

Significant Changes to the

INTERNATIONAL BUILDING CODE®



2012 EDITION

Selection of Topics

- Provisions addressed based primarily on:
 - Frequency of application
 - Special significance
 - Change in application

Marginal Markings within the International Building Code



- **Solid vertical lines** in the margins within the body of the code indicate a technical change from the requirements of the 2009 edition.



- **Deletion indicators in the form of an arrow** are provided in the margin where an entire section, paragraph, exception or table has been deleted or an item in a list of items or a table has been deleted.



- **A single asterisk** [*] placed in the margin indicates that text or a table has been relocated within the code.



- **A double asterisk** [**] placed in the margin indicates that the text or table immediately following it has been relocated there from elsewhere in the code.

102.4 Conflicting Provisions between Codes and Standards

- **Clarification**
- Hierarchy clarified between IBC and its referenced standards regarding extent of a standard's application.
- Requirements of standards intended to supplement IBC provisions.
- Where conflicts exist, code provisions to be applied over those of referenced standard.

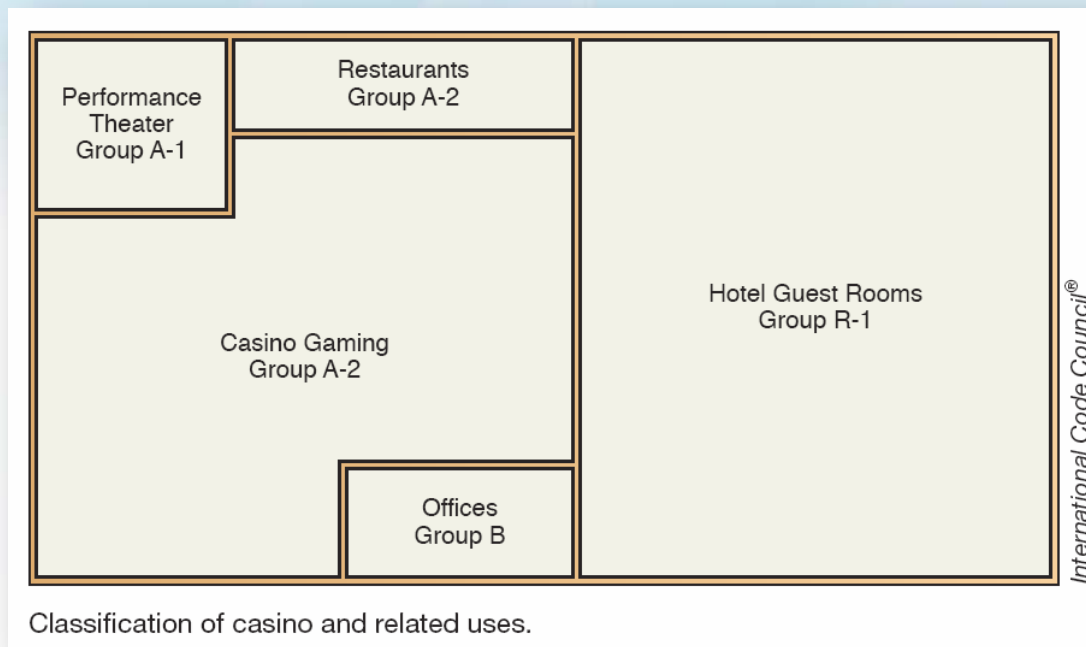


202 Definitions

- For consistency and usability purposes, all definitions of terms specifically defined in the IBC moved to Chapter 2.
- IBC-defined terms continue to be identified within text in *italics* and listed (without definition) in applicable locations throughout code.

303.3 Occupancy Classification of Casino Gaming Floors

- **Addition**
- Classification of a casino gaming floor is now specifically identified as Group A-2 occupancy.



303.3, 306.2 Occupancy Classification of Commercial Kitchens

- **Clarification**
- Classification of commercial kitchen clarified based upon kitchen's relationship to dining facilities.
- Group A-2 where associated with dining
- Group F-1 otherwise



Table 307.1(1), Section 307.4 Facilities Generating Combustible Dusts

- **Modification**
- Technical report and opinion now required to assist in occupancy classification of spaces where combustible dust hazard exists.

TABLE 307.1(1) Maximum Allowable Quantity Per Control Area of Hazardous Materials Posing a Physical Hazard

Material	Class	Group When the Maximum Allowable Quantity is Exceeded	Storage ^b			Use-Closed Systems ^b			Use-Open Systems ^b	
			Solid pounds (cubic feet)	Liquid gallons (pounds)	Gas cubic feet at NTP	Solid pounds (cubic feet)	Liquid gallons (pounds)	Gas cubic feet at NTP	Solid pounds (cubic feet)	Liquid gallons (pounds)
<u>Combustible Dust</u>	<u>N/A</u>	<u>H-2</u>	<u>Note q</u>	<u>N/A</u>	<u>N/A</u>	<u>Note q</u>	<u>N/A</u>	<u>N/A</u>	<u>Note q</u>	<u>N/A</u>

q. Where manufactured, generated or used in such a manner that the concentration and conditions create a fire or explosion hazard based on information prepared in accordance with Section 414.1.3.

(no changes to remainder of table and footnotes)

308.2, 202 Definitions of Care Facilities

- New or revised terms to clarify care occupancies:
 - **24-Hour care:** actual time person is occupant of facility
 - **Custodial care:** assistance with day-to-day living tasks
 - **Foster care facilities:** revised from “child” care to differentiate from “day care” facilities
 - (>5 infants/toddlers)

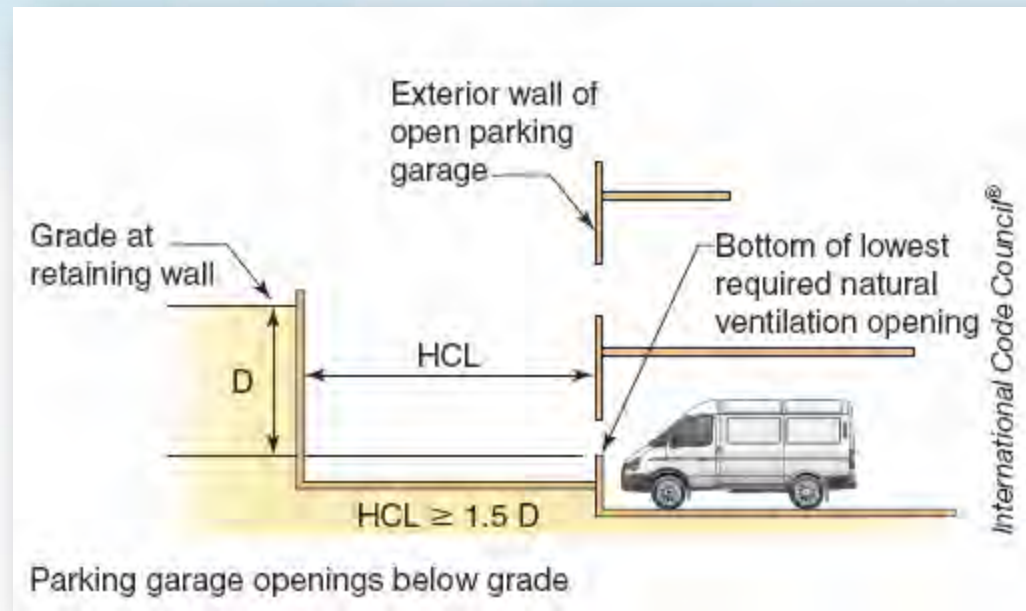


308.2, 202 Definitions of Care Facilities (continued)

- New or revised terms (continued):
 - **Incapable of self preservation:** unable to respond as an individual to emergency situation
 - **Medical care:** care involving medical or surgical procedures, nursing or for psychiatric purposes.
- Removed “24-hour” criteria from several definitions due to redundancy within code provisions

406.5.2.1 Open Parking Garages: Openings below Grade

- **Addition**
- Horizontal clear space must now be provided adjacent to required natural ventilation openings located below grade.
- Clear space to be minimum $1\frac{1}{2}$ times depth of opening.



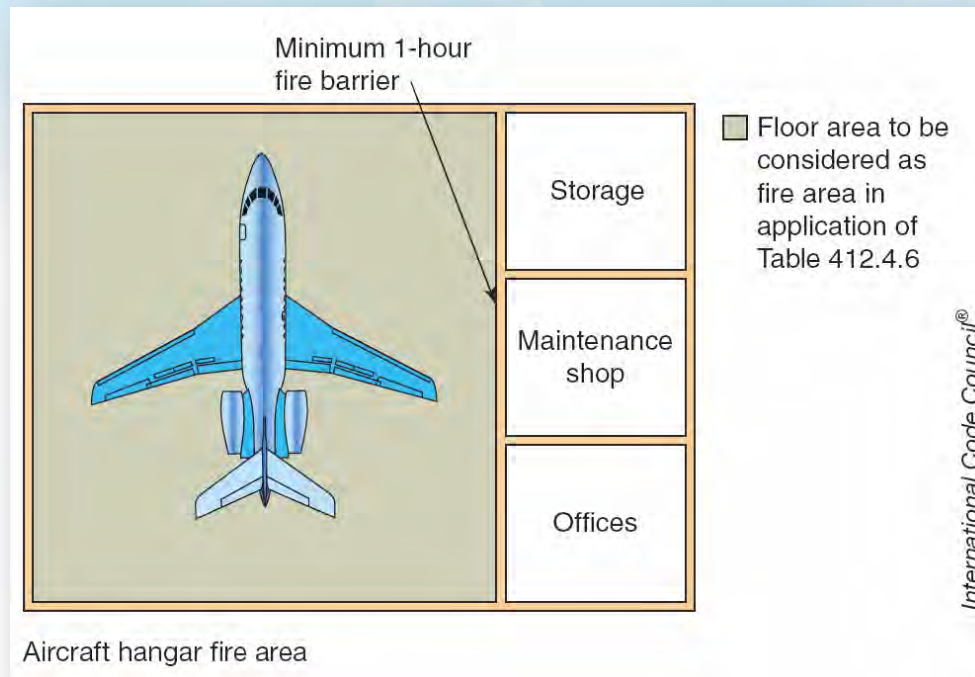
410.6.3, 202 Technical Production Areas

- **Clarification**
- Comprehensive term **“technical production area”** introduced to describe areas for operating and serving entertainment technology systems and equipment
- Means of egress provisions for such areas relocated to Section 410.



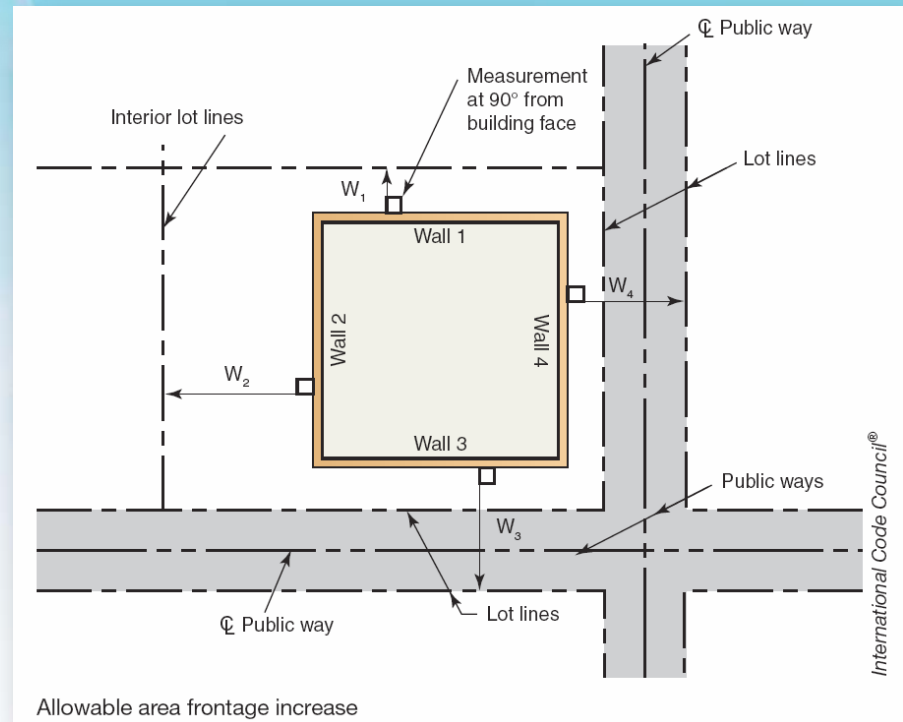
412.4.6.2 Aircraft Hangar Fire Areas

- **Modification**
- When determining fire suppression requirements per NFPA 409, ancillary uses separated from service areas by minimum 1-hour fire barriers need not be included in fire area.



506.2 Allowable Area Frontage Increase

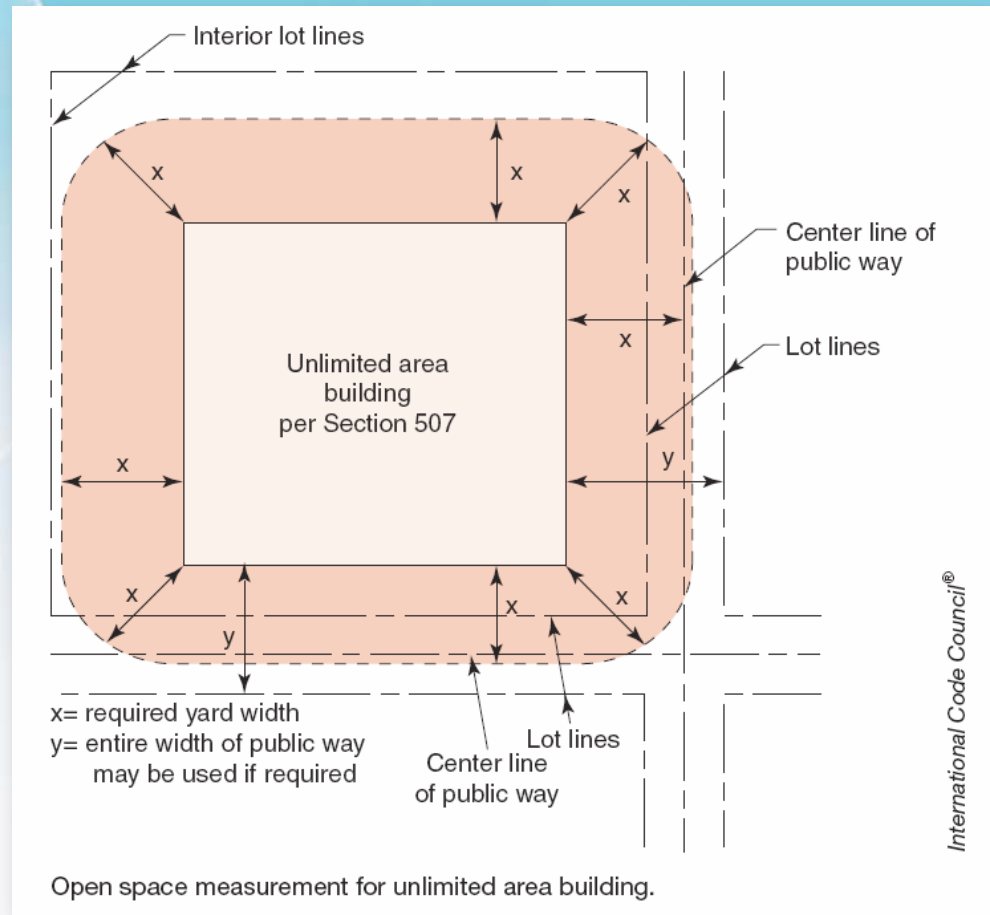
- **Clarification**
- Method of calculating the appropriate allowable area increase for buildings fronting on public ways and/or open space has been clarified, specifically:
 - Amount of public way that can be utilized
 - Appropriate method of measuring available width
 - Definition of term “weighted average”



507.1 Unlimited Area Buildings—Open Space

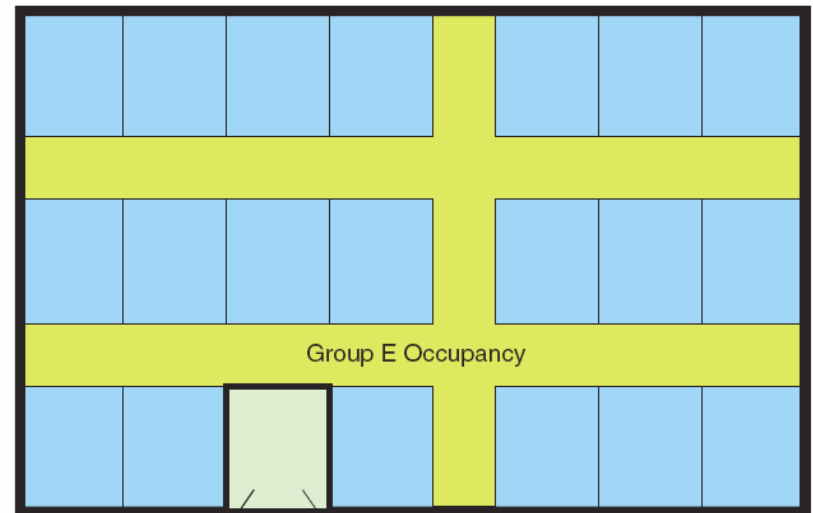
■ Clarification

- Determination of required open space width for unlimited area building compliance has been clarified, specifically:
 - Use of entire width of public way
 - Open space to be measured in all directions.



509 Incidental Uses— General Provisions

- **Clarification**
- Concept of incidental uses has been clarified by eliminating previous relationship with accessory occupancy provisions.
 - Provisions relocated to new Section 509.
 - May be located in single- or mixed-occupancy building.
 - Classified as part of occupancies in which located.
 - Limited to 10% of floor area of story.



Chemistry
Lab/Classroom

- Separated from remainder of building by minimum 1-hour fire barriers, or
- Provided with automatic sprinkler system
- Classified as a portion of Group E
- Limited to 10% of story's floor area

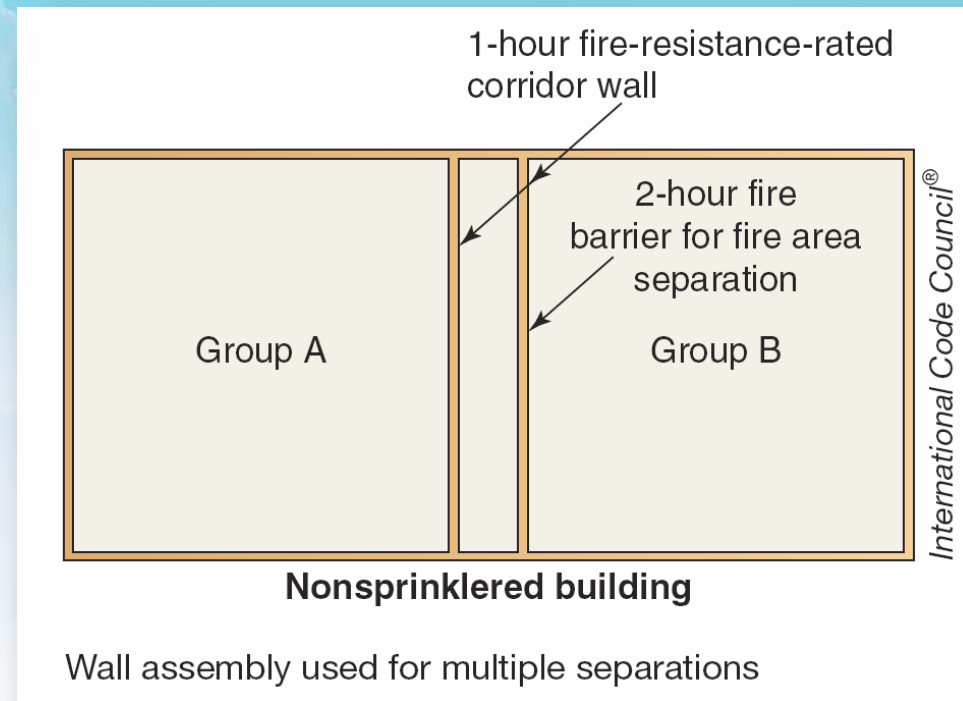
School lab/classroom regulated as incidental use

TABLE 508.2.5 509 Incidental Accessory Occupancies Uses

Room or Area	Separation and/or Protection
Furnace room where any piece of equipment is over 400,000 Btu per hour input	1 hour or provide automatic fire-extinguishing <u>sprinkler system</u>
Rooms with boilers where the largest piece of equipment is over 15 psi and 10 horsepower	1 hour or provide automatic fire-extinguishing <u>sprinkler system</u>
Refrigerant machinery room	1 hour or provide automatic sprinkler system
Hydrogen cutoff rooms, not classified as Group H	1 hour in Group B, F, M, S, and U occupancies; 2 hours in Group A, E, I, and R occupancies.
Incinerator rooms	2 hours and automatic sprinkler system
Paint shops, not classified as Group H, located in occupancies other than Group F	2 hours or 1 hour and provide automatic fire-extinguishing <u>sprinkler system</u>
Laboratories and vocational shops, not classified as Group H, located in a Group E or I-2 occupancy	1 hour or provide automatic fire-extinguishing <u>sprinkler system</u>
Laundry rooms over 100 square feet	1 hour or provide automatic fire-extinguishing <u>sprinkler system</u>
Group I-3 cells equipped with padded surfaces	1 hour
Group I-2 Waste and linen collection rooms located in either Group I-2 occupancies or ambulatory care facilities	1 hour
Waste and linen collection rooms over 100 square feet	1 hour or provide automatic fire-extinguishing <u>sprinkler system</u>
Stationary storage battery systems having a liquid electrolyte capacity of more than 50 gallons <u>for flooded lead-acid, nickel cadmium or VRLA, or a lithium-ion capacity of more than 1000 pounds for lithium-ion and lithium metal polymer</u> used for facility standby power, emergency power, or uninterrupted <u>uninterruptable</u> power supplies	1 hour in Group B, F, M, S, and U occupancies; 2 hours in Group A, E, I, and R occupancies.
Rooms containing fire pumps in nonhigh-rise buildings	2 hours; or 1 hour and provide automatic sprinkler system throughout the building
Rooms containing fire pumps in high-rise buildings	2 hours

701.2 Multiple-Use Fire Assemblies

- **Clarification**
- Where single fire assembly serves multiple purposes, such as wall being utilized as both fire barrier and fire partition, it has been clarified that all applicable requirements for both types of fire separation walls must be met.



705.2 Extent of Projections beyond Exterior Walls

- **Modification**
- Permitted extent of projections beyond exterior walls now establishes minimum clear distance required between leading edge of projection and line used to establish fire separation distance.

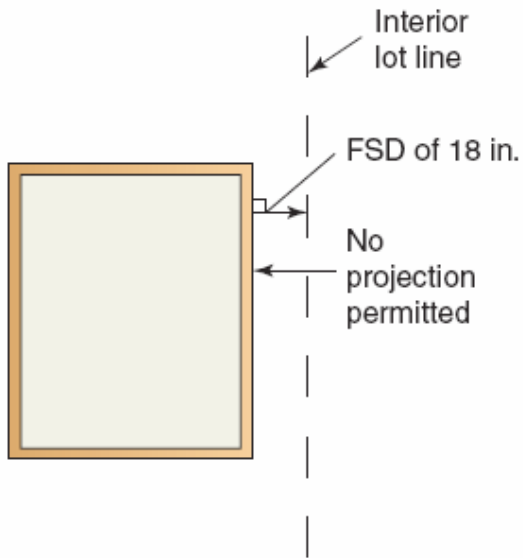
TABLE 705.2 Minimum Distance of Projection

<u>Fire Separation Distance (FSD)</u>	<u>Minimum Distance From Line Used To Determine FSD</u>
<u>0 feet to less than 2 feet</u>	<u>Projections not permitted</u>
<u>2 feet to less than 5 feet</u>	<u>24 inches</u>
<u>5 feet or greater</u>	<u>40 inches</u>

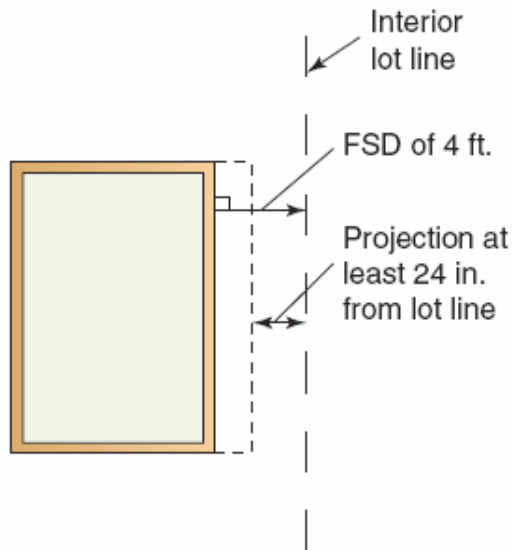


Examples

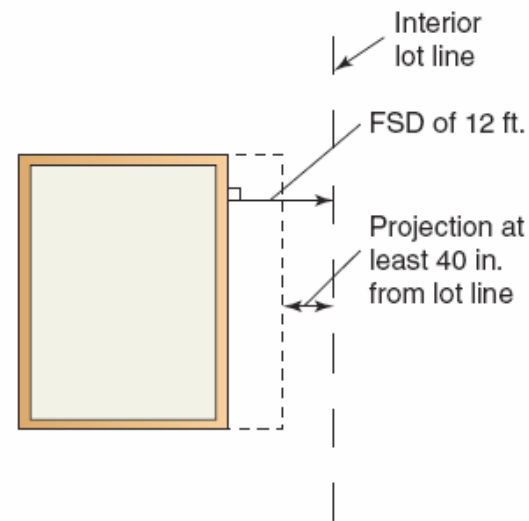
Example 1



Example 2



Example 3

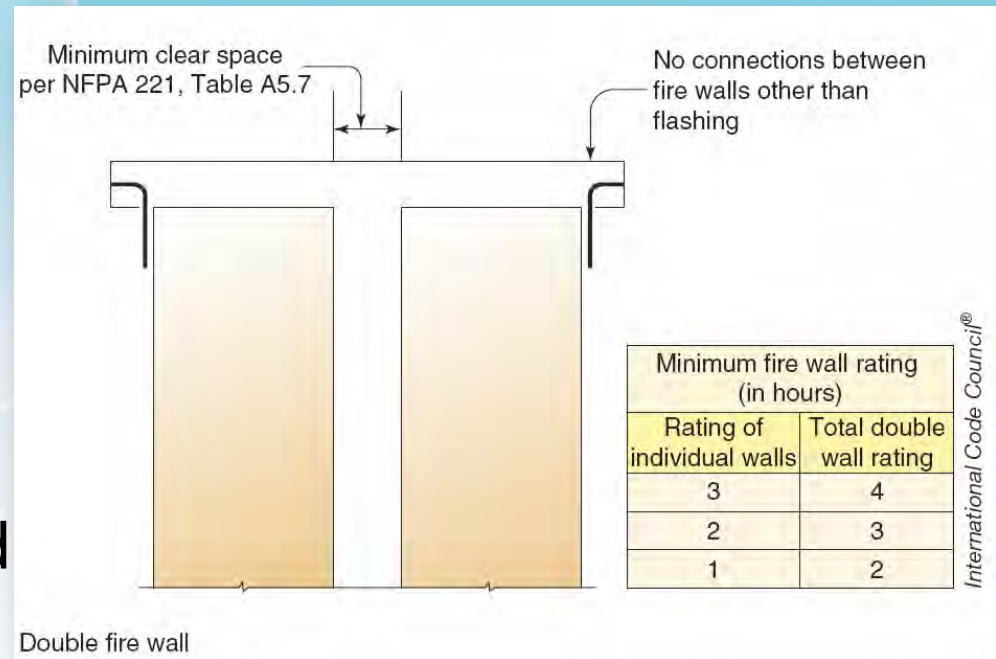


Maximum permitted projections

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706.2 Double Fire Walls

- **Addition**
- Use of a double fire wall complying with NFPA 221 now permitted as alternative to single fire wall.
- Each individual wall permitted to be reduced to 1-hour less than minimum required rating for single fire wall.



712 Vertical Openings

- **Clarification**
- Significant reformatting in Chapter 7 now places emphasis on presence of vertical openings rather than on shaft enclosures.
- Shaft enclosures (Section 713) now one of 16 vertical opening applications listed in Section 712



714.4.1.1.2 Floor Penetrations of Horizontal Assemblies

- **Modification**
- Through-penetration firestop systems used to protect floor penetrations of horizontal assemblies due to presence of floor, tub, and shower drains no longer required to have T rating.



Table 716.5 Opening Protection Ratings and Markings

Table 716.5 continued

Type of Assembly	Required Wall Assembly Rating (Hours)	Minimum Fire Door and Fire Shutter Assembly Rating (Hours)	Door Vision Panel Size	Fire-Rated Glazing Marking Door Vision Panel ^e	Minimum Sidelight/Transom Assembly Rating (Hours)		Fire-Rated Glazing Marking Sidelite/Transom Panel	
					Fire protection	Fire resistance	Fire protection	Fire resistance
Fire barriers having a required fire-resistance rating of 1 hour: Enclosures for shafts, exit access stairways, exit access ramps, interior exit stairways, interior exit ramps, and exit passageway walls	1	1	100 in. ² c, d	$\leq 100 \text{ in.}^2$ = D-H-60 $> 100 \text{ in.}^2$ = D-H-T-60 or D-H-T-W-60	Not Permitted	1	Not Permitted	W-60

(partial table)

FOR EXAMPLE



Example

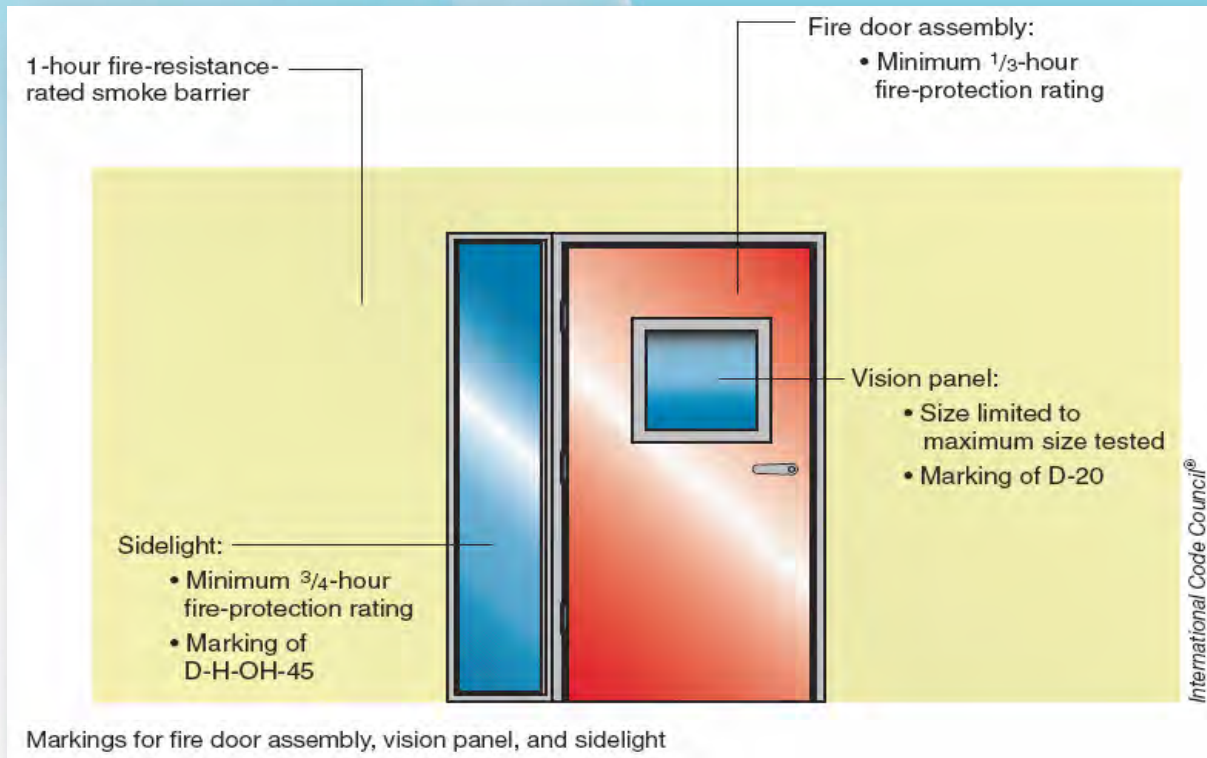


Table 716.6 Fire-Protection-Rated Glazing

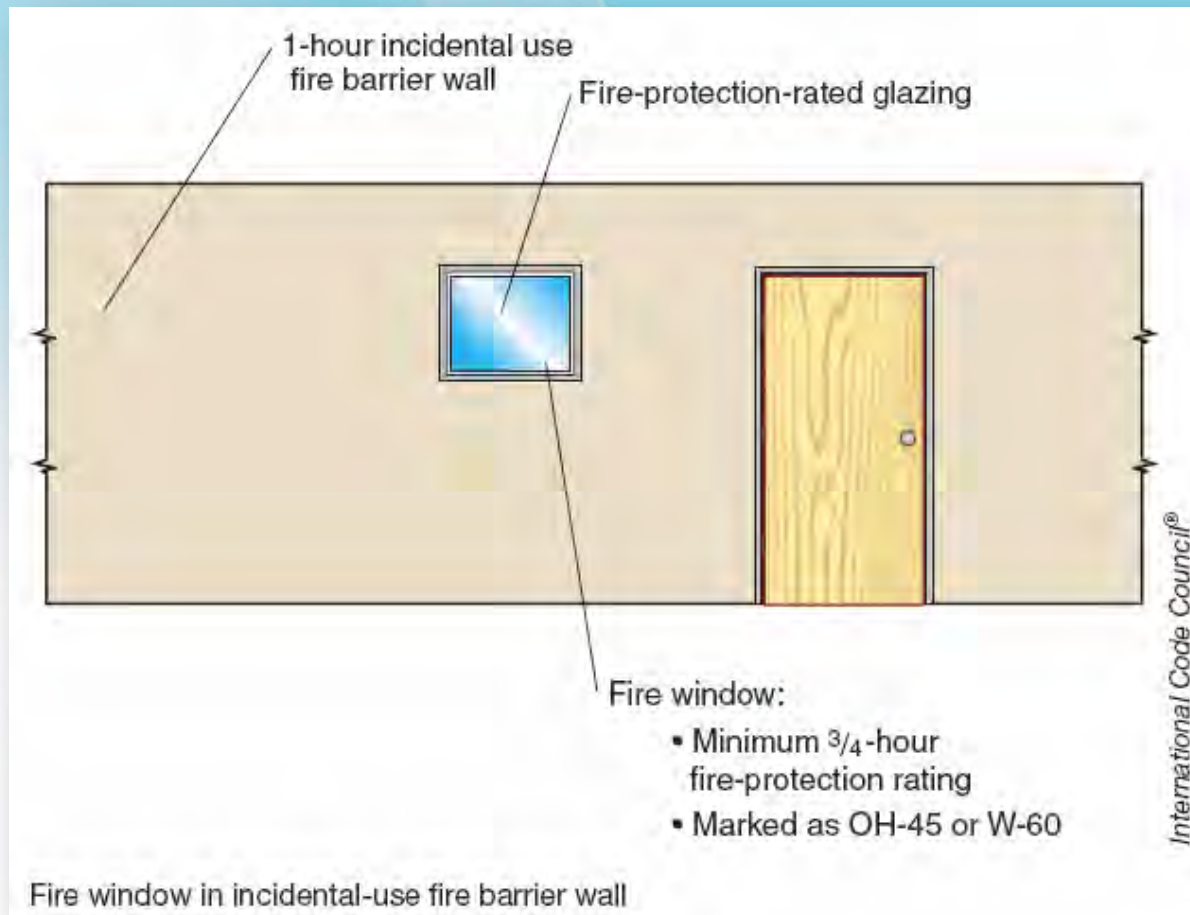
TABLE 715.5 716.6 Fire Window Assembly Fire-Protection Ratings

Type of Wall Assembly	Required Wall Assembly Rating (Hours)	Minimum Fire Window Assembly Rating (Hours)	Fire-Rated Glazing Marking
Interior walls			
Fire walls	All	NP ^a	W-XXX ^b
Fire barriers	>1	NP ^a	W-XXX ^b
	1	NP ^a	W-XXX ^b
<u>Incidental-use areas (707.3.6)</u>	1	¾	OH-45 or W-60
<u>Mixed-occupancy separations (707.3.8)</u>			
Fire partitions	1	¾	OH-45 or W-60
	0.5	½	OH-20 or W-30
Smoke barriers	1	¾	OH-45 or W-60
Exterior walls	>1	1½	OH-90 or W-XXX ^b
	1	¾	OH-45 or W-60
	0.5	½	OH-20 or W-30
Party wall	All	NP	Not applicable

NP – Not Permitted

- a. Not permitted except fire-resistance-rated glazing assemblies tested to ASTM E 119 or UL 263, as specified in Section 716.2.
- b. XXX = The fire rating duration period in minutes, which shall be equal to the fire resistance rating required for the wall assembly.

Table 716.6 Fire-Protection-Rated Glazing



903.2.4, 903.2.7, 903.2.9 Furniture Storage and Display in Group F-1, M, and S-1 Occupancies

- **Modification**
- Automatic sprinkler systems now required in occupancies where upholstered furniture or mattresses manufactured, stored, or displayed.
- Requirement previously limited only to Group M occupancies of any size floor area



903.2.4, 903.2.7, 903.2.9 Furniture Storage and Display in Group F-1, M, and S-1 Occupancies

- Group F-1
 - Where area used for manufacture of upholstered furniture or mattresses > 2,500 square feet
- Group M
 - Where area used for display and sale of upholstered furniture or mattresses > 5,000 square feet
- Group S-1
 - Where area used for storage of upholstered furniture or mattresses > 2,500 square feet

906.1 Portable Fire Extinguishers in Group R-2 Occupancies

- **Modification**
- Exception for elimination of portable fire extinguishers in Groups A, B and E with quick response sprinklers no longer available.
- Portable fire extinguishers no longer required in most public and common areas of Group R-2 occupancies provided complying extinguisher provided within each individual dwelling unit.



907.2.1.2 Emergency Voice/Alarm Communication Captions

- **Modification**
- Mass notification fire alarm signals in stadiums, arenas, and grandstands with more than 15,000 fixed seats now require captioned messages.



907.2.3 Group E Fire Alarm Systems

- **Modification**
- Manual fire alarm system now required in Group E occupancies with occupant load of more than 30.
- Emergency voice/alarm communications system now required



908.7 Carbon Monoxide Alarms

- **Addition**
- Single-station carbon monoxide (CO) alarms now required in buildings housing Group I or R occupancies where building:
 - Contains one or more fuel- burning appliances, or
 - Provided with attached garage.
- Individual units do not require single-station alarms where several conditions exist
- Installation to comply with NFPA 720
 - Located outside of sleeping room area and on every level of unit



1004.1.2, Table 1004.1.2 Design Occupant Load—Areas without Fixed Seating

- **Modification**
- Occupant load factor for museums and exhibit galleries established at 30 square feet per occupant.

TABLE 1004.1.1 1004.1.2 Maximum Floor Area Allowances per Occupant

Function of Space	Occupant Load Factor ^a Floor Area In Sq. Ft. Per Occupant
Assembly	
Gaming floors (keno, slots, etc.)	11 gross
<u>Exhibit gallery and museum</u>	<u>30 net</u>
<u>Mall buildings—covered and open</u>	<u>See Section 402.4.1</u>

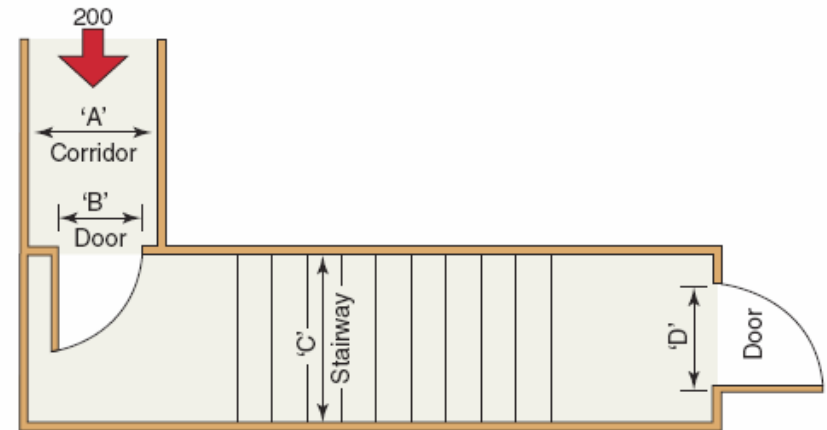
For SI: 1 square foot = 0.0929 m².

a. Floor area in square feet per occupant.

Note: (no changes to remainder of table)

1005 Means of Egress Capacity Determination

- **Modification**
- Reduced exit width factors established for sprinklered buildings provided with emergency voice/alarm communication system.
 - Stairways:
 - 0.2 inches per occupant
 - Other egress components:
 - 0.15 inches per occupant
- Not applicable to Group H and I-2 occupancies



Example : Assuming exit is serving 200 people

Component	Min width based on component (1005.2)	Min width based on occupant load (1005.3)	
		General ¹	Sprinklered building with EV/ACS ²
Corridor 'A'	44"	40"	30"
Door 'B'	32"	40"	30"
Stairway 'C'	44"	60"	40"
Door 'D'	32"	40"	30"

1. Building without sprinkler system or EV/ACS; (also includes Group H and I-2 occupancies)

2. Other than Group H and I-2 occupancies

Means of egress sizing

1009, 1010, 202 Interior Stairways and Ramps

- **Clarification**
- Interior means of egress stairways now include:
 - Interior exit stairways.
 - Exit component
 - Exit access stairways.
 - Not a required interior exit stairway.
 - Exit access component.



1009, 1010, 202 Interior Stairways and Ramps (cont.)

- Interior exit stairways:
 - Used where necessary to meet means of egress requirements for exits.
 - Regulated in Section 1022.
 - Must always be enclosed with fire-resistance-rated construction (only exception is for glazing in Group I-3 occupancies).

1009, 1010, 202 Interior Stairways and Ramps (cont.)

- Exit access stairways:
 - Used where travel in exit access acceptable.
 - Regulated in Section 1009.3.
 - Enclosure protection similar to that required for shaft enclosures.
 - Exceptions allow for unenclosed exit access stairways in manner similar to 2009 IBC.
 - New Exception 1 expands allowance for unenclosed stairways to serve two adjacent stories

1009.1 Application of Stairway Provisions

- **Clarification**
- Any stairway serving occupied portions of building to comply with Section 1009.
- Includes “convenience” stairways that are not a portion of a required means of egress.



1011.2 Floor-Level Exit Signs in Group R-1

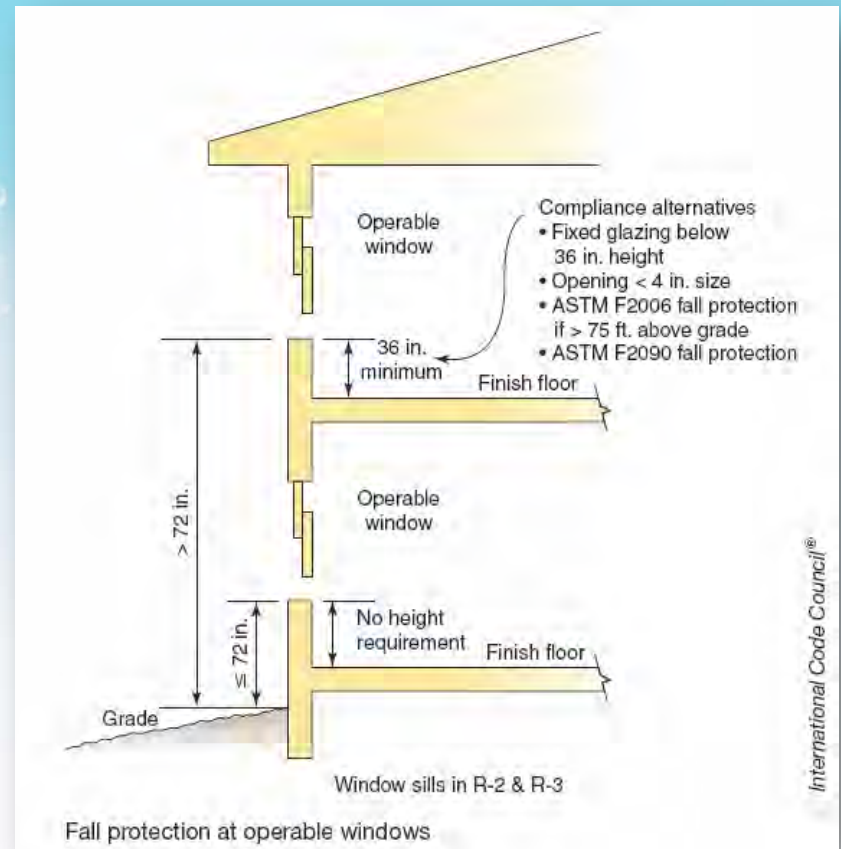
- **Addition**
- Where exit signs are required in Group R-1 occupancies, additional low-level exit signs must also be provided in means of egress serving guest rooms.
- Bottom of sign to be between 10 inches and 12 inches above floor level.



1013.1, 1013.8 Guards at Operable Windows

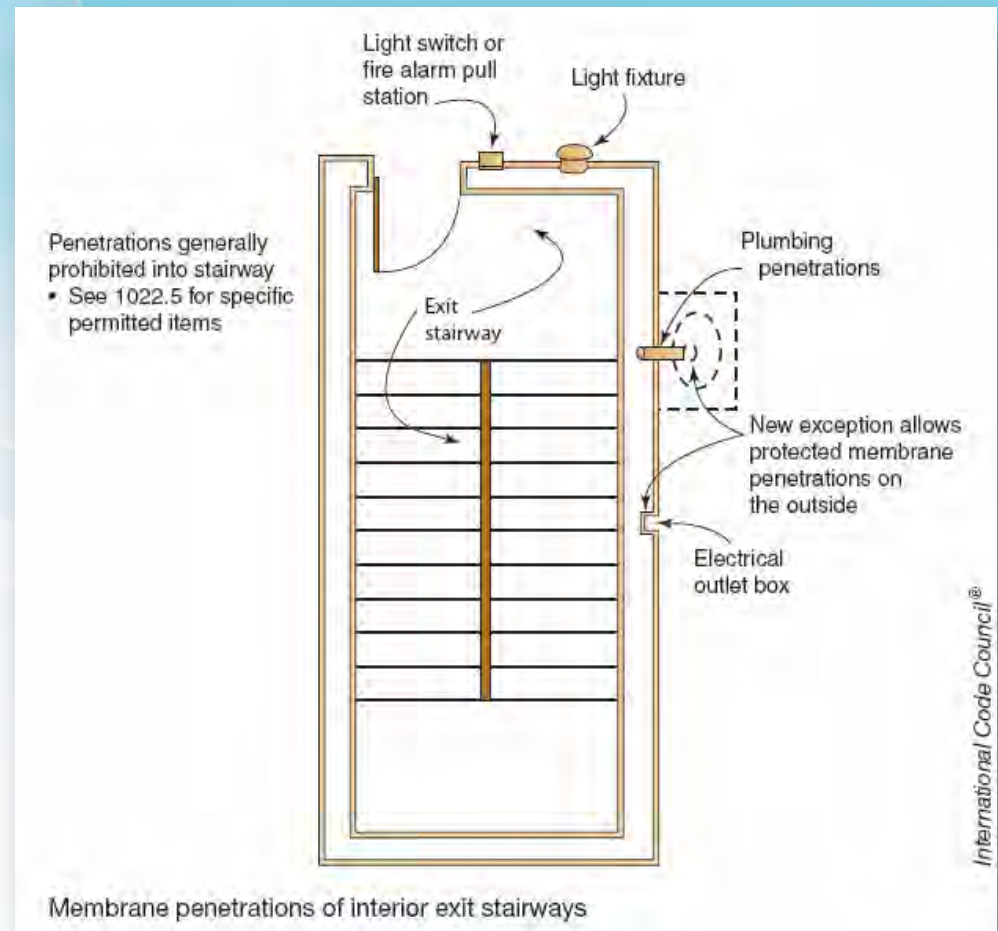
■ Modification

- Guard requirements for operable windows in Groups R-2 and R-3 having sill height more than 72 inches above finished grade relocated from Chapter 14 to general guard provisions of Chapter 10.
- Minimum window sill height at which guard is not required increased from 24 inches to 36 inches.



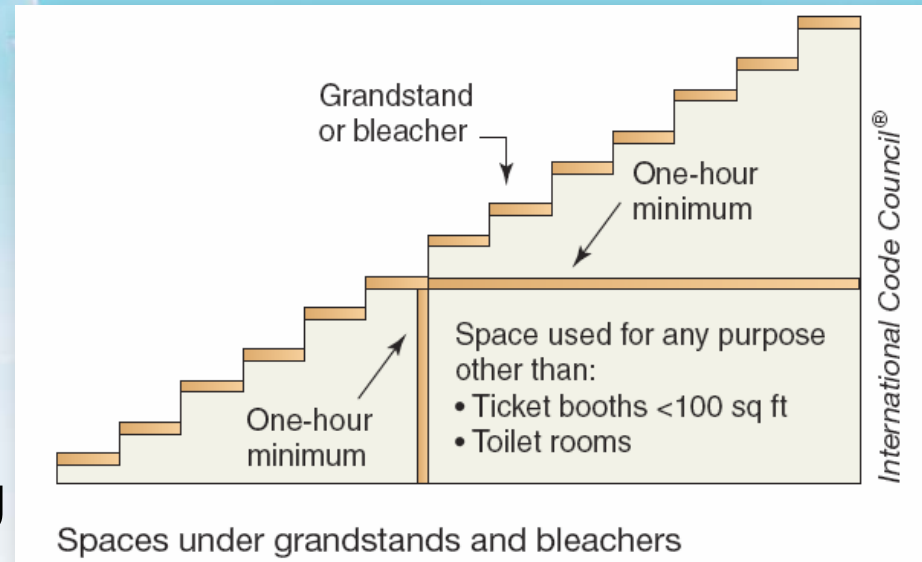
1022.5 Enclosure Penetrations of Interior Exit Stairways

- **Modification**
- Penetrations of outside membrane of a fire barrier utilized to enclose an interior exit stairway or ramp now permitted provided the penetration is properly protected.



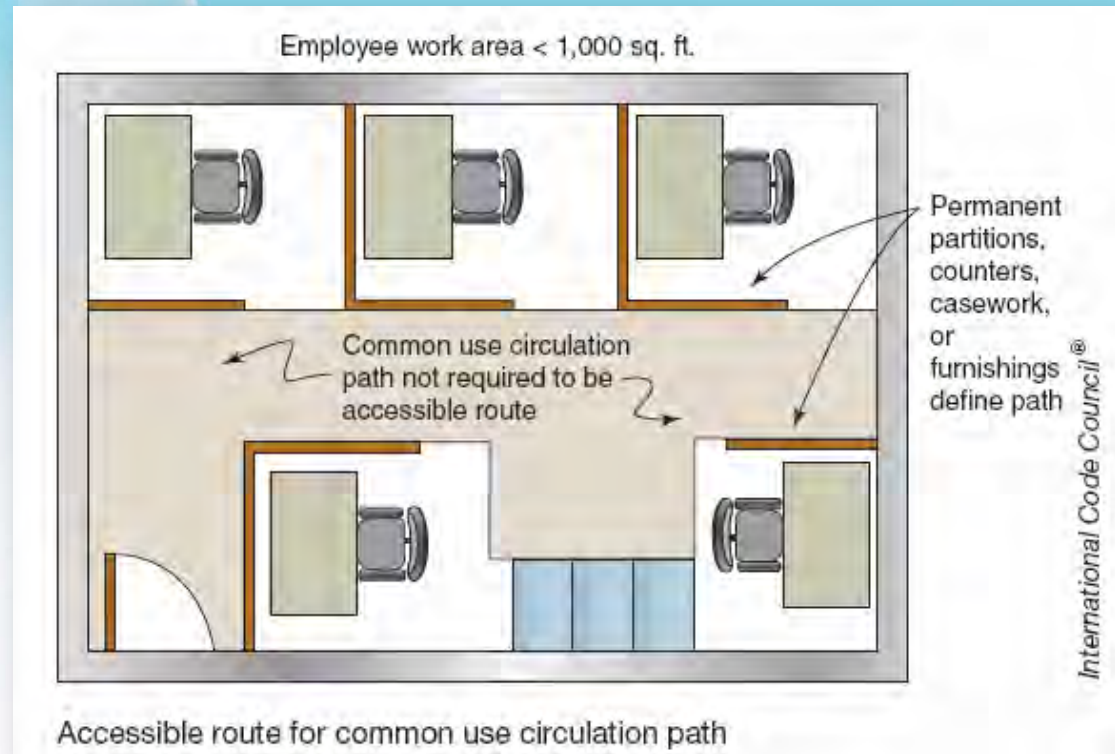
1028.1.1.1 Separation of Spaces Under Grandstands and Bleachers

- **Addition**
- Spaces beneath grandstands and bleachers now required to be separated by minimum 1-hour fire barriers and/or horizontal assemblies to protect the assembly seating area from any potential hazards below.
- Exception for small ticket booths and toilet rooms.



1104.3.1 Employee Work Areas

- **Modification**
- Where employee work area less than 1000 square feet in floor area, the common use circulation path need not meet accessible route requirements.
- Previous threshold at 300 square feet.



1108.2.7.3 Captioning of Public Address Announcements

- **Modification**
- Captioning of audible public announcements now only required for assembly spaces having a public address system and 15,000 or more seats.



1109.2, 1109.5 Accessible Children's Facilities

- **Modification**
- Toilet facilities and drinking fountains “primarily for children’s use” now considered as accessible elements when complying with A117.1.
 - Fountains for standing children permitted with spout at 30 inches minimum above floor.

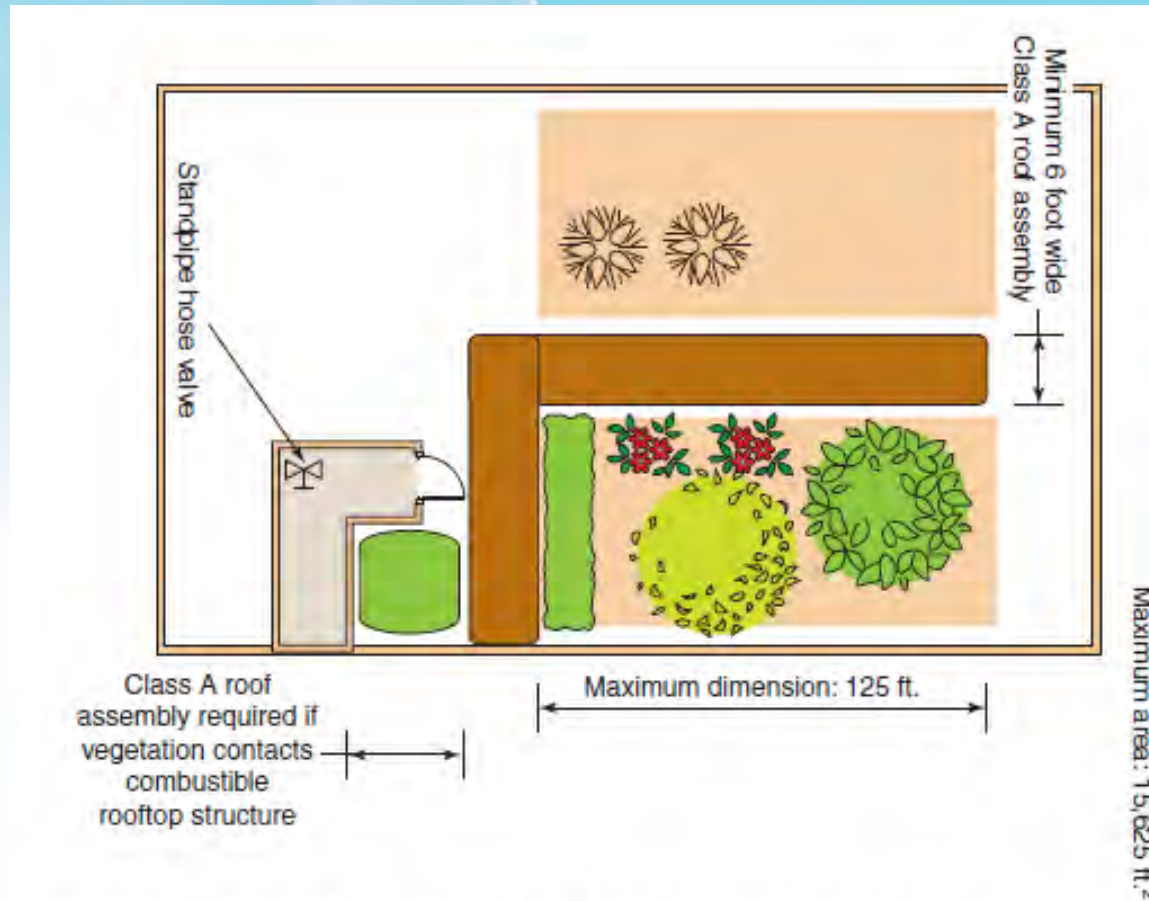


1507.16 Roof Gardens and Landscaped Roofs

- **Addition**
- New reference to IFC provisions addressing roof gardens and landscaped roofs.
- Footnote a to Table 601 not applicable for roof gardens or landscaped roofs.



1507.16 Roof Gardens and Landscaped Roofs



Summary of Section 317 requirements for roof gardens and landscaped roofs

Chapters 16-23

- **Primarily updates to new design and materials standards, including:**
 - **ASCE 7-10**
- **Revisions to special inspection provisions include:**
 - **Reference to applicable standards for quality assurance provisions for:**
 - **Structural steel**
 - **Masonry**
 - **Firestop systems and joint systems in:**
 - **Buildings of Risk Categories III and IV**
 - **High-rise buildings**

2406.2 Safety Glazing—Impact Test

■ Modification

- Default impact test criteria for safety glazing revised to impose the more restrictive test methodology.
- Higher impact requirements apply unless Tables 2406.2(1) and (2) allow for lower impact test to be used.

2406.2 Safety Glazing—Impact Test

TABLE 2406.2(1)
MINIMUM CATEGORY CLASSIFICATION OF GLAZING USING CPSC 16 CFR PART 1201

EXPOSED SURFACE AREA OF ONE SIDE OF ONE LITE	GLAZING IN STORM OR COMBINATION DOORS (Category class)	GLAZING IN DOORS (Category class)	GLAZED PANELS REGULATED BY SECTION 2406.4.3 (Category class)	GLAZED PANELS REGULATED BY SECTION 2406.4.2 (Category class)	DOORS AND ENCLOSURES REGULATED BY SECTION 2406.4.5 (Category class)	SLIDING GLASS DOORS PATIO TYPE (Category class)
9 square feet or less	I	I	No requirement	I	II	II
More than 9 square feet	II	II	II	II	II	II

For SI: 1 square foot = 0.0929 m².

TABLE 2406.2(2)
MINIMUM CATEGORY CLASSIFICATION OF GLAZING USING ANSI Z97.1

EXPOSED SURFACE AREA OF ONE SIDE OF ONE LITE	GLAZED PANELS REGULATED BY SECTION 2406.4.3 (Category class)	GLAZED PANELS REGULATED BY SECTION 2406.4.2 (Category class)	DOORS AND ENCLOSURES REGULATED BY SECTION 2406.4.5 ^a (Category class)
9 square feet or less	No requirement	B	A
More than 9 square feet	A	A	A

For SI: square foot = 0.0929 m².

a. Use is only permitted by the exception to Section 2406.2

2902.2 Single-User Toilet Facilities

- **Modification**
- Where separate sex toilet facilities required and only one water closet required in each facility, two family or assisted-use toilet rooms may now be provided as acceptable alternative.
- Separate sex facilities now required in Group M occupancies where occupant load > 100 .



2902.3 Toilet Facilities in Parking Garages

- **Modification**
- Public toilet facilities no longer required in open and enclosed parking garages.
- Employee toilet facilities not required in those garages that do not have parking attendants.



3411 Type B Units in Existing Buildings

- **Modification**
- Type B units now required in existing buildings when:
 - change of occupancy, or
 - alteration

and more than 50 percent of building affected.



For more information

- *Significant Changes to the International Building Code, 2012 Edition*
- *381 pages, full-color, addresses 162 code changes*
- *www.iccsafe.org*

