

Provisions of the 2007 CBC
that cause the most
confusion to designers



MOBIUS LA 2009

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Objectives

- Learning Objective 1: Participants will become familiar with key code requirements that impact space plans.
- Learning Objective 2: Participants will learn how to address the key code requirements associated with said space plans.
- Learning Objective 3: Participants will be educated regarding how to identify problematic conditions in plans.
- Learning Objective 4: Participants will be taught how to develop code compliant approaches.

Overview

- Areas of refuge
- Assembly egress strategies
- Elevator lobbies
- Exit discharge
- Exterior exit stairs
- Non-separated mixed use construction
- Open and enclosed interior exit stairs
- Mezzanines
- Occupant loading strategies
- Roof access

Areas of Refuge

- When are they required?
- What, exactly, constitutes an area of refuge?
- What are the dimensions?
- How are they constructed?
- What other features are required?
- What is an exterior area assisted rescue?

Areas of Refuge

Section 1007.1 Accessible Means of Egress Required.

Accessible spaces shall be provided with not less than one accessible means of egress. Where more than one means of egress is required by Sections 1015.1 or 1019.1 from any accessible space, each accessible portion of the space shall be served by accessible means of egress in at least the same number as required by Section 1015.1 or 1019.1. In addition to the requirements of this chapter, means of egress, which provide access to, or egress from, buildings for persons with disabilities, shall also comply with the requirements of Chapter 11A or 11B, as applicable.

Areas of Refuge – Accessible Means of Egress Components

- Accessible routes
- *Stairways within vertical exit enclosures*
- *Exterior exit stairways*
- *Elevators*
- Platform lifts
- Horizontal exits
- Ramps
- *Areas of refuge*

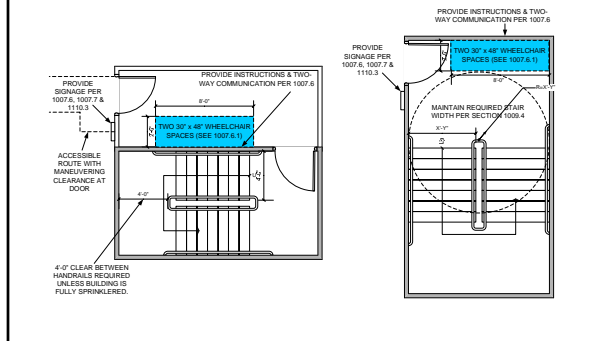


Areas of Refuge

Section 1007.6 Areas of Refuge

Every required area of refuge shall be accessible from the space it serves by an accessible means of egress. Every required area of refuge shall have direct access to an enclosed stairway complying with Sections 1007.3 and 1020.1 or an elevator complying with Section 1007.4. Where an elevator lobby is used as an area of refuge, the shaft and lobby shall comply with Section 1020.1.7 for smokeproof enclosures except where the elevators are in an area of refuge formed by a horizontal exit or smoke barrier. [DSA-AC] Areas of refuge shall comply with the requirements of this code and shall adjoin an accessible route of travel complying with Section 1114B.1.2.

Areas of Refuge – Sizing Them Up

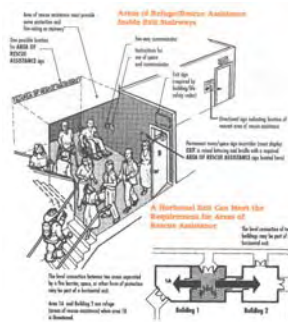


Areas of Refuge - Separation

- Separation (1007.6.2). Each area of refuge shall be separated from the remainder of the story by a smoke barrier complying with Section 709 of the *California Building Code* or a horizontal exit complying with [Section 1022](#). Each area of refuge shall be designed to minimize the intrusion of smoke. Areas of refuge within enclosed stairs are exempt from this requirement.

Areas of Refuge - Implementation

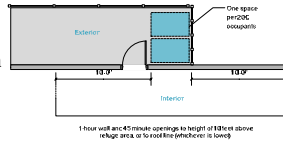
- Two-way communications
- Instructions
- Identification
- Signage



Source: <http://fems.dc.gov>

Areas of Refuge – Exterior Areas of Assisted Rescue

- Must be open to the outside (50% open)
- Separation walls per 704 for exterior walls
- Where openings are between the exterior area of assisted rescue and the building, openings should be protected within 10 feet vertically and horizontally (3/4 hour openings, one hour walls)



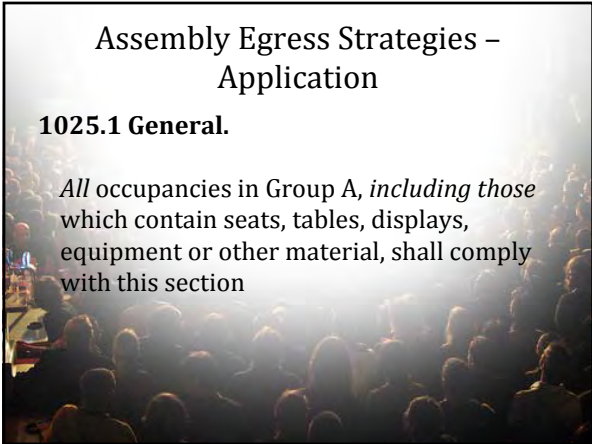
Assembly Egress Strategies

- What about that main exit?
- What exit capacity factors should I use?
- So what is smoke-protected seating?
- What about outdoor facilities?
- Any other special assembly provisions?

Assembly Egress Strategies – Application

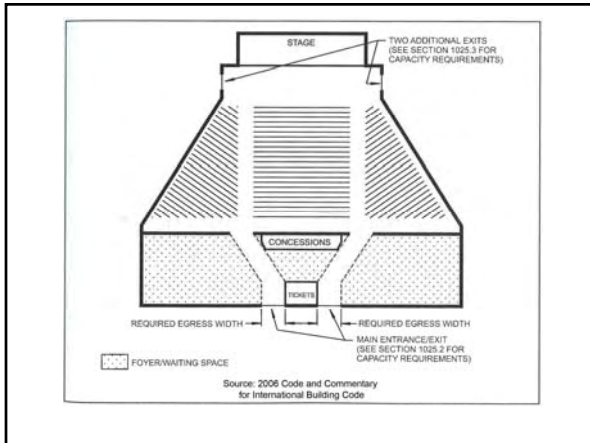
1025.1 General.

All occupancies in Group A, including those which contain seats, tables, displays, equipment or other material, shall comply with this section



Assembly Egress Strategies – Main Exits and Side Exits

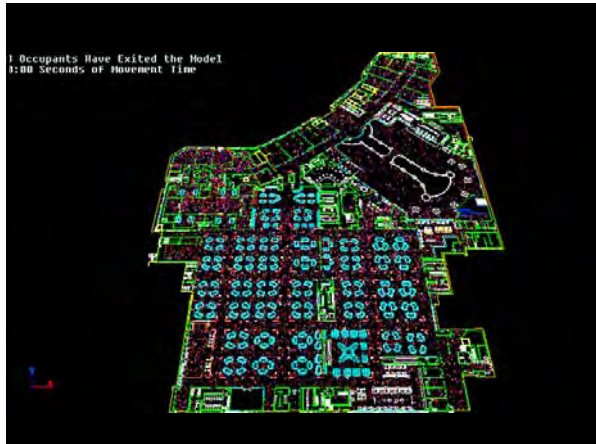
- Group A occupancies that have an occupant load of greater than 300 shall be provided with a main exit unless there is no well-defined exit, or where there are multiple main exits
- Don't forget those side exits! Required to accommodate ½ of the occupant load, and must allow occupants to discharge directly into an exit or through a lobby that that is not used to access the main exit



Assembly Egress Strategies – Egress Capacity Factors

- Group A occupancies that have an occupant load greater than 300 shall be provided with at least 0.20-inch (5.1 mm) total exit width for each occupant served.

Exception: Smoke-protected seating complying with Section 1025.6.2.

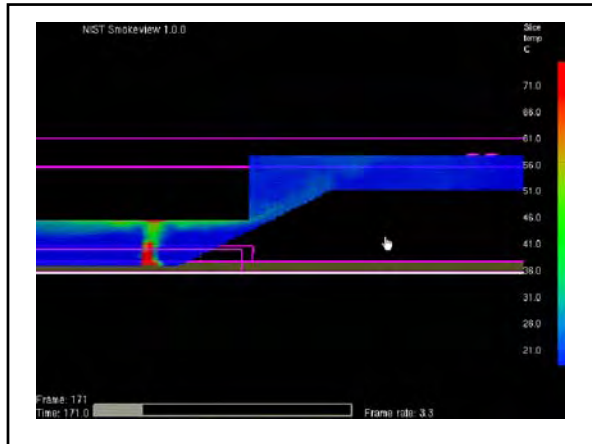


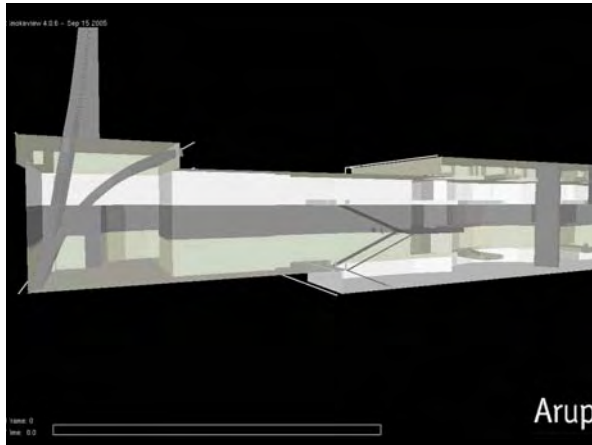
Assembly Egress Strategies – Egress Capacity Factors

The 2007 California Building Code Section 1025.6.1 was intended to apply to all stairs serving an assembly occupancy. The exception listed under CBC 1005.1 and footnote 'b' of Table 1005.1 directs the user to Section 1025 for egress width in assembly occupancies, thus having the intended effect of requiring a minimum egress width for each assembly occupant served of 0.3 for stairways and 0.2 for other egress components as depicted in Table 1005.1 regardless if the building is protected with an automatic sprinkler system throughout or not.

Assembly Egress Strategies – Smoke Protected Seating

- A life safety evaluation, complying with NFPA 101, shall be done for a facility utilizing the reduced width requirements of Table 1025.6.2 for smoke-protected assembly seating
- Means of egress serving a smoke-protected assembly seating area shall be provided with a smoke control system complying with [Section 909](#) or natural ventilation designed to maintain the smoke level at least 6 feet (1829 mm) above the floor of the means of egress
- A smoke-protected assembly seating area with a roof shall have the lowest portion of the roof deck not less than 15 feet (4572 mm) above the highest aisle or aisle accessway





**Assembly Egress Strategies –
Outdoor Areas**

1025.6.3 Width of means of egress for outdoor smoke-protected assembly.

The clear width in inches (mm) of aisles and other means of egress shall be not less than the total occupant load served by the egress element multiplied by 0.08 (2.0 mm) where egress is by aisles and stairs and multiplied by 0.06 (1.52 mm) where egress is by ramps, corridors, tunnels or vomitories.

Exception: The clear width in inches (mm) of aisles and other means of egress shall be permitted to comply with Section 1025.6.2 for the number of seats in the outdoor smoke-protected assembly where Section 1025.6.2 permits less width.

Assembly Egress Strategies – Other Requirements

- Balconies with more than 50 occupants need two exits
- Travel Distance is 250 feet in fully sprinklered facilities, as measured along the actual path of travel (i.e. aisles and rows)
- Common Path of Travel is 30 feet (or 75 feet if serving less than 50 occupants)
- Rise of stairs may vary (4-9 inches rise, with 0.188 tolerance between adjacent treads)

Elevator Lobbies

- When do I need an elevator lobby?
- What constitutes an accessible elevator?
- When can I eliminate elevator lobbies?
- Can I exit through my elevator lobby?

Elevator Lobbies – Accessible Elevators

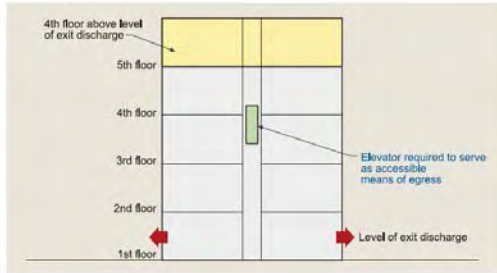
1007.2.1 Elevators required.

In buildings where a required accessible floor is *four or more stories above or below a level of exit discharge*, at least one required accessible means of egress shall be an elevator complying with Section 1007.4.

Exceptions:

In buildings equipped throughout with an automatic sprinkler system installed in accordance with [Section 903.3.1.1](#) or [903.3.1.2](#), the elevator shall not be required on floors provided with a horizontal exit and located at or above the level of exit discharge, or on floors provided with a ramp conforming to the provisions of [Section 1010.2](#).

Elevator Lobbies – Accessible Elevators



Source: 2006 IBC Handbook

Elevator Lobbies – Requirements

707.14.1 Elevator lobby.

An enclosed elevator lobby shall be provided at each floor where an elevator shaft enclosure connects more than *two stories in high-rise buildings, Group A, E, H, I, L, R-1 and R-2 occupancies and other applications listed in Section 111 regulated by the Office of the State Fire Marshal, and more than three stories for all other occupancies.* The lobby shall separate the elevator shaft enclosure doors from each floor by fire partitions equal to the fire-resistance rating of the corridor and the required opening protection. Elevator lobbies shall have at least one means of egress complying with [Chapter 10](#) and other provisions within this code.

Elevator Lobbies – Exceptions to 707.14

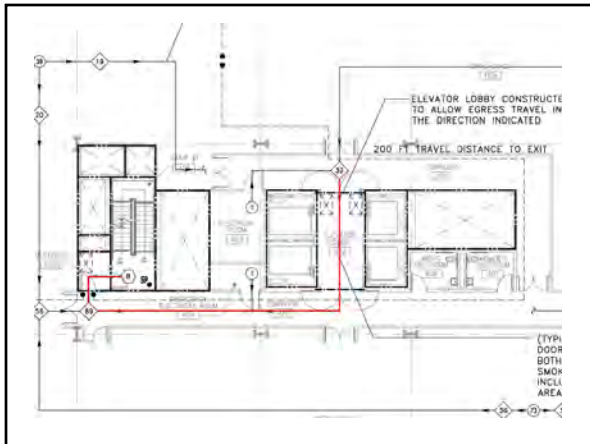
- Street floor (with AS)
- Shafts in accordance with 707.2
- *In other than high-rise buildings, where additional doors are provided at the hoistway opening in accordance with Section 3002.6. Such doors shall be tested in accordance with UL 1784 without an artificial bottom seal.*
- *In other than high-rise buildings, Group A, E, H, I, L, R-1 and R-2 occupancies and other applications listed in Section 111 regulated by the Office of the State Fire Marshal, enclosed elevator lobbies are not required where the building is protected by an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2. Smoke partitions are alternatively allowed.*

Elevator Lobbies – Exceptions to 707.14

- When approved, in other than Group I-2 occupancies, enclosed elevator lobbies are not required where the elevator hoistway is pressurized in accordance with Section 707.14.2
- In other than high-rise buildings, enclosed elevator lobbies are not required where the hoistway door has a fire-protection rating as required by [Section 711.4](#) and the hoistway door opening is also protected by a listed and labeled smoke containment system complying with ICC ES AC 77

Elevator Lobbies –Exiting Through Them

- In fully sprinklered office buildings, corridors may lead through enclosed elevator lobbies if all areas of the building have access to at least one required exit without passing through the elevator lobby.



Exit Discharge

- What, exactly, is the exit discharge
- Do all exits have to discharge to the exterior?
- Where can my exit discharge be located?
- What do I need to know about egress courts?
- What is a safe dispersal area?

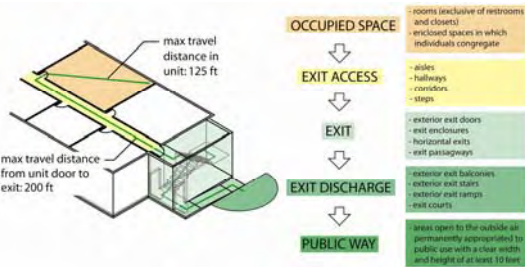
Exit Discharge

EXIT DISCHARGE. That portion of a means of egress system between the termination of an exit and a public way.

1024.1 General.

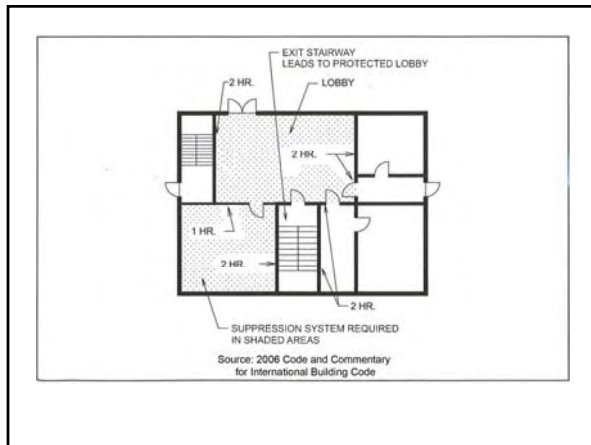
Exits shall discharge directly to the exterior of the building. The exit discharge shall be at grade or shall provide direct access to grade. The exit discharge shall not reenter a building.

Exit Discharge



Exit Discharge – The Exceptions

- A maximum of 50 percent of the number and capacity of the exit enclosures is permitted to egress through areas on the level of discharge
- A maximum of 50 percent of the number and capacity of the exit enclosures is permitted to egress through a vestibule
- Stairways in open parking garages complying with [Section 1020.1](#), Exception 5, are permitted to egress through the open parking garage at the level of exit discharge

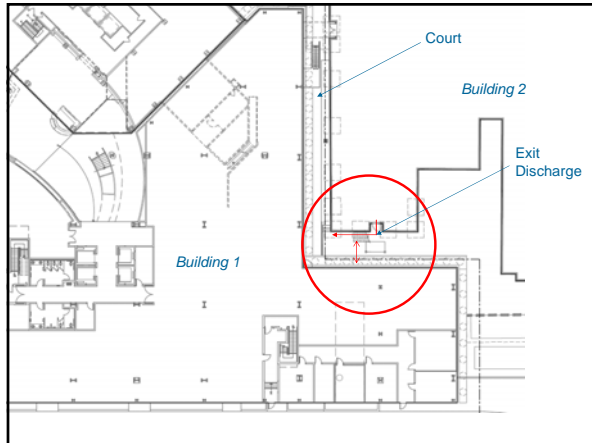


Exit Discharge – Location

- Exterior balconies, stairways and ramps shall be located at least 10 feet (3048 mm) from adjacent lot lines and from other buildings on the same lot unless the adjacent building exterior walls and openings are protected in accordance with [Section 704](#) based on fire separation distance

Exit Discharge – Egress Courts

- Minimum width of 44 inches (natural ventilation requirements notwithstanding), except in R-3 and U occupancies, which may be 36 inches
- Unobstructed height of 7 feet
- Gradual reductions in width permitted
- Where width is less than 10 feet, walls must be one hour (3/4 hour openings), except when occupant load is less than 10 or for R-3 occupancies



Exit Discharge – Safe Dispersal Areas

Where access to a public way cannot be provided, a safe dispersal area shall be provided where all of the following are met:

1. The area shall be of a size to accommodate at least 5 square feet (0.28 m²) for each person.
2. For other than Group E buildings, the area shall be located on the same lot at least 50 feet (15 240 mm) away from the building requiring egress. For Group E buildings, the area shall be located on the same lot at least 50 feet (15 240 mm) away from any building.
3. The area shall be permanently maintained and identified as a safe dispersal area.
4. The area shall be provided with a safe and unobstructed path of travel from the building.

Exterior Exit Stairs

- What is the definition of an exterior stair?
- Can I use them as a means of egress?
- What are the limitations of these stairs?
- Are exterior exit stairs required to be separated from the building?

Exterior Exit Stairs

Exterior exit ramps and stairways serving as an element of a required means of egress shall be open on at least one side. An open side shall have a minimum of 35 square feet (3.3 m²) of aggregate open area adjacent to each floor level and the level of each intermediate landing. The required open area shall be located not less than 42 inches (1067 mm) above the adjacent floor or landing level.



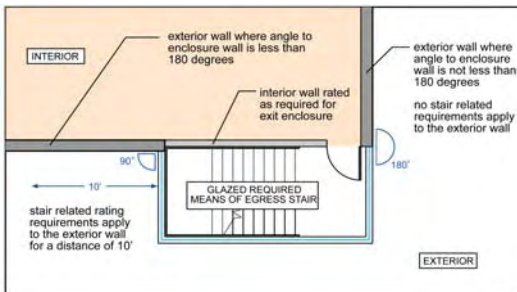
Exterior Exit Stairs – As a Means of Egress

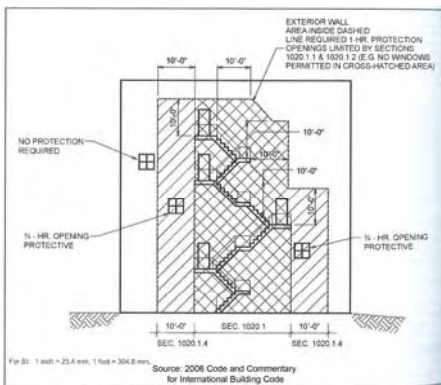
- Must meet the definition for *open side*, as outlined in 1023.3
- Must be located as required for exit discharge (openings and walls within 10 feet are required to be protected)
- Exterior exit ramps and stairways shall not be used as an element of a required means of egress for Group I-2 occupancies. For occupancies in other than Group I-2, exterior exit ramps and stairways shall be permitted as an element of a required means of egress for buildings not exceeding six stories above grade plane or *buildings defined as a high-rise*.

Exterior Exit Stairs - Separation

- Exterior exit ramps and stairways shall be separated from the interior of the building as required in [Section 1020.1](#). Openings shall be limited to those necessary for egress from normally occupied spaces.
- Separations are not required for occupancies, other than those in Group R-1 or R-2, in buildings that are no more than two stories above grade plane where the level of exit discharge is the first story above grade plane
- Separations are not required where the exterior ramp or stairway is served by an exterior ramp and/or balcony that connects two remote exterior stairways or other approved exits with a perimeter that is not less than 50 percent open.

Exterior Exit Stairs - Separation





Exterior Exit Stairs - Separation

- Separation from the interior of the building is not required for an exterior ramp or stairway located in a building or structure that is permitted to have unenclosed interior stairways in accordance with Section 1020.1
- Separation from the interior of the building is not required for exterior ramps or stairways connected to open-ended corridors

Non-Separated Mixed Use

- So what is the non-separated mixed-use construction option?
- How does it relate to incidental uses?
- And what about separated occupancies?
- What are the implications of hazardous occupancies in the context of non-separated mixed use?

Non-Separated Mixed Uses

- Each portion of a building shall be individually classified in accordance with [Section 302.1](#). Where a building contains more than one occupancy group, the building or portion thereof shall comply with Sections 508.3.1, 508.3.2, 508.3.3 or a combination of these sections.

- **508.3.2.1 Occupancy classification.**

Nonseparated occupancies shall be individually classified in accordance with [Section 302.1](#). Code requirements shall apply to each portion of the building based on the occupancy classification of that space except that the most restrictive applicable provisions of [Section 403](#) and [Chapter 9](#) shall apply to the entire building or portion thereof.

Non-Separated Mixed Uses – Required Separations

- Incidental uses (except in a dwelling unit) are required to be separated from the main occupancy. Typical incidental uses include furnace rooms with inputs of more than 400,000 BTU/hr, refrigerant machinery rooms, parking garages, laundry and storage rooms greater than 100 square feet, waste and linen collection rooms over 100 square feet.

Non-Separated Mixed Uses – The Alternative

508.3.3 Separated occupancies.

Buildings or portions of buildings that comply with the provisions of this section shall qualify as separated occupancies.

508.3.3.1 Occupancy classification.

Separated occupancies shall be individually classified in accordance with [Section 302.1](#). Each fire area shall comply with this code based on the occupancy classification of that portion of the building.

**TABLE 508.3.3
REQUIRED SEPARATION OF OCCUPANCIES (HOURS)**

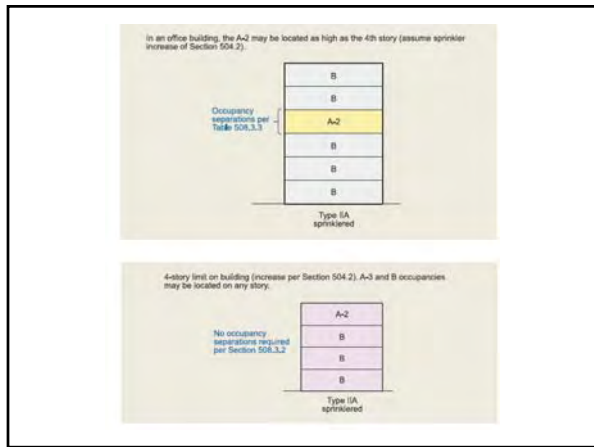
OCCUPANCY	A ¹ , E		I		R ²		F-2, S-2 ^a , U ³		B ⁴ , F-1, M ⁵ , S-1		H-1		H-2		H-3, H-4, H-5	
	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS
A ¹ , E ²	N	N	1	2	1	2	N	1	1	2	NP	NP	3	4	2	3 ^c
I	—	—	N	N	1	NP	1	2	1	2	NP	NP	3	NP	2	NP
R ²	—	—	—	—	N	N	1	2	1	2	NP	NP	3	NP	2	NP
F-2, S-2 ^a , U ³	—	—	—	—	—	—	N	N	1	2	NP	NP	3	4	2	3 ^c
B ⁴ , F-1, M ⁵ , S-1	—	—	—	—	—	—	—	—	N	N	NP	NP	2	3	1	2 ^d
H-1	—	—	—	—	—	—	—	—	—	N	NP	NP	NP	NP	NP	NP
H-2	—	—	—	—	—	—	—	—	—	—	—	N	NP	1	NP	
H-3, H-4, H-5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	N	NP

For SI: 1 square foot = 0.0929 m².
 S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.
 NS = Buildings not equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.
 N = No separation requirement.
 NP = Not permitted.

a. For Group H-5 occupancies, see Section 903.2.4.2.
 b. Occupancy separation need not be provided for storage areas within Groups B and M if the:
 1. Area is less than 10 percent of the floor area;
 2. Area is equipped with an automatic fire-extinguishing system and is less than 3,000 square feet; or
 3. Area is less than 1,000 square feet.
 c. Areas used only for private or pleasure vehicles shall be allowed to reduce separation by 1 hour.
 d. See Section 406.1.4.
 e. Commercial kitchens need not be separated from the restaurant seating areas that they serve.

**TABLE 503
ALLOWABLE HEIGHT AND BUILDING AREAS**
Height limitations shown in stories and feet above grade plane.
Area limitations as determined by the definition of "Area, building," per floor.

GROUP		Height		TYPE OF CONSTRUCTION														
				TYPE I		TYPE II		TYPE III		TYPE IV		TYPE V						
				A	B	A	B	A	B	A	B	A	B					
A-1		S	UL	4	160	4	65	4	65	4	65	4	65	4	65	3	1	5,500
A-2		S	UL	11	3	2	3	2	3	2	3	3	2	3	2	3	1	6,000
A-3		S	UL	11	3	2	3	2	3	2	3	3	2	3	2	3	1	6,000
B		S	UL	11	5	4	5	4	5	4	5	5	3	2	3	1	9,000	
E		S	UL	5	3	2	3	2	3	2	3	3	1	1	1	1	9,500	
F-1		S	UL	11	4	2	3	2	3	2	4	4	2	1	1	1	9,500	
M		S	UL	11	4	4	4	4	4	4	4	4	3	3	1	1	9,000	
R-1		S	UL	11	4	4	4	4	4	4	4	4	3	2	2	2	7,000	
R-2 ^a		S	UL	11	4	4	4	4	4	4	4	4	3	2	2	2	7,000	
R-3 ^a		S	UL	11	4	4	4	4	4	4	4	4	3	3	3	3	7,000	
S-1		S	UL	11	4	3	3	3	3	4	4	4	3	1	1	1	9,000	
S-2 ^{a,c}		S	UL	11	4	4	4	4	4	4	4	4	3	3	3	3	9,000	
		A	UL	79,000	39,000	26,000	39,000	26,000	26,000	38,500	21,000	15,500						

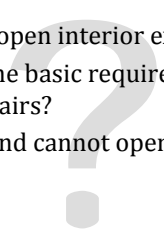


Non-Separated Mixed Uses - Implications

- General height and area limitation
- What if you have a small hazardous occupancy in a building that is otherwise non-hazardous? Do you have to make the entire building meet the requirements for the H occupancy?

Open and Enclosed Interior Stairs

- Can I have open interior exit stairs?
- What are the basic requirements for enclosed stairs?
- What can and cannot open into an exit enclosure?

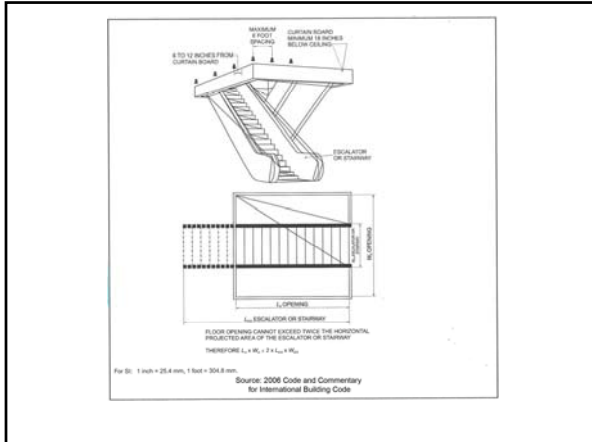


Open and Enclosed Interior Stairs

- As a rule, interior stairs should be enclosed, with some exceptions:
 1. In all occupancies, other than Group H and I occupancies, a stairway is not required to be enclosed when the stairway serves an occupant load of less than 10 and is open to not more than one story above or below the story at the level of exit discharge
 2. Exits in buildings of Group A-5 where all portions of the means of egress are essentially open to the outside need not be enclosed
 3. Stairways serving and contained within a single residential dwelling unit or sleeping unit in Group R-1, R-2 or R-3 occupancies

Open and Enclosed Interior Stairs

4. Stairways that are not a required means of egress element are not required to be enclosed where such stairways comply with [Section 707.2](#)
5. Stairways in open parking structures that serve only the parking structure are not required to be enclosed
6. In other than Group H and I occupancies, a maximum of 50 percent of egress stairways serving one adjacent floor are not required to be enclosed, provided at least two means of egress are provided from both floors served by the unenclosed stairways. Any two such interconnected floors shall not be open to other floors.



Open and Enclosed Interior Stairs

7. In other than Group H and I occupancies, interior egress stairways serving only the first and second stories of a building equipped throughout with an automatic sprinkler system in accordance with [Section 903.3.1.1](#) are not required to be enclosed, provided at least two means of egress are provided from both floors served by the unenclosed stairways. Such interconnected stories shall not be open to other stories.
8. Special stairs within prisons or at stages (refer to [Section 408.3.6.1](#) and [Section 410.5.3](#))

Open and Enclosed Interior Stairs

1020.1.1 Openings and penetrations.

Except as permitted in [Section 402.4.6](#), openings in exit enclosures other than unprotected exterior openings shall be limited to those necessary for exit access to the enclosure from normally occupied spaces and for egress from the enclosure.
Elevators shall not open into an exit enclosure.

1020.1.2 Penetrations.

Penetrations into and openings through an exit enclosure are prohibited except for required exit doors, equipment and ductwork necessary for independent pressurization, sprinkler piping, standpipes, electrical raceway for fire department communication systems and electrical raceway serving the exit enclosure and terminating at a steel box not exceeding 16 square inches (0.010 m²).

Open and Enclosed Interior Stairs

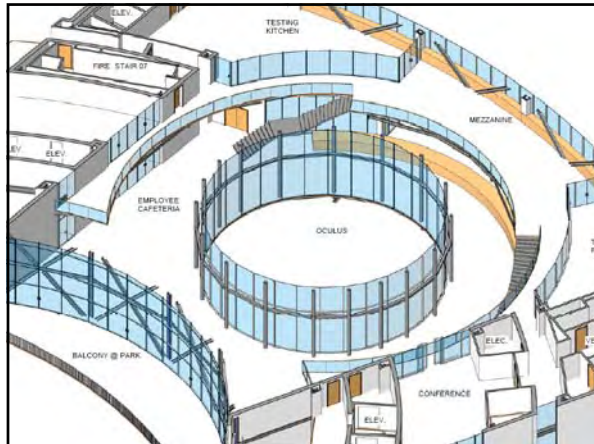
- In general, exit enclosures shall have a fire-resistance rating of not less than 2 hours where connecting four stories or more and not less than 1 hour where connecting less than four stories.
- When located in a high-rise building, except enclosures are required to be constructed as smokeproof enclosures, per Section 909.20 (e.g. ventilated vestibules, pressurization)

Mezzanines

- What is the basic idea of a mezzanine?
- What are the area limitations?
- Can my mezzanine be enclosed, or must it be open to the space in which it is located?
- What drives whether the stairs serving the mezzanine are open or enclosed?

Mezzanines

- A mezzanine or mezzanines in compliance with Section 505 shall be considered a portion of the story below. Such mezzanines shall not contribute to either the building area or number of stories as regulated by Section 503.1.

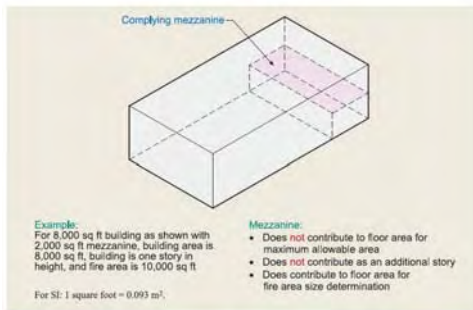


Mezzanines – Area Determination

- The aggregate area of a mezzanine or mezzanines within a room shall not exceed one-third of the floor area of that room or space in which they are located. The enclosed portion of a room shall not be included in a determination of the floor area of the room in which the mezzanine is located. In determining the allowable mezzanine area, the area of the mezzanine shall not be included in the floor area of the room.

Exception: The aggregate area of mezzanines in buildings and structures of Type I or II construction shall not exceed one-half of the floor area of the room in buildings and structures equipped throughout with an approved automatic sprinkler system

Mezzanines – Calculation of Area



Source: 2006 IBC Handbook

Mezzanines - Egress

- Each occupant of a mezzanine shall have access to at least two independent means of egress where the common path of egress travel exceeds the limitations of [Section 1014.3](#). Where a stairway provides a means of exit access from a mezzanine, the maximum travel distance includes the distance traveled on the stairway measured in the plane of the tread nosing.

Exception: A single means of egress shall be permitted in accordance with Section 1015.1

Mezzanines

Occupancy	Maximum Occupant Load
A, B, E, F, M, U	49
H-1, H-2, H-3	3
H-4, H-5, I-1, I-3, I-4, R	10
S	29
L	See Section 443.6.1

Mezzanines - Openness

A mezzanine shall be open and unobstructed to the room in which such mezzanine is located except for walls not more than 42 inches (1067 mm) high, columns and posts. A number of exceptions exist:

- The occupant load of the aggregate area of the enclosed space does not exceed 10
- A mezzanine having two or more means of egress, where one has direct access to an exit
- The aggregate floor area of the enclosed space does not exceed 10 percent of the mezzanine area
- Within industrial facilities and in fully sprinklered buildings no more than two stories high

Occupant Loading Strategies

- What are the implications of occupant loads in my building?
- So what is this business about net and gross?
- How do I load my assembly space, anyhow?
- Can I take advantage of non-simultaneous occupant loads?

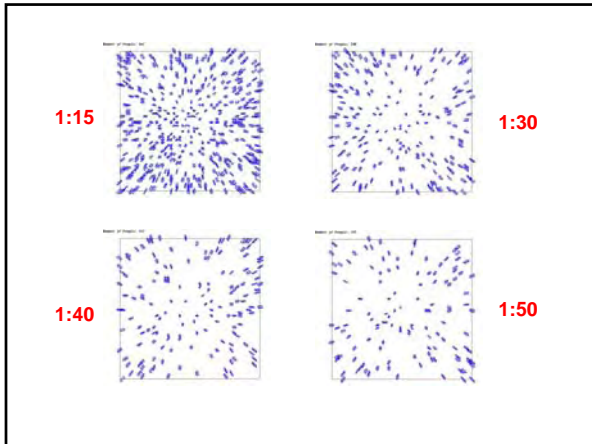
Occupant Loading Strategies

FLOOR AREA, GROSS. The floor area within the inside perimeter of the exterior walls of the building under consideration, exclusive of vent shafts and courts, without deduction for corridors, stairways, closets, the thickness of interior walls, columns or other features. The floor area of a building, or portion thereof, not provided with surrounding exterior walls shall be the usable area under the horizontal projection of the roof or floor above. The gross floor area shall not include shafts with no openings or interior courts.

FLOOR AREA, NET. The actual occupied area not including unoccupied accessory areas such as corridors, stairways, toilet rooms, mechanical rooms and closets.

Occupant Loading Strategies

- **Assembly Occupant Load Factors:**
 1. Assembly Gaming 11 gross sf/occ
 2. Airport Waiting Areas 15 gross sf/occ
 3. Assembly with fixed seats no. of seats
 4. Assembly without fixed seats
 - Concentrated (chairs only) 7 net sf/occ
 - Standing Space 5 net sf/occ
 - Unconcentrated (tables & chairs) 15 net sf/occ
 - Decks (at pools) 15 gross sf/occ



Occupant Loading Strategies

- What about museums?
- The occupant load permitted in any building, or portion thereof, is permitted to be increased from that number established for the occupancies in Table 1004.1.1, provided that all other requirements of the code are also met based on such modified number and the occupant load does not exceed one occupant per 7 square feet (0.65 m²) of occupiable floor space. Diagrams of seating layouts may be required by the Building Official
- Where approved by the building official, the actual number of occupants for whom each occupied space, floor or building is designed, although less than those determined by calculation, is permitted to be used in the determination of the design occupant load per Section 1004.1.1

Occupant Loading Strategies – Non-simultaneous Use

- Yards, patios, courts and similar outdoor areas accessible to and usable by the building occupants shall be provided with means of egress as required by Chapter 10. The occupant load of such outdoor areas shall be assigned by the building official in accordance with the anticipated use. *Where outdoor areas are to be used by persons in addition to the occupants of the building, and the path of egress travel from the outdoor areas passes through the building, means of egress requirements for the building shall be based on the sum of the occupant loads of the building plus the outdoor areas.*
- Pre-Function areas, corridors, bathrooms, etc.?

Roof Access

- Do I really need to access that roof?
- If I do bring a stair to the roof, what are the requirements?
- When can I use a hatch?
- Are there requirements for tie-offs, guards, or similar when I access the roof?

Roof Access

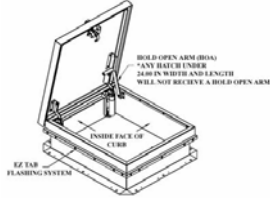
- In buildings located four or more stories in height above grade plane, one stairway shall extend to the roof surface, unless the roof has a slope steeper than four units vertical in 12 units horizontal (33-percent slope). In buildings without an occupied roof, access to the roof from the top story shall be permitted to be by an alternating tread device.



Roof Access

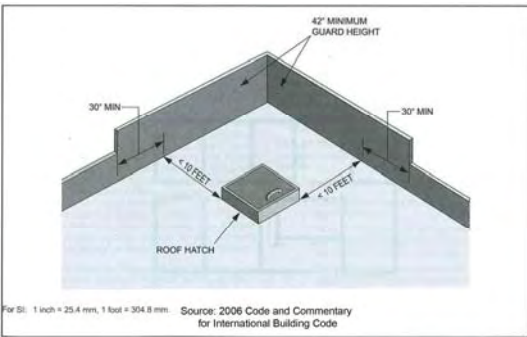
- Where a stairway is provided to a roof, access to the roof shall be provided through a penthouse complying with Section 1509.2.

Exception: In buildings without an occupied roof, access to the roof shall be permitted to be a roof hatch or trap door not less than 16 square feet (1.5 m²) in area and having a minimum dimension of 2 feet (610 mm).



Roof Access

Where the roof hatch opening providing the required access is located within 10 feet (3049 mm) of the roof edge, such roof access or roof edge shall be protected by guards installed in accordance with the provisions of [Section 1013](#)



Thank you for your time!

QUESTIONS??

This concludes the American Institute of Architects
Continuing Education Systems Program



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