

FS37-06/07

402.4.6, 402.7.1, 403.2, [F]404.3, 410.5.1, 410.5.2, [F]415.6.1.2, [F]415.6.2.2, [F]415.6.3.4.1, [F]415.6.3.5.2, [F]415.7.1, [F]415.7.3, [F]415.8.2.2, 415.8.5.2.1, 415.8.5.2.2, [F]416.2, [F]418.4, [F]418.5, [F]418.6, 706.3.3, 706.3.9, Table 706.3.9, 707.11, 707.13.3, 707.13.4, 712.3, 901.7, 903.2, [F]909.11 (IMC 513.11 & IFC 909.11), 909.20.2, 909.20.6.1, [F]910.3.4, [F]910.4.4, 1021.3 (IFC [B] 1021.3), 1022.2 (IFC [B] 1022.2) 3006.4, 3104.5, 3410.6.16.1 (IEBC [B] 1301.6.16.1)

Proponent: Philip Brazil, P.E, Reid Middleton, Inc., representing himself

THIS PROPOSAL IS ON THE AGENDA OF THE IBC FIRE SAFETY, IBC GENERAL AND IBC MEANS OF EGRESS AND IFC CODE DEVELOPMENT COMMITTEES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IBC FIRE SAFETY

706.3.3 Exit passageway. The fire-resistance rating of the ~~separation between~~ fire barrier separating building areas and from an exit passageway shall comply with Section ~~1021.4~~ 1021.3.

706.3.9. Single-occupancy fire areas. The fire barriers or horizontal ~~assembly~~ assemblies, or both, separating a single occupancy into different fire areas shall have a fire-resistance rating of not less than that indicated in Table 706.3.9.

707.11 Enclosure at the bottom. Shafts that do not extend to the bottom of the building or structure shall comply with one of the following:

1. They shall be enclosed at the lowest level with construction of the same fire-resistance rating as the lowest floor through which the shaft passes, but not less than the rating required for the shaft enclosure; 2.
2. They shall terminate in a room having a use related to the purpose of the shaft. The room shall be separated from the remainder of the building by a fire barriers constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both. ~~having a~~ The fire-resistance rating and opening protectives shall be at least equal to the protection required for the shaft enclosure; ~~or.~~ 2.
3. They shall be protected by approved fire dampers installed in accordance with their listing at the lowest floor level within the shaft enclosure.

Exceptions:

1. The fire-resistance-rated room separation is not required, provided there are no openings in or penetrations of the shaft enclosure to the interior of the building except at the bottom. The bottom of the shaft shall be closed off around the penetrating items with materials permitted by Section 717.3.1 for draftstopping, or the room shall be provided with an approved automatic fire suppression system.
2. A shaft enclosure containing a refuse chute or laundry chute shall not be used for any other purpose and shall terminate in a room protected in accordance with Section 707.13.4.

3. The fire-resistance-rated room separation and the protection at the bottom of the shaft are not required provided there are no combustibles in the shaft and there are no openings or other penetrations through the shaft enclosure to the interior of the building.

707.13.3 Refuse and laundry chute access rooms. Access openings for refuse and laundry chutes shall be located in rooms or compartments enclosed by a not less than 1-hour fire barriers constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both that has a fire-resistance rating of not less than 1 hour. Openings into the access rooms shall be protected by opening protectives having a fire protection rating of not less than 3/4 hour. Doors shall be self- or automatic closing upon the detection of smoke in accordance with Section 715.4.7.3.

707.13.4 Termination room. Refuse and laundry chutes shall discharge into an enclosed room separated from the remainder of the building by a not less than 1-hour fire barriers constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both that has a fire-resistance rating of not less than 1 hour. Openings into the termination room shall be protected by opening protectives having a fire protection rating of not less than 3/4 hour. Doors shall be self- or automatic closing upon the detection of smoke in accordance with Section 715.4.7.3. Refuse chutes shall not terminate in an incinerator room. Refuse and laundry rooms that are not provided with chutes need only comply with Table 508.2.

712.3 Fire-resistance-rated walls. Penetrations into or through fire walls, fire barriers walls, smoke barrier walls, and fire partitions shall comply with Sections 712.3.1 through 712.3.4.

901.7 Fire areas. Where buildings, or portions thereof, are divided into fire areas so as not to exceed the limits established for requiring a fire protection system in accordance with this chapter, such fire areas shall be separated by fire barriers constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both having a fire-resistance rating of not less than that determined in accordance with Section 706.3.9.

[B] 909.20.2 Construction. The smokeproof enclosure shall be separated from the remainder of the building by not less than a 2-hour fire barriers constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both. ~~without~~ Openings are not permitted other than the required means of egress doors. The vestibule shall be separated from the stairway by not less than a 2-hour fire barriers constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both. The open exterior balcony shall be constructed in accordance with the fire-resistance-rating requirements for floor construction.

[B] 909.20.6.1 Ventilation systems. Smokeproof enclosure ventilation systems shall be independent of other building ventilation systems. The equipment and ductwork shall comply with one of the following:

1. Equipment and ductwork shall be located exterior to the building and directly connected to the smokeproof enclosure or connected to the smokeproof enclosure by ductwork enclosed by not less than 2-hour fire barriers constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both.
2. Equipment and ductwork shall be located within the smokeproof enclosure with intake or exhaust directly from and to the outside or through ductwork enclosed by not less than 2-hour fire barriers constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both.
3. Equipment and ductwork shall be located within the building if separated from the remainder of the building, including other mechanical equipment, by not less than 2-hour fire barriers constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both.

PART II – IBC GENERAL

Revise as follows:

402.4.6 Service areas fronting on exit passageways. Mechanical rooms, electrical rooms, building service areas and service elevators are permitted to open directly into exit passageways, provided the exit passageway is separated from such rooms with not less than 1-hour ~~fire-resistance-rated~~ fire barriers and 1-hour opening protectives constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both. The minimum fire-protection rating of openings in the fire barriers shall be 1 hour.

402.7.1 Attached garage. An attached garage for the storage of passenger vehicles having a capacity of not more than nine persons and open parking garages shall be considered as a separate building where it is separated from the covered mall building by a not less than 2-hour fire barriers having a fire-resistance rating of at least 2 hours constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both.

Exception: Where an open parking garage or enclosed parking garage is separated from the covered mall building or anchor building a distance greater than 10 feet (3048 mm), the provisions of Table 602 shall apply. Pedestrian walkways and tunnels which attach the open parking garage or enclosed parking garage to the covered mall building or anchor building shall be constructed in accordance with Section 3104.

410.5.1 Separation from stage. ~~Where the stage height is greater than 50 feet (15 240 mm),~~ The stage shall be separated from dressing rooms, scene docks, property rooms, workshops, storerooms and compartments appurtenant to the stage and other parts of the building by a fire barriers ~~with not less than a 2-hour fire-resistance rating with approved opening protectives~~ constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both. The minimum fire-resistance rating shall be 2 hours for stage heights greater than 50 feet (15 240 mm) and 1 hour for stage heights of 50 feet (15 240 mm) or less, the required stage separation shall be a fire barrier with not less than a 1-hour fire-resistance rating with approved opening protectives.

410.5.2 Separation from each other. Dressing rooms, scene docks, property rooms, workshops, storerooms and compartments appurtenant to the stage shall be separated from each other by not less than 1-hour fire barriers with not less than a 1-hour fire-resistance rating with approved opening protectives constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both.

3006.4 Machine rooms and machinery spaces. Elevator machine rooms and machinery spaces shall be enclosed with fire barriers constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, ~~or both with a~~ The fire-resistance rating shall not be less than the required rating of the hoistway enclosure served by the machinery. Openings in the fire barriers shall be protected with assemblies having a fire protection rating not less than that required for the hoistway enclosure doors.

3104.5 Fire barriers between pedestrian walkways and buildings. Walkways shall be separated from the interior of the building by not less than 2-hour fire barriers walls with a fire-resistance rating of not less than 2 hours constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both. This protection shall extend vertically from a point 10 feet (3048 mm) above the walkway roof surface or the connected building roof line, whichever is lower, down to a point 10 feet (3048 mm) below the walkway and horizontally 10 feet (3048 mm) from each side of the pedestrian walkway. Openings within the 10-foot (3048 mm) horizontal extension of the protected walls beyond the walkway shall be equipped with devices providing a 3/4-hour fire protection rating in accordance with Section 715.

Exception: The walls separating the pedestrian walkway from a connected building are not required to have a fire-resistance rating by this section where any of the following conditions exist:

1. The distance between the connected buildings is more than 10 feet (3048 mm), the pedestrian walkway and connected buildings, except for open parking garages, are equipped throughout with an automatic sprinkler system in accordance with ~~NFPA-13~~ Section 903.3.1.1 and the wall is constructed of a tempered, wired or laminated glass wall and doors subject to the following:
 - 1.1. The glass shall be protected by an automatic sprinkler system in accordance with ~~NFPA-13~~ Section 903.3.1.1 and the sprinkler system shall completely wet the entire surface of interior sides of the glass wall when actuated.
 - 1.2. The glass shall be in a gasketed frame and installed in such a manner that the framing system will deflect without breaking (loading) the glass before the sprinkler operates.
 - 1.3. Obstructions shall not be installed between the sprinkler heads and the glass.
2. The distance between the connected buildings is more than 10 feet (3048 mm) and both sidewalls of the pedestrian walkway are at least 50 percent open with the open area uniformly distributed to prevent the accumulation of smoke and toxic gases.
3. Buildings are on the same lot in accordance with Section 503.1.2.
4. Where exterior walls of connected buildings are required by Section 704 to have a fire-resistance rating greater than 2 hours, the walkway shall be equipped throughout with an automatic sprinkler system installed in accordance with ~~NFPA-13~~ Section 903.3.1.1.

3410.6.16.1 (IEBC [B] 1301.6.16.1) Categories. The categories for mixed occupancies are:

1. Category a — ~~Minimum 1-hour fire barriers between~~ Occupancies separated by minimum 1-hour fire barriers or minimum 1-hour horizontal assemblies, or both.
2. Category b — ~~Fire barriers~~ Separations between occupancies in accordance with Section 508.3.3.
3. Category c — ~~Fire barriers~~ Separations between occupancies having a fire-resistance rating of not less than twice that required by Section 508.3.3.

PART III – IBC MEANS OF EGRESS

1021.3 (IFC 1021.3) Construction. Exit passageway enclosures shall have walls, floors and ceilings of not less than 1-hour fire-resistance rating, and not less than that required for any connecting exit enclosure. Exit passageways shall be constructed as fire barriers in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both.

1022.2 (IFC 1022.2) Separation. The separation between buildings or areas of refuge connected by a horizontal exit shall be provided by a fire wall complying with Section 705; or it shall be provided by a fire barrier complying with Section 706 or a horizontal assembly complying with Section 711, or both. ~~and having a~~. The minimum fire-resistance rating of ~~not less than~~ the separation shall be 2 hours. Opening protectives in horizontal exit walls shall also comply with Section 715. The horizontal exit separation shall extend vertically through all levels of the building unless floor assemblies have a fire resistance rating of not less than 2 hours with no unprotected openings.

Exception: A fire-resistance rating is not required at horizontal exits between a building area and an above-grade pedestrian walkway constructed in accordance with Section 3104, provided that the distance between connected buildings is more than 20 feet (6096 mm).

Horizontal exit walls constructed as fire barriers shall be continuous from exterior wall to exterior wall so as to divide completely the floor served by the horizontal exit.

PART IV – IFC

Revise as follows:

[F] 403.2 Automatic sprinkler system. Buildings and structures shall be equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 and a secondary water supply where required by Section 903.3.5.2.

Exception: An automatic sprinkler system shall not be required in spaces or areas of:

1. Open parking garages in accordance with Section 406.3.
2. Telecommunications equipment buildings used exclusively for telecommunications equipment, associated electrical power distribution equipment, batteries and standby engines, provided that those spaces or areas are equipped throughout with an automatic fire detection system in accordance with Section 907.2 and are separated from the remainder of the building by not less than 1-hour fire barriers consisting of not less than 1-hour fire-resistance-rated walls and constructed in accordance with Section 706 or not less than 2-hour fire-resistance-rated floor/ceiling horizontal assemblies constructed in accordance with Section 711, or both.

[F] 404.3 Automatic sprinkler protection. An approved automatic sprinkler system shall be installed throughout the entire building.

Exceptions:

1. That area of a building adjacent to or above the atrium need not be sprinklered provided that portion of the building is separated from the atrium portion by not less than a 2-hour ~~fire-resistance-rated~~ fire barriers constructed in accordance with Section 706 or horizontal assembly assemblies constructed in accordance with Section 711, or both.
2. Where the ceiling of the atrium is more than 55 feet (16 764 mm) above the floor, sprinkler protection at the ceiling of the atrium is not required.

[F] 415.6.1.2 Grinding rooms. Every room or space occupied for grinding or other operations that produce combustible dusts shall be enclosed with fire barriers constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both. ~~that have not less than a 2-hour~~ The minimum fire-resistance rating shall be 2-hours where the area is not more than 3,000 square feet (279 m²), and ~~not less than a 4-hour fire-resistance rating~~ 4 hours where the area is greater than 3,000 square feet (279 m²).

[F] 415.6.2.2 Tank protection. Storage tanks shall be noncombustible and protected from physical damage. A ~~Fire barriers wall~~ or horizontal assemblies or both around the storage tank(s) shall be permitted as the method of protection from physical damage.

[F] 415.6.3.4.1 Fire separation. ~~Separation of the Attached structures shall be provided~~ separated from the building by fire barriers constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both. ~~having a~~ The minimum fire-resistance rating of ~~not less than~~ shall be 1 hour and the fire barriers

shall not have openings. ~~Fire barriers between attached structures occupied only for the storage of LP-gas are permitted to have fire door assemblies that comply with Section 715.~~ Such fire barriers and horizontal assemblies shall be designed to withstand a static pressure of at least 100 pounds per square foot (psf) (4788 Pa), except where the building to which the structure is attached is occupied by operations or processes having a similar hazard.

Exception: Fire barriers between attached structures occupied only for the storage of LP-gas are permitted to have fire door assemblies complying with Section 715.

~~**[F] 415.6.3.5.2 Common construction.** Walls and floor/ceiling assemblies common to the room and to the building within which the room is located shall be fire barriers with not less than a 1-hour fire-resistance rating and without openings. Common walls for rooms occupied only for storage of LP-gas are permitted to have opening protectives complying with Section 715. The walls and ceilings shall be designed to withstand a static pressure of at least 100 psf (4788 Pa).~~

~~**Exception:** Where the building, within which the room is located, is occupied by operations or processes having a similar hazard.~~

[F] 415.6.3.5.2 Fire separation. The rooms shall be separated from the building by fire barriers constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both. The minimum fire-resistance rating shall be 1 hour and the fire barriers shall not have openings. Such fire barriers and horizontal assemblies shall be designed to withstand a static pressure of at least 100 pounds per square foot (4788 Pa), except where the building, within which the room is located, is occupied by operations or processes having a similar hazard.

Exception: Fire barriers between common walls occupied only for the storage of LP-gas are permitted to have opening protectives complying with Section 715.

[F] 415.7.1 Gas rooms. When gas rooms are provided, such rooms shall be separated from other areas by not less than a 1-hour fire barriers constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both.

[F] 415.7.3 Separation - highly toxic solids and liquids. Highly toxic solids and liquids not stored in approved hazardous materials storage cabinets shall be isolated from other hazardous materials storage by a not less than 1-hour fire barriers constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both having a fire-resistance rating of not less than 1 hour.

[F] 415.8.2.2 Separation. Fabrication areas, whose sizes are limited by the quantity of hazardous materials allowed by Table 415.8.2.1.1, shall be separated from each other, from corridors, and from other parts of the building by not less than 1-hour fire barriers constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both.

Exceptions:

1. Doors within such fire barrier walls, including doors to corridors, shall be only self-closing fire door assemblies having a fire-protection rating of not less than 3/4 hour.
2. Windows between fabrication areas and corridors are permitted to be fixed glazing listed and labeled for a fire protection rating of at least 3/4 hour in accordance with Section 715.

[F] 415.8.5.2.1 HPM rooms and gas rooms. HPM rooms and gas rooms shall be separated from other areas by not less than a 2-hour fire barriers constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both. The minimum fire-resistance rating shall be 2-hours where the area is 300 square feet (27.9 m²) or more and not less than a 1-hour fire barrier 1 hour where the area is less than 300 square feet (27.9 m²).

[F] 415.8.5.2.2 Liquid storage rooms. Liquid storage rooms shall be constructed in accordance with the following requirements:

1. Rooms in excess of 500 square feet (46.5 m²) shall have at least one exterior door approved for fire department access.
2. Rooms shall be separated from other areas by fire barriers ~~having a~~ constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both. The fire-resistance rating ~~of~~ shall be not less than 1-hour for rooms up to 150 square feet (13.9 m²) in area and not less than 2 hours where the room is more than 150 square feet (13.9 m²) in area.

3. Shelving, racks and wainscoting in such areas shall be of noncombustible construction or wood of not less than 1/2 inch (12.5 mm) nominal thickness.
4. Rooms used for the storage of Class I flammable liquids shall not be located in a basement.

[F] 416.2 Spray rooms. Spray rooms shall be enclosed with not less than 1-hour fire barriers constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both ~~with not less than a 1-hour fire resistance rating~~. Floors shall be waterproofed and drained in an approved manner.

[F] 418.4 Tank storage. Storage areas for flammable and combustible liquid tanks inside of structures shall be located at or above grade and shall be separated from the processing area by not less than 2-hour fire barriers constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both.

[F] 418.5 Nitrocellulose storage. Nitrocellulose storage shall be located on a detached pad or in a separate structure or a room enclosed with no less than 2-hour fire barriers constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both.

[F] 418.6 Finished products. Storage rooms for finished products that are flammable or combustible liquids shall be separated from the processing area by not less than 2-hour fire barriers having a fire resistance rating of at least 2 hours, and openings in the walls shall be protected with approved opening protectives constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both.

[F] 420.4 Design and construction. Hydrogen cutoff rooms shall be classified with respect to occupancy in accordance with Section 302.1 and separated from other areas of the building by not less than 1-hour fire barriers constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both; or as required by Section 508.2 or 508.3 as applicable.

[F] 420.4.1 Opening protectives. Doors within ~~such~~ the fire barriers walls, including doors to corridors, shall be self-closing in accordance with Section 715. Interior door openings shall be electronically interlocked to prevent operation of the hydrogen system when doors are opened or ajar or the room shall be provided with a mechanical exhaust ventilation system designed in accordance with Section 420.4.1.1.

[F] 903.2 Where required. Approved automatic sprinkler systems in new buildings and structures shall be provided in the locations described in this section.

Exception: Spaces or areas in telecommunications buildings used exclusively for telecommunications equipment, associated electrical power distribution equipment, batteries and standby engines, provided those spaces or areas are equipped throughout with an automatic fire alarm system and are separated from the remainder of the building by not less than 1 hour fire barriers consisting of not less than 1-hour fire resistance-rated walls and constructed in accordance with Section 706 or not less than 2-hour fire resistance-rated floor/ceiling horizontal assemblies constructed in accordance with Section 711, or both.

[F] 909.11 (IMC [F] 513.11, IFC 909.11) Power systems. The smoke control system shall be supplied with two sources of power. Primary power shall be the normal building power systems. Secondary power shall be from an approved standby source complying with the ICC *Electrical Code*. The standby power source and its transfer switches shall be in a separate room separate from the normal power transformers and switch gear and ventilated directly to and from the exterior. ~~The room shall be enclosed in a room constructed of with~~ not less than 1-hour fire barriers ventilated directly to and from the exterior constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both. Power distribution from the two sources shall be by independent routes. Transfer to full standby power shall be automatic and within 60 seconds of failure of the primary power. The systems shall comply with this code or the ICC *Electrical Code*.

[F] 910.3.4 Vent locations. Smoke and heat vents shall be located 20 feet (6096 mm) or more from adjacent lot lines and fire walls and 10 feet (3048 mm) or more from fire barriers walls. Vents shall be uniformly located within the roof area above high-piled storage areas, with consideration given to roof pitch, draft curtain location, sprinkler location and structural members.

[F] 910.4.4 Wiring and control. Wiring for operation and control of smoke exhaust fans shall be connected ahead of the main disconnect and protected against exposure to temperatures in excess of 1,000°F (538°C) for a period of not less than 15 minutes. Controls shall be located so as to be immediately accessible to the fire service from the exterior of the building and protected against interior fire exposure by not less than 1-hour fire barriers having a fire resistance rating not less than 1-hour constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both.

Reason: Code change proposal FS2-04/05 (AMPC1) changed the concept of a fire barrier from being a fire containment assembly to begin a component of a fire containment assembly. This was accomplished by changing the definition of fire barrier from begin a vertical or horizontal assembly to being a wall assembly and by deleting the provisions for horizontal fire barriers. The proposal made the necessary revisions to several

sections of the IBC for consistency with the change in concept (i.e., Sections 403.10.1, 404.5, 414.2.1, 508.2.2.1, 508.3.3.4.1, 706.3.5, 706.3.7, 706.3.9, 707.5, 911.1 and 1020.1). The proposal, however, did not make the necessary revisions to other sections of the IBC, which are needed in order for the concept to be fully incorporated into the provisions of the IBC. The purpose of this proposal is to make the necessary revisions to the provisions in those code sections.

Cost Impact: The code change proposal will not increase the cost of construction.

PART I – IBC FIRE SAFETY

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

PART II – IBC GENERAL

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

PART III – IBC MEANS OF EGRESS

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

PART IV – IFC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF
