1. The combined space shall also comply with Section 1203.4.1.2.4. When required natural ventilation is not provided, mechanical ventilation shall be provided to the mezzanine and split-level rooms in accordance with the *New York City Mechanical Code* capable of providing 2 cubic feet per minute (0.00094 m³/s) of fresh air per square foot (0.09 m²) of floor area of mezzanine.

1203.4.1.2.3 Basements and cellars. Where openings provide natural ventilation to habitable spaces located in basements or cellars, such opening shall also comply with the applicable provisions of Sections 27-2081 through 27-2087 of the *New York City Housing Maintenance Code* and Sections 26(8) and 34 of the *New York State Multiple Dwelling Law*.

1203.4.1.2.4 Maximum depth of room. No part of any room shall be more than 30 feet (9144 mm) from a window opening onto a street or yard unless such room also opens onto a court complying with Section 1206.

Exception: In dwelling units containing more than three habitable rooms in Group R-1 or R-2 occupancies in buildings of Type I or II construction, rooms may be greater than 30 feet (9144 mm) in depth provided that all other requirements of Section 1203.4.1.2 are met and that the required windows are so located as to properly light all portions of the room in accordance with Section 1205.

1203.4.1.3 Bathrooms and toilet rooms in R and I-1 occupancies. Bathrooms or toilet rooms in R or I-1 occupancies shall be provided with natural ventilation in accordance with Section 1203.4.1.3, unless provided with exhaust ventilation in accordance with the *New York City Mechanical Code*. Openings providing required natural ventilation shall be windows.

Exception: Openable skylights may be substituted for windows provided that the bathroom or toilet room is on the top story.

1203.4.1.3.1 Minimum opening. The minimum openable area to the outdoors shall be 5 percent of the floor area of the space being ventilated. Every window or skylight providing required natural ventilation shall be at least 3 square feet (0.28 m²) providing a minimum of 1½ square feet (0.14 m²) of openable area.

