

2015 International Building Code and Commentary Errata

(Only errata to Commentary are shown-see International Building Code Errata for Code Errata)

(Portions of text and tables not shown are unaffected by the errata)

FIRST PRINTING (Updated February 8, 2019)

CHAPTER 2 DEFINITIONS

NOSING. The leading edge of treads of *stairs* and of landings at the top of *stairway flights*.

- ❖ The front edge of the tread that is exposed to the user's foot provides the visual clue for the placement of the foot in both ascent and descent. The nosings of a stair are a reference point for the measurement of the tread depth and riser height. The line connecting the nosings serves as the reference for the measurement of handrail and guard heights as well as headroom. The code ensures their uniformity by limiting the projection of the tread and landing nosings that results in a stairway that is easy to use. If too large, they are a tripping hazard when walking up a stair. If too small in relation to tread depth, the effective tread depth required for heel clearance in descent is minimized. The code provides limits for both minimum and maximum nosing projections and establishes a minimum tread depth when no projection is required [see Commentary Figures 1011.5.2 and ~~1009.5.5(1)~~ 1011.5.5.1]. An exception to these limits exists in the requirements for both alternating tread devices and ships ladders where an exaggerated projected tread depth, required to provide for reasonable foot room, is unique to the steeper gradient and functional use of these devices.

OPEN-ENDED CORRIDOR. An interior corridor that is open on each end and connects to an exterior *stairway* or *ramp* at each end with no intervening doors or separation from the corridor.

- ❖ Breezeway configurations are common in hotels and apartment buildings, especially in areas where being open to the outside is considered an amenity. By essentially being open to the outside, the intent and level of safety is similar to an exterior egress balcony (See Section 1027.6, Exception ~~4-3~~ for requirements)

2015 International Building Code and Commentary Errata

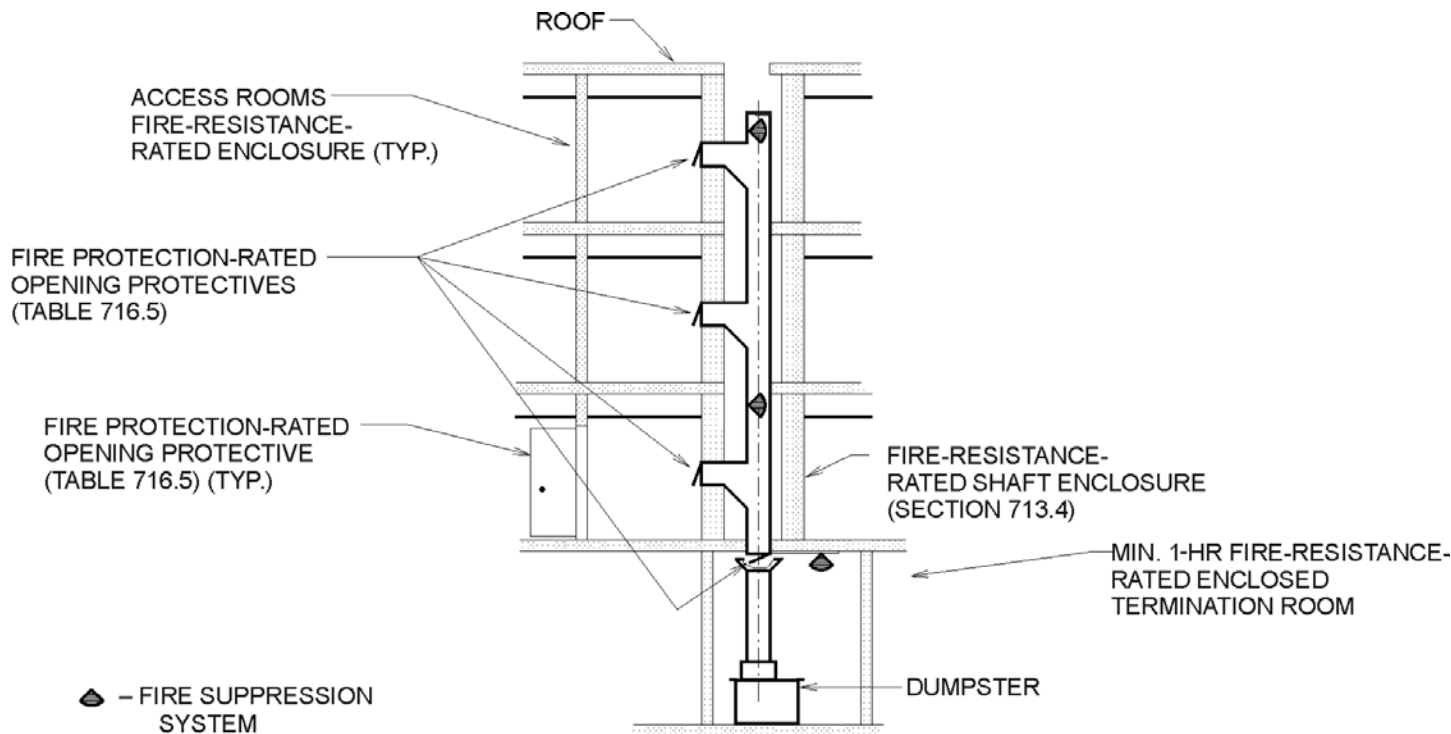
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CHAPTER 7 WALL CONSTRUCTION

713.13.4 Chute discharge room. Waste or linen chutes shall discharge into an enclosed room separated by *fire barriers* with a *fire-resistance rating* not less than the required fire rating of the shaft enclosure and constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both. Openings into the discharge room from the remainder of the building shall be protected by opening protectives having a *fire protection rating* equal to the protection required for the shaft enclosure. Doors shall be self- or automatic-closing upon the detection of smoke in accordance with Section 716.5.9.3. Waste chutes shall not terminate in an incinerator room. Waste and linen rooms that are not provided with chutes need only comply with Table 509.

❖ The chute discharge rooms, like the access rooms, are a repository of combustible material, and thus must be separated from all other parts of the building by fire barriers (Section 707) and horizontal assemblies (Section 711). The fire-resistance ratings are the same as for ~~access rooms~~ the shaft enclosure. See also Exception 2 of Section 713.11, which allows the shaft to discharge into such a room. The incidental use separation requirements for waste and linen separation rooms in Table 509 are only applicable to collection rooms not connected to chutes. The discharge room must never be connected to an incinerator room.



In Figure 713.13.3 REFUSE CHUTE (FIRE BARRIER OPTION), replace the right hand note as follows:
~~MIN. 1-HR FIRE-RESISTANCE-RATED ENCLOSED TERMINATION ROOM.~~ FIRE-RESISTANCE RATED EQUAL TO THAT REQUIRED FOR THAT SHAFT ENCLOSURE.

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CHAPTER 10 MEANS OF EGRESS

[F] 1001.3 Maintenance. *Means of egress* shall be maintained in accordance with the *International Fire Code*.

- ❖ This section provides a cross reference to the code requirements that address the maintenance of the means of egress in an existing building. The means of egress must be maintained so that occupants are not prevented from exiting the building quickly in case of an emergency.

Sections 1003 through ~~4029~~ 1030 in the code are repeated in the IFC. These sections are maintained by the IBC Means Of Egress Committee so that there will be consistency between the two documents. Note the [BE] in front of the main section headings in the IFC. Note the [F] in front of this section. This means that this section is maintained by the International Fire Code Development Committee. Additionally, the IFC includes Section 1031, which applies to maintenance of the means of egress. For means of egress in existing buildings, refer to Chapter 11 of the IFC and the IEBC.

1003.1 Applicability. The general requirements specified in Sections 1003 through 1015 shall apply to all three elements of the *means of egress* system, in addition to those specific requirements for the *exit access*, the *exit* and the *exit discharge* detailed elsewhere in this chapter.

- ❖ The requirements in the chapter address the three parts of a means of egress system: the exit access, the exit and the exit discharge. This section specifies that the requirements of Sections 1003 through 1015 apply to the components of all three parts of the system. For example, the stair tread and riser dimensions in Section ~~4009~~ 1011 apply to interior exit access stairways, such as those leading from a mezzanine, and also apply to enclosed exit stairways per Section ~~4022~~ 1023, exterior exit stairways per Section ~~4026~~ 1027 and steps in the exit discharge per Section ~~4027~~ 1028.

The following sections are applicable for all parts of the means of egress:

- Section 1003 deals with the path for means of egress to remain free of obstructions and tripping hazards.
- Section 1004 provides criteria for determining occupant loads for a space. These numbers are used for determining means of egress, as a threshold for some suppression requirements and to determine the required plumbing fixture count.
- Section 1005 deals with the required size (i.e., width) of the path of travel for emergency evacuation. It is important not to create a “bottleneck” that could increase the amount of time necessary for occupants to exit the buildings.
- Section 1006 deals with the number of ways out of a space or off a floor, either by exit elements or exit access elements.
- Section 1007 provides placement and remoteness requirements for the exit and exit access elements prescribed in Section 1006.
- Section 1008 deals with illumination for the path of travel for the means of egress. Both general lighting and emergency backup lighting are addressed.
- Section 1009 – Chapter 11 indicates how to get people with mobility impairments into a building. Section 1009 explains the options to allow people with mobility impairments to self-evacuate or how to arrange for assisted rescue. The accessible means of egress is an important part of the fire and safety evacuation plans (see Section 1001.4).

2015 International Building Code and Commentary Errata

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- Section 1010 includes requirements for doors, gates and turnstiles that are part of the path of travel from any occupied spaces. For example, doors that lead to a walk-in closet must comply with this section, but doors for reach-in closets are exempted.
- Section 1011 provides information on all types of stairways: interior and exterior and from one riser to stairways with multiple flights and landings. Stepped aisles for areas within assembly seating are specifically addressed in Section 1029. For protection of the stairways between stories, see Sections 1019, 1023 and 1027.
- Section 1012 deals with ramps. Ramped aisles serving assembly seating areas are specifically addressed in Section 1029. The ramp provisions are coordinated with ICC A117.1 and the 2010 Standard for Accessible Design [formerly the Americans with Disabilities Act Accessibility Guidelines (ADAAG), now referred to as the 2010 ADA Standard]. For protection of the ramp between stories, see Sections 1019, 1023 and 1027.
- Section 1013 describes where exit signs are required and what criteria they need to meet to be readily visible.
- Section 1014 describes handrail requirements for stairways and ramps. Handrails are important for guidance and to arrest a possible fall.
- Section 1015 provides criteria for the vertical portions of barriers that serve to protect people from possible falls at dropoffs greater than 30 inches (762 mm).

1005.3.1 Stairways.

(Portions of text and commentary and text not shown remain unchanged.)

The following illustrate typical calculations for stairways from a nonsprinklered, two-story, two-exit office building:

1. Determine the minimum required stairway width with a second-floor occupant load of 350:
 - 350 occupants ~~divided~~ **multiplied** by 0.3 inch = 105 inches (2667 mm) minimum;
 - 105 inches divided by two stairways is 52½ inches (1334 mm) minimum per stairway; or
 - Section ~~4009.4~~ **1011.2** prescribes that the width of an interior stairway cannot be less than 44 inches (1118 mm).

The capacity criteria are more restrictive and, therefore, the minimum required width for each stairway is 52½ inches (1334 mm).

2. Determine the minimum required stairway width with a second-floor occupant load of 90:
 - 90 occupants ~~divided~~ **multiplied** by 0.3 inches (7.62 mm) = 27 inches (686 mm) minimum;
 - 27 inches (686 mm) divided by two stairways is 13½ inches (343 mm); or
 - Section ~~4044.4~~ **1011.2** prescribes that the width of an interior stairway cannot be less than 44 inches (1118 mm). Note that the stair width reduction in Section 1011.2, Exception 1, is applicable only when the entire occupant load of a story is less than 50.

1006.3.2 Single exits....

(Portions of text and commentary and text not shown remain unchanged.)

❖The base assumption is that all stories of a building shall have access to at least two separate ways out for emergencies.

Single-exit stories can have access to an exit from any floor, therefore, single-exit stories can use an open exit access stairway for as many stories as permitted by Sections 1006.3.2 and ~~4049.3.3~~ **1019.3**, provided they meet the exit access of travel distance limitations for that use in Sections 1006.2.1 and 1006.3.2 and Tables 1006.2.1, 1006.3.2(1) and 1006.3.2(2).

A story can have a single exit if the design meets one of the five items listed.

Item 1 states what situations permit one exit by a reference to Tables 1006.3.2(1) and 1006.3.2(2). If a story can meet the provisions for occupant load, number of units and travel distance in Table 1006.3.2(1) or 1006.3.2(2), then that story can have one means of egress. See the commentary for Tables 1006.3.2(1) and 1006.3.2(2) for information on single exit buildings.

Item 2 references Table 1006.2.1 for single-exit spaces. Table 1006.2.1 is intended to be applicable to rooms and spaces on a floor, but not to an entire floor level. One of the main concerns has been that vertical travel takes longer than horizontal travel in emergency exiting situations. However, if the single

2015 International Building Code and Commentary Errata

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exit space can exit directly to the exterior rather than egress into an interior corridor, a higher level of safety is provided. While the term “building” limits the area addressed to that bordered by exterior walls or fire walls, a common application of Item 2 is on a tenant- by-tenant basis. For example, a single-story strip mall may not meet the provisions for a building with one means of egress but each tenant area meets the provisions for a space with one means of egress in accordance with Section ~~1006.4~~ 1006.2. This tenant could exist as either a stand-alone single-exit building or as a single-exit tenant space that exits into an interior corridor. Is it not just as safe to permit this tenant to exist as part of a larger building with the door exiting directly to the exterior? See also the commentary to Tables 1006.3.2(1) and 1006.3.2(2). While not specifically stated.....

1009.6.5 Two-way communication. *Areas of refuge* shall be provided with a two-way communication system complying with Sections 1009.8.1 and 1009.8.2.

❖ If a building includes areas of refuge at the stairway or elevators, each area of refuge must include a two way communication system. If the building uses one of the exceptions for areas of refuge, Section ~~1007.8~~ 1009.8 would still require a two-way communication system at the elevator. This way anyone needing assistance can communicate with a person at a constantly attended location to request evacuation assistance.

This system is an important part of the fire and safety evacuation plans required by Section 1001.4 of the code and Section 404 of the IFC. See Sections 1009.8.1 and 1009.8.2 for specific requirements for this system.

2015 International Building Code and Commentary Errata

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CHAPTER 10 MEANS OF EGRESS

TABLE 1004.1.2
MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT

FUNCTION OF SPACE	OCCUPANT LOAD FACTOR ^a
Industrial areas	100 gross
Institutional areas Industrial areas	
Inpatient treatment areas	240 gross
Outpatient areas	100 gross
Sleeping areas	120 gross
Mercantile	60 gross
Areas on other floors	60 gross
Basement and grade floor areas	30 gross
Storage, stock, shipping areas	300 gross

Remainder of table not shown remains unchanged.

1011.12.1 Stairway to elevator equipment. Roofs and penthouses containing elevator equipment that must be accessed for maintenance are required to be accessed by a stairway.

❖ The requirement for a stair to the roof for maintaining elevator equipment correlates the code with ASME A17.1/CSA B44, *Safety Code for Elevators and Escalators*. This referenced standard (see Section 3001.2) has required stairs and a door to access elevator equipment since 1955. More specifically, Section ~~2.27.3.2.1~~ 2.7.3.2.1 of ASME A17.1/CSA B44 states the following: “a stairway with a swinging door and platform at the top level, conforming to 2.7.3.3 shall be provided from the top floor of the building to the roof level. Hatch covers as a means of access to the roofs shall not be permitted.” Alternating tread devices or ladders are not permitted as an alternative to the stairway for access to the elevator penthouse. This provision is more specific; therefore, while not prohibiting using the same stairway for access to the roof and the elevator penthouse (see Sections 1011.12 and 1011.12.2), access to that elevator penthouse must be via a stairway with door access, not an alternating tread device and hatch.

SECTION 1017 EXIT ACCESS TRAVEL DISTANCE

1017.1 General. Travel distance within the *exit access* portion of the *means of egress* system shall be in accordance with this section.

❖ “Exit access” is defined as “that portion of a means of egress system that leads from any occupied portion of a building or structure to an exit” (see the commentary for the definition in Chapter 2). Exit access includes rooms, spaces, aisles and corridors that an occupant would travel along to get to an exit. This can also include stairways and ramps between levels, or between stories where permitted by Section 1019.

Doors and doorways along this route are exit access doorways, but may sometimes be called “exit doors.” True exits for this exit access travel can be:

1. An exterior exit door at grade;
2. The door to an enclosure for an interior exit stairway, ramp or exit passageway;
3. The exit door leading to an exterior ~~exit door~~ stairway or ramp; or
4. A door leading through a horizontal exit.

How exit access travel distance is measured is one of the key differences between interior exit access stairways/ramps (see Section 1017.3.1) and interior exit stairways/ramps (see Section 1017.3). It is important to understand the relationship between the common path of travel limitations of Sections 1006.2.1 and 1006.3.2 and the exit access travel distance limitations of this section. Measurements start

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at the same location, i.e., the most remote location in any occupied space. Both are measured in the exit access portion of the means of egress system. The common path of travel is measured to the point where the occupant has two distinct paths of travel, which will lead to two distinct exits. Travel distance is measured all the way until the exit is reached. The common path of travel measurement can end within a space or at a corridor where a single means of egress space (Section 1006.2.1) has its door to a corridor that provides access to two exits.

2015 International Building Code and Commentary Errata

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Applicable to the 1st and 2nd PRINTING (This Errata Posted on: November 21, 2017)

Page 16-49; Section 1609.4.2 Commentary

This section defines three surface roughness categories that are used in evaluating each sector and, subsequently, in determining an exposure category. These surface roughnesses were previously included in the corresponding exposure category definition. The required upwind distance that must be considered varies according to the exposure category definition in [Section 1609.4.3](#).

Previous code editions Surface Roughness C was tied to hurricane-prone regions and Surface Roughness D was tied to surfaces outside hurricane-prone regions. Current provisions now tie Surface Roughness C and D to any given site.

~~A significant philosophical change in determination of exposure categories occurred with the inclusion of shorelines in hurricane-prone regions in the definition of Exposure Category C (Surface Roughness C). Exposure Category D (Surface Roughness D) had been used for wind flowing over open water until further research determined that wave action at the water's surface in a hurricane **had produced, because of** the intensity of the turbulence, substantial surface obstructions and friction that reduces the wind profile values to be more in line with Surface Roughness C as opposed to Surface Roughness D. Surface Roughness D would still apply to inland waterways and shorelines that are not in the hurricane-prone regions, such as coastal California, Oregon, Washington and Alaska.~~

CHAPTER 29
PLUMBING SYSTEMS

Page 29-17, 2nd column:

...the occupant load for the entire building results in ~~40~~ 21 male water closets required for the building. Three floors of occupants will require (150 floor occupants/1000) x 21 w/c = 3.15 or 4 water closets on the 19th floor.

CHAPTER 30 ELEVATORS AND CONVEYING SYSTEMS

3006.4 Means of egress. Elevator lobbies shall be provided with at least one means of egress complying with Chapter 10 and other provisions in this code. Egress through an elevator lobby shall be permitted in accordance with Item 1 of Section 1016.2.

❖ This section requires at least one means of egress from the elevator lobby enclosure. Multistory buildings have increasing security concerns that have often resulted in controlled access from elevator lobbies to the remainder of the floor. Section 713.14.1 clearly establishes that every elevator lobby shall have at least one means of egress, ensuring that no occupant in a lobby is restricted from leaving the lobby to access the exits on the floor. Although elevators are not considered required exits, elevators are not intended to be available in a fire situation since they are recalled during Phase I elevator recall as required by Chapter 30. ASME A17.1, *Safety Code for Elevators and Escalators*, details the recall requirements, which are adopted by reference in Chapter 30. ~~While this section requires one door from the elevator lobby, every room or space on the floor, including the lobby, must have access to the required number of exits (usually two) on that story without traveling through tenant spaces. In other words, once an occupant leaves the elevator lobby, he or she must have access to two exits.~~ Egress through elevator lobbies from corridors on both sides is also allowed.

Two questions often arise. First, can a space have its only exit access path through an elevator lobby? ~~Note that Section 1016.2, Item 5 would require that all paths of exit access cannot be through an enclosed elevator lobby.~~ The answer is yes, if it meets all the other means of egress requirements. This eliminates the allowance for a single tenant to send all occupants through the lobby to exit the building. Second, can an interior exit stairway open into an elevator lobby? Yes, an elevator lobby is a normally occupied space in the same manner that a corridor is a normally occupied space. Elevator hoistway doors are not permitted to open into an interior exit stairway.