

TABLE 1104.9  
REVOLVING DOOR SPEEDS

INSIDE DIAMETER (feet-inches)	POWER-DRIVEN-TYPE SPEED CONTROL (rpm)	MANUAL-TYPE SPEED CONTROL (rpm)
6-6	11	12
7-0	10	11
7-6	9	11
8-0	9	10
8-6	8	9
9-0	8	9
9-6	7	8
10-0	7	8

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.

**1104.9.1 Egress component.** A revolving door used as a component of a *means of egress* shall comply with Section 1104.9 and all of the following conditions:

1. Revolving doors shall not be given credit for more than 50 percent of the required egress capacity.
2. Each revolving door shall be credited with not more than a 50-person capacity.
3. Revolving doors shall be capable of being collapsed when a force of not more than 130 pounds (578 N) is applied within 3 inches (76 mm) of the outer edge of a wing.

**1104.10 Stair dimensions for existing stairways.** Existing *stairways* in buildings shall be permitted to remain if the rise does not exceed 8 1/4 inches (210 mm) and the run is not less than 9 inches (229 mm). Existing *stairways* can be rebuilt.

**Exception:** Other *stairways* approved by the *fire code official*.

**1104.10.1 Dimensions for replacement stairways.** The replacement of an existing *stairway* in a structure shall not be required to comply with the new *stairway* requirements of Section 1009 where the existing space and construction will not allow a reduction in pitch or slope.

**1104.11 Winders.** Existing *winders* shall be allowed to remain in use if they have a minimum tread depth of 6 inches (152 mm) and a minimum tread depth of 9 inches (229 mm) at a point 12 inches (305 mm) from the narrowest edge.

**1104.12 Curved stairways.** Existing curved *stairways* shall be allowed to continue in use, provided the minimum depth of tread is 10 inches (254 mm) and the smallest radius shall be not less than twice the width of the *stairway*.

**1104.13 Stairway handrails.** *Stairways* shall have *handrails* on at least one side. *Handrails* shall be located so that all portions of the *stairway* width required for egress capacity are within 44 inches (1118 mm) of a *handrail*.

**Exception:** *Aisle stairs* provided with a center *handrail* are not required to have additional *handrails*.

**1104.13.1 Height.** *Handrail* height, measured above *stair* tread nosings, shall be uniform, not less than 30 inches (762 mm) and not more than 42 inches (1067 mm).

**1104.14 Slope of ramps.** *Ramp* runs utilized as part of a *means of egress* shall have a running slope not steeper than one unit vertical in 10 units horizontal (10-percent slope). The slope of other *ramps* shall not be steeper than one unit vertical in eight units horizontal (12.5-percent slope).

**1104.15 Width of ramps.** Existing *ramps* are permitted to have a minimum width of 30 inches (762 mm) but not less than the width required for the number of occupants served as determined by Section 1005.1. In Group I-2, *ramps* serving as a *means of egress* and used for the movement of patients in beds shall comply with Section 1105.5.4.

**1104.16 Fire escape stairways.** Fire escape *stairways* shall comply with Sections 1104.16.1 through 1104.16.7.

**1104.16.1 Existing means of egress.** Fire escape *stairways* shall be permitted in existing buildings but shall not constitute more than 50 percent of the required *exit* capacity.

**1104.16.2 Protection of openings.** Openings within 10 feet (3048 mm) of fire escape *stairways* shall be protected by opening protectives having a minimum 1/2-hour fire protection rating.

**Exception:** In buildings equipped throughout with an approved automatic sprinkler system, opening protection is not required.

**1104.16.3 Dimensions.** Fire escape *stairways* shall meet the minimum width, capacity, riser height and tread depth as specified in Section 1104.10.

**1104.16.4 Access.** Access to a fire escape *stairway* from a *corridor* shall not be through an intervening room. Access to a fire escape *stairway* shall be from a door or window meeting the criteria of Section 1005.1. Access to a fire escape *stairway* shall be directly to a balcony, landing or platform. These shall not be higher than the floor or window sill level and not lower than 8 inches (203 mm) below the floor level or 18 inches (457 mm) below the window sill.

**1104.16.5 Materials and strength.** Components of fire escape *stairways* shall be constructed of noncombustible materials. Fire escape *stairways* and balconies shall support the dead load plus a live load of not less than 100 pounds per square foot (4.78 kN/m<sup>2</sup>). Fire escape *stairways* and balconies shall be provided with a top and intermediate *handrail* on each side.

**1104.16.5.1 Examination.** Fire escape *stairways* and balconies shall be examined for structural adequacy and safety in accordance with Section 1104.16.5 by a registered design professional or others acceptable to the *fire code official* every 5 years, or as required by the *fire code official*. An inspection report shall be submitted to the *fire code official* after such examination.

**1104.16.6 Termination.** The lowest balcony shall not be more than 18 feet (5486 mm) from the ground. Fire escape *stairways* shall extend to the ground or be provided with counterbalanced *stairs* reaching the ground.

**Exception:** For fire escape *stairways* serving 10 or fewer occupants, an *approved* fire escape ladder is allowed to serve as the termination.

**1104.16.7 Maintenance.** Fire escape *stairways* shall be kept clear and unobstructed at all times and shall be maintained in good working order.

**1104.17 Corridor construction.** Corridors serving an occupant load greater than 30 and the openings therein shall provide an effective barrier to resist the movement of smoke. Transoms, louvers, doors and other openings shall be kept closed or be self-closing. In Group I-2, corridors in areas housing patient sleeping or care rooms shall comply with Section 1105.4.

**Exceptions:**

1. *Corridors* in occupancies other than in Group H, that are equipped throughout with an *approved automatic sprinkler system*.
2. *Corridors* in occupancies in Group E where each room utilized for instruction or assembly has not less than one-half of the required *means of egress* doors opening directly to the exterior of the building at ground level.
3. *Corridors* that are in accordance with the *International Building Code*.

**1104.17.1 Corridor openings.** Openings in *corridor* walls shall comply with the requirements of the *International Building Code*.

**Exceptions:**

1. Where 20-minute fire door assemblies are required, solid wood doors not less than 1.75 inches (44 mm) thick or insulated steel doors are allowed.
2. Openings protected with fixed wire glass set in steel frames.
3. Openings covered with 0.5-inch (12.7 mm) gypsum wallboard or 0.75-inch (19.1 mm) plywood on the room side.
4. Opening protection is not required where the building is equipped throughout with an *approved automatic sprinkler system*.

**1104.18 Dead end corridors.** Where more than one exit or exit access doorway is required, the *exit access* shall be arranged such that dead ends do not exceed the limits specified in Table 1104.18. In Group I-2, in smoke compartments containing patient sleeping rooms and treatment rooms, dead end *corridors* shall be in accordance with Section 1105.5.6.

**Exception:** A dead-end passageway or *corridor* shall not be limited in length where the length of the dead-end passageway or *corridor* is less than 2.5 times the least width of the dead-end passageway or *corridor*.

**1104.19 Exit access travel distance.** *Exits* shall be located so that the maximum length of exit access travel, measured from the most remote point to an *approved exit* along the natural and unobstructed path of egress travel, does not exceed the distances given in Table 1104.18.

**1104.20 Common path of egress travel.** The *common path of egress travel* shall not exceed the distances given in Table 1104.18.

**1104.21 Stairway discharge identification.** An interior *exit stairway* or *ramp* that continues below its *level of exit discharge* shall be arranged and marked to make the direction of egress to a *public way* readily identifiable.

**Exception:** *Stairways* that continue one-half story beyond their *levels of exit discharge* need not be provided with barriers where the *exit discharge* is obvious.

**1104.22 Exterior stairway protection.** *Exterior exit stairways* shall be separated from the interior of the building as required in Section 1027.6. Openings shall be limited to those necessary for egress from normally occupied spaces.

**Exceptions:**

1. Separation from the interior of the building is not required for buildings that are two stories or less above grade where the *level of exit discharge* serving such occupancies is the first story above grade.
2. Separation from the interior of the building is not required where the exterior *stairway* is served by an exterior balcony that connects two remote exterior *stairways* or other *approved exits*, with a perimeter that is not less than 50 percent open. To be considered open, the opening shall be not less than 50 percent of the height of the enclosing wall, with the top of the opening not less than 7 feet (2134 mm) above the top of the balcony.
3. Separation from the interior of the building is not required for an exterior *stairway* located in a building or structure that is permitted to have unenclosed interior *stairways* in accordance with Section 1023.
4. Separation from the open-ended corridors of the building is not required for exterior *stairways* provided that:
  - 4.1. The open-ended *corridors* comply with Section 1020.
  - 4.2. The open-ended *corridors* are connected on each end to an *exterior exit stairway* complying with Section 1027.
  - 4.3. At any location in an open-ended *corridor* where a change of direction exceeding 45 degrees (0.79 rad) occurs, a clear opening of not less than 35 square feet (3 m<sup>2</sup>) or an exterior *stairway* shall be provided. Where clear openings are provided, they shall be located so as to minimize the accumulation of smoke or toxic gases.