

BCBC 2012 CHANGES TO PART 3

- Focus on changes that will have a practical effect.
- Basic concepts reviewed – details to be confirmed.
- Material from Part 3 and related material from Part 9
- Generally a harmonization of Part 3 and Part 9
- Significant changes in related standards not covered here , such as Fire Code , Window Standards , Elevator Standard.
- Fire Code changes include strengthening requirements for site fire safety planning by builders.

CODE CYCLE

- NBC 2010 ISSUED DEC. 2010
- BCBC 2012 ISSUED OCTOBER 2012
- BCBC 2012 TO BE ENACTED DEC 20 2012

TOPICS

- FIRESTOPPING , FIREBLOCKING & COMBUSTIBLE PENETRATIONS
- COMBUSTIBLE CLADDING ON NON-COMBUSTIBLE BUILDINGS
- SPATIAL SEPARATION
- SMOKE ALARMS
- EXIT SIGNS
- HIGH RISE CONDUCTOR PROTECTION
- HAZARDOUS AREAS
- RESIDENTIAL CARE FACILITIES
- GROUP A2 LOW OCCUPANT LOAD OCCUPANCIES
- STAIRS, RAMPS & HANDRAILS
- WINDOW OPENINGS & GUARDS
- EGRESS FROM A ROOM
- ELEVATOR REQUIREMENTS
- ASSEMBLY SEATING

FIRESTOPPING , FIREBLOCKING & COMBUSTIBLE PENETRATIONS

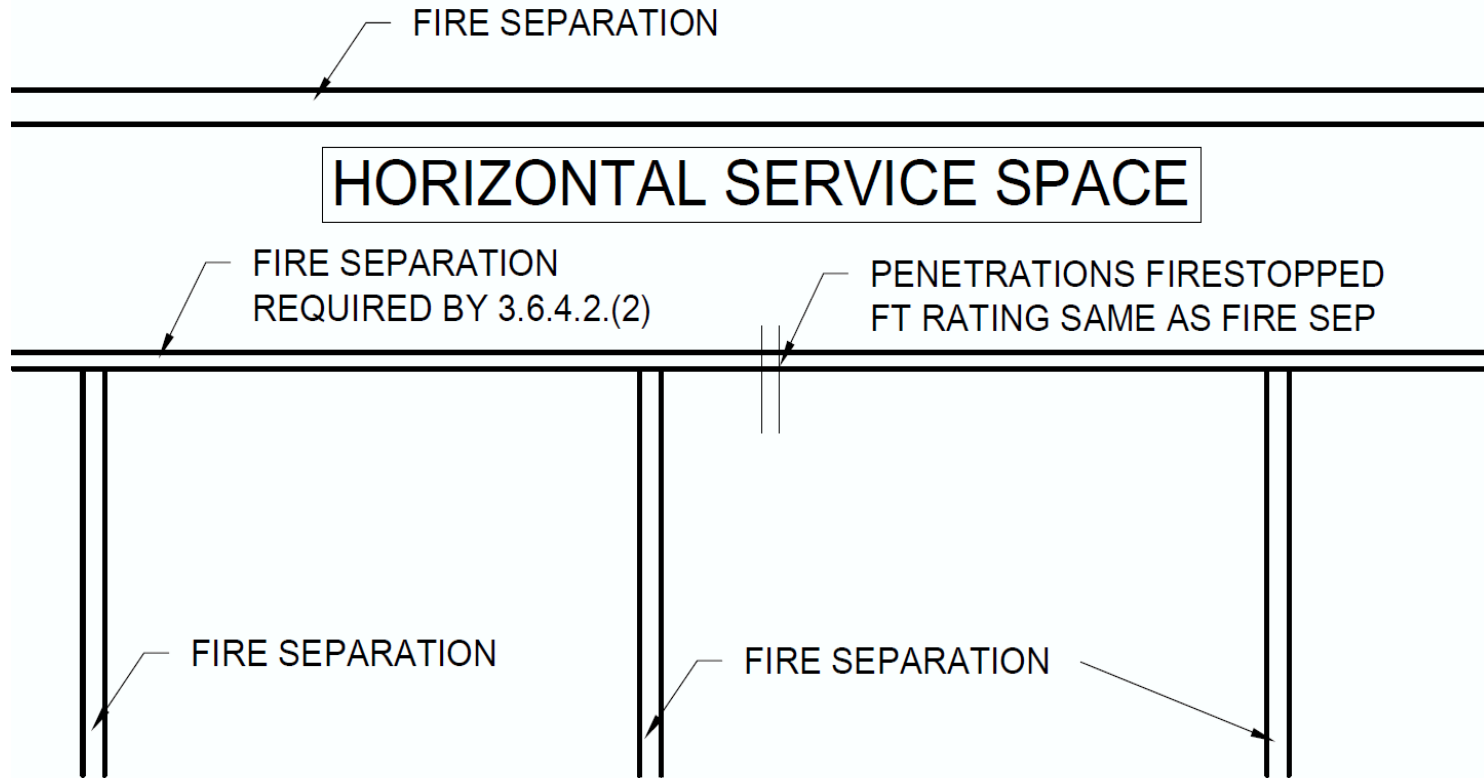
- 3.1.9. Penetrations in Fire Separations and Fire Rated assemblies
- 3.1.11 Fire Blocks in Concealed Spaces
- 9.10.9 Fire Separations and Smoke Tight Barriers Between Rooms and Spaces Within Buildings
- 9.10.16 Fire Blocks



- Most changes to these sections are editorial, in organization of code items only
- A new requirement has been added:

3.1.9.1.(3)

Penetrations of a fire separation in conformance with Sentence 3.6.4.2.(2) shall be sealed by a fire stop that, when subjected to the fire test method in CAN/ULC-S115, "Fire Tests of Firestop Systems," has an **FT rating** not less than the fire-resistance rating for the fire separation of the assembly.



SECTION

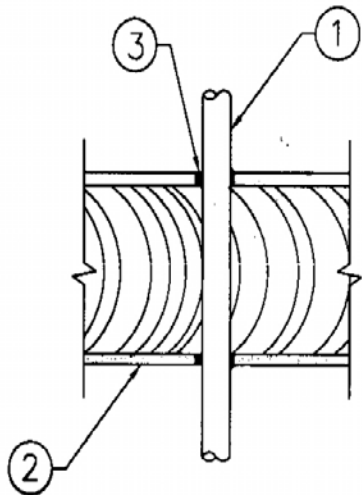


Single Penetrations

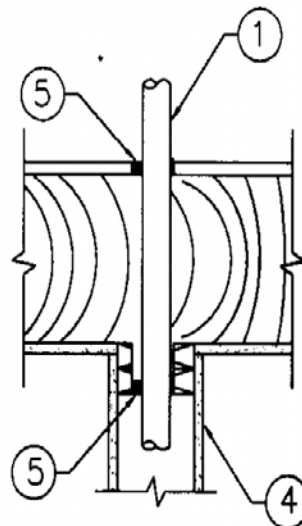
Horizontal (floor/ceiling)

Test Standards: ASTM E-814, UL 1479 – Non-metallic Open and Closed Systems
 ULC S115-M05** – Non-metallic Closed Systems
 Positive Pressure Differential – 2.5 Pa (0.01 in. of water) Minimum

Penetrating Material & Size	Design Number	Max Hole Size	Annular Space	ASTM E-814		ULC S115-M05		
				“F”	“T”	“F”	“FH”	“FT”
PVC up to 1-1/2 in.	A	2-1/2”	0” – 1/2”	1 hour	50 min	1 hour	1 hour	50 min
PVC up to 2 in.	A	3”	0” – 1/2”	N/A	N/A	1 hour	N/A	15 min
Nonmetallic Rigid Conduit up to 1-1/2 in.	A	2-1/2”	0” – 1/2”	1 hour	50 min	1 hour	1 hour	50 min
Nonmetallic Rigid Conduit up to 2 in.	A	3”	0” – 1/2”	N/A	N/A	1 hour	N/A	15 min
PEX up to 1 in	A	2”	0” – 1/2”	1 hour	10 min	1 hour	1 hour	10 min
CPVC up to 2 in.	A	3”	0” – 1/2”	N/A	N/A	1 hour	N/A	15 min
PEX up to 1 in	B	2”	0” – 1/2”	1 hour	40 min	1 hour	1 hour	40 min
PE/Al/PE up to 3/4 in.	B	1-3/4”	0” – 3/4”	1 hour	1 hour	1 hour	1 hour	1 hour
PEX/Al/PEX up to 3/4 in.	B	1-3/4”	0” – 3/4”	1 hour	1 hour	1 hour	1 hour	1 hour



DESIGN A



DESIGN B



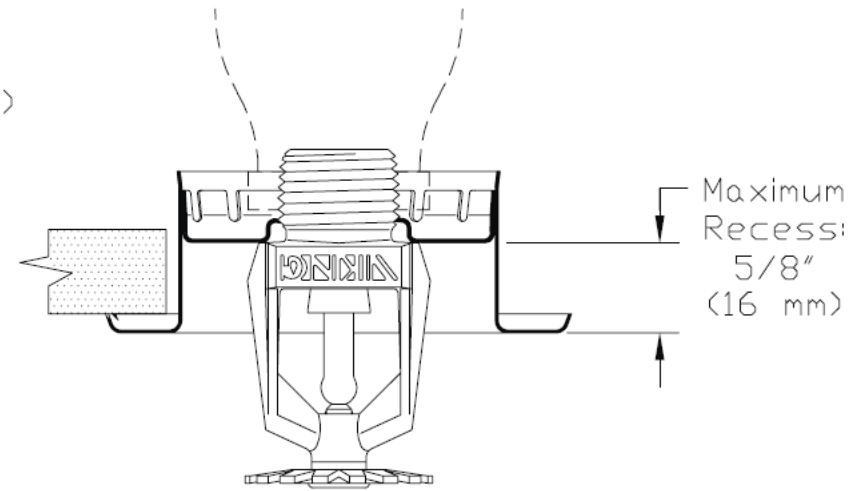
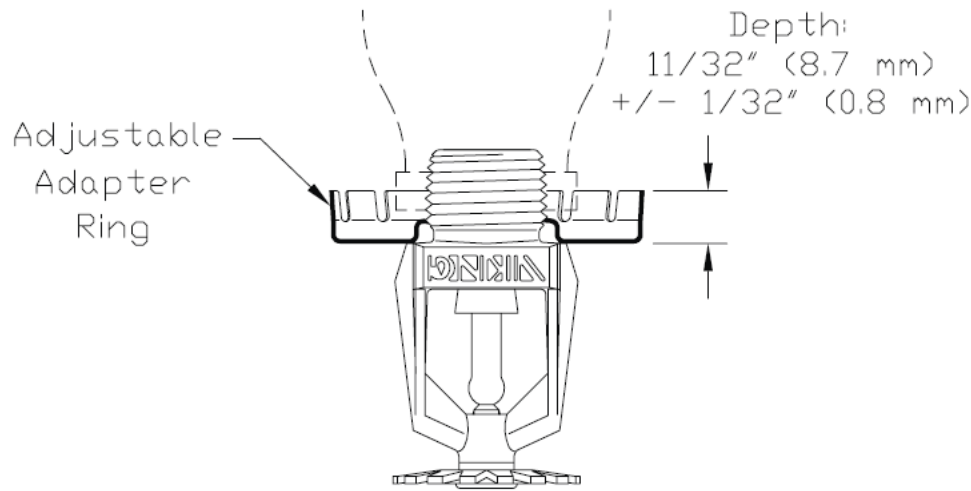
4800DW – Endothermic Caulking

3.1.9.1.(4) SPRINKLERS ALLOWED TO PENETRATE MEMBRANE OF FIRE SEPARATION WITH NO FIRESTOPPING

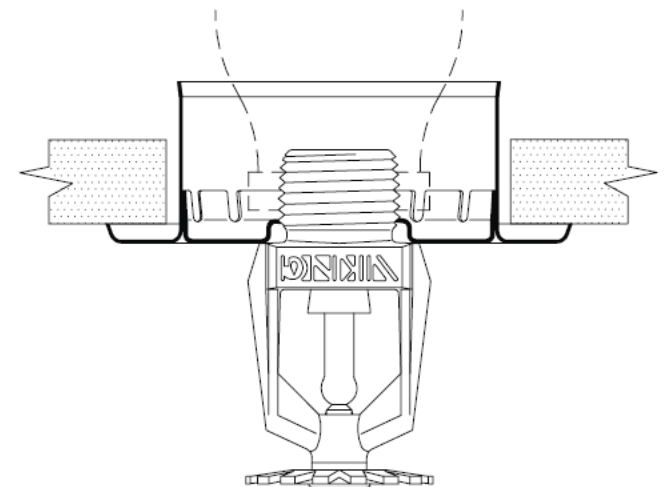
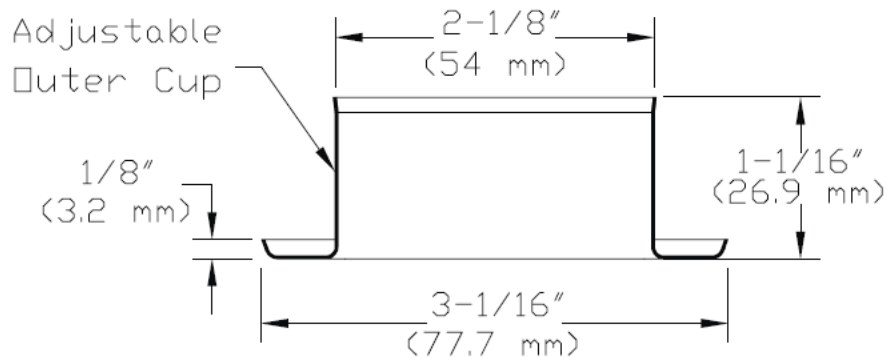
Previously wording only allowed combustible piping to penetrate the fire separation

Now it is clarified that no firestopping is required, if escutcheon plates are installed to NFPA 13



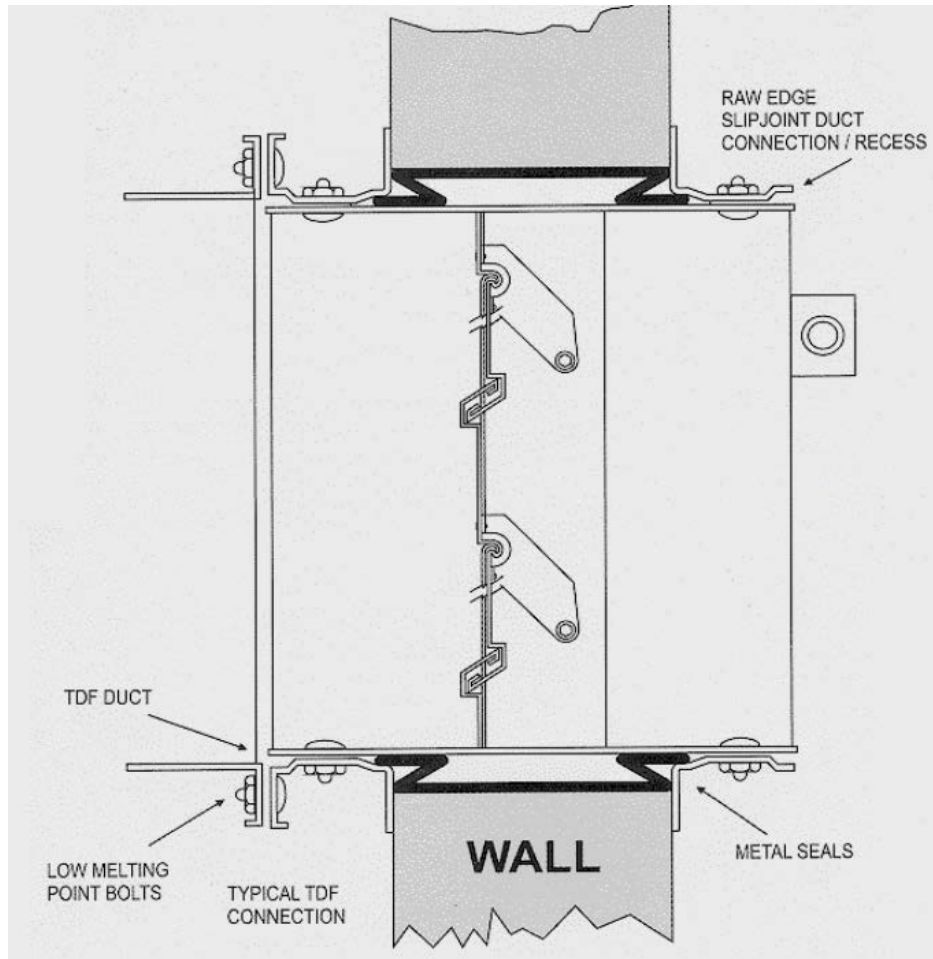


Ceiling/Wall Opening:
 $2-5/16"$ (59 mm) Minimum
 $2-1/2"$ (64 mm) Maximum



3.1.9.1.(5) FIRE DAMPERS ALLOWED TO PENETRATE FIRE SEPARATION WITH NO FIRESTOPPING

- Must be installed to NFPA 80



- NFPA 80 requires reinspection 1 year after installation and every 4 years afterwards. (19.4)

3.1.9.3.(3) ELECTRICAL CABLES IN METAL JACKETS MUST BE SPACED 300 mm

Single conductor metal sheathed cables with *combustible* jacketing that are **more than 25 mm** in overall **diameter** are permitted to penetrate a *fire separation* required to have a *fire-resistance rating* without being incorporated in the assembly at the time of testing as required by Article 3.1.9.2., provided the cables are not grouped **and are spaced a minimum of 300 mm apart.**

3.1.9.4. COMBUSTIBLE PIPING PENETRATIONS – 30 mm O.D. restriction removed

- 2) *Combustible* water distribution piping is permitted to penetrate a *fire separation* that is required to have a *fire-resistance rating* without being incorporated in the assembly at the time of testing as required by Article 3.1.9.2., provided the piping is protected at the penetration with a fire stop in conformance with sentence (4)

Previous version - 2006 BCBC

- 2) Combustible water distribution piping that has an outside diameter **not more than 30 mm** is permitted to penetrate a vertical fire separation that is required to have a fire-resistance rating without being incorporated in the assembly at the time of testing as required by Article 3.1.9.2., provided the piping is sealed in conformance with Clause 3.1.9.1.(1)(b).

3.1.9.4.(6) COMBUSTIBLE PIPING FOR VACUUM SYSTEMS - similar to DWV systems

- 6) *Combustible* piping for central vacuum systems is permitted to penetrate a *fire separation* provided the installation conforms to the requirements that apply to *combustible* drain, waste and vent piping specified in Sentence (4).

3.1.9.4.(5) COMBUSTIBLE DRAIN PIPES

DELETED

- Previously allowed to penetrate a fire separation if leading through a concrete slab to a non-combustible water closet.
- This exception has been deleted .

COMBUSTIBLE CLADDING ON NON-COMBUSTIBLE BUILDINGS

3.1.5.5. Combustible **Cladding Systems** for Exterior Walls

1) Except as required in Sentence (2), an exterior non-loadbearing wall assembly that includes a **combustible cladding system** is permitted to be used in a building required to be of noncombustible construction provided

- a) the building is
 - i) not more than 3 storeys in building height, or
 - ii) sprinklered throughout,
- b) the interior surfaces of the wall assembly are protected by a thermal barrier conforming to Sentence 3.1.5.12.(3), and
- c) the wall assembly satisfies the criteria of Sentences (3) and (4) when subjected to testing in conformance with CAN/ULC-S134, "Fire Test of Exterior Wall Assemblies."

(See Appendix A.)

COMBUSTIBLE CLADDING ON NON-COMBUSTIBLE BUILDINGS (cont.)

3.1.5.5. Combustible **Cladding Systems** for Exterior Walls

c) the wall assembly satisfies the criteria of Sentences (3) and (4)

3) Flaming on or in the wall assembly shall not spread more than 5 m above the opening during or following the test procedure referenced in Sentence (1). (See Appendix A.)

4) The heat flux during the flame exposure on a wall assembly shall be not more than 35 kW/m^2 measured 3.5 m above the opening during the test procedure referenced in Sentence (1). (See Appendix A.)

3.2.3 SPATIAL SEPARATION AND EXPOSURE PROTECTION

- LIMITING DISTANCE AND FIRE DEPARTMENT RESPONSE TIME
- UNPROTECTED OPENINGS WITHIN 2 M OF P/L
- COMBUSTIBLE PROJECTIONS
- CONSTRUCTION OF EXPOSING BUILDING FACES



LIMITING DISTANCE AND FIRE DEPARTMENT RESPONSE TIME

- 3.2.3.1.(8) requires that the limiting distance be taken at $\frac{1}{2}$, if the Fire Department takes more than 10 min to respond **in more than 10% of calls** AND
- Any storey in the building is unsprinklered

3.2.3.1.(5) MAX. INDIVIDUAL OPENINGS

- 5) Except for buildings that are sprinklered, where the limiting distance is 2 m or less, individual unprotected openings in an exposing building face shall be no greater than
- a) the area stated in Table 3.2.3.1.A., or
 - b) where the limiting distance is equal to or greater than 1.2 m, the area calculated by

$$\text{Area} = 0.24 (2 \times \text{LD} - 1.2)^2$$

where Area = area of the unprotected opening,
and LD = limiting distance.

Table 3.2.3.1.A.
Maximum Concentrated Area of Unprotected Openings
Forming Part of Sentence 3.2.3.1.(5)

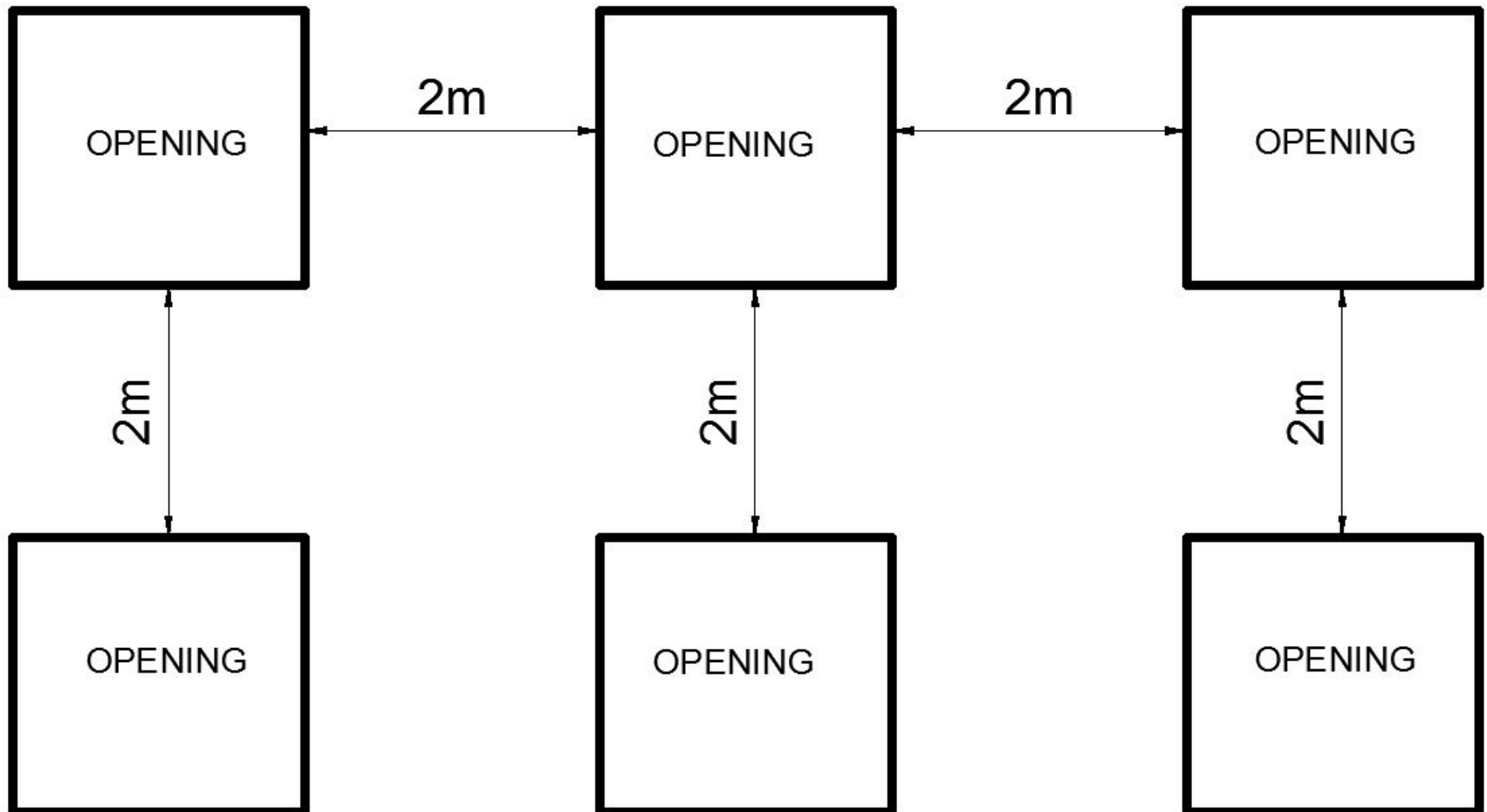
<i>Limiting Distance, m</i>	<i>Max Area of Individual Unprotected</i>	<i>Openings, m²</i>
1.2		0.35
1.5		0.78
2.0		1.88

3.2.3.1.(6) SPACING OF UNPROTECTED OPENINGS WITHIN 2 M

The spacing between individual unprotected openings described in Sentence (5)

that serve a single room or space described in Sentence (7) shall not be less than:

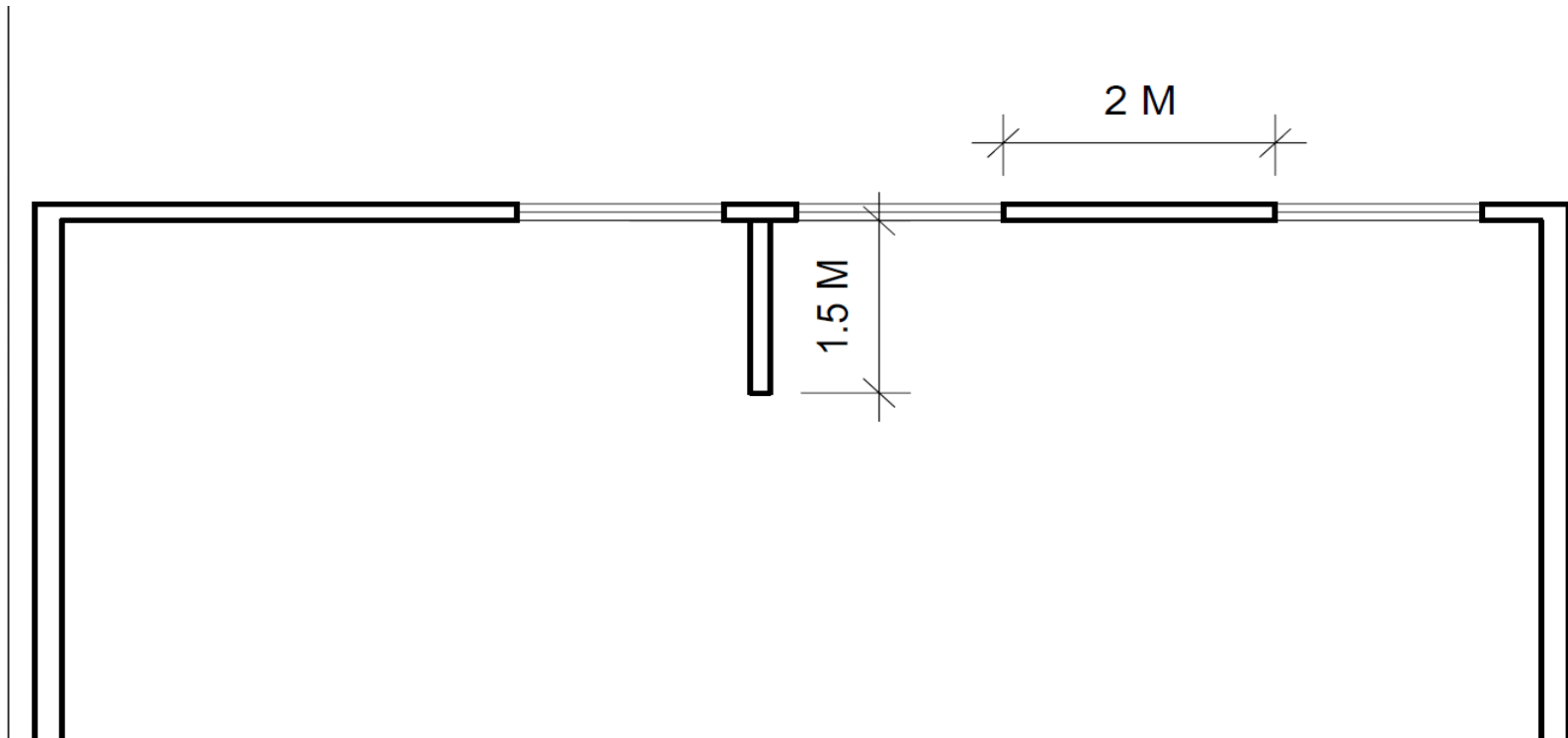
- a) 2 m horizontally of another unprotected opening that is on the same exposing building face and serves the single room or space, or
- b) 2 m vertically of another unprotected opening that serves the single room or space, or another room or space on the same storey.



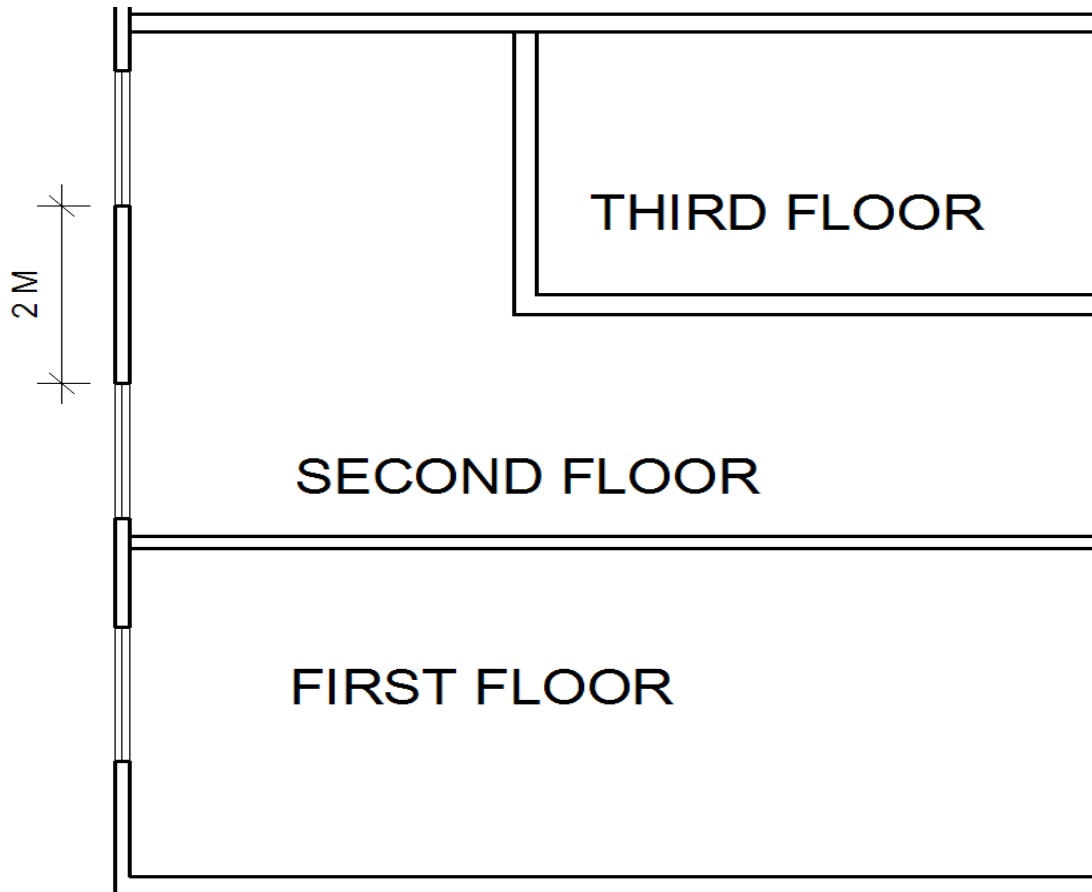
3.2.3.1.(7) SINGLE ROOM OR SPACE

- 7) For the purpose of Sentence (6), "single room or space" shall mean
- a) two or more adjacent spaces having a full-height separating wall extending less than 1.5 m from the interior face of the exterior wall, or
 - b) two or more stacked spaces that are on the same *storey*.

3.2.3.1.(7)(a) SINGLE ROOM OR SPACE



3.2.3.1.(7)(B) 2 or more stacked spaces on the same floor



3.2.3.6 COMBUSTIBLE PROJECTIONS

- 3.2.3.6.(2) L.D. < .45 M - no soffits allowed
- 3.2.3.6.(3) L.D. > .45 M - soffits not allowed to extend within .45 M of P/L.
- 3.2.3.6.(4) .45M < L.D < 1.2 M – soffits fire blocked
- 3.2.3.6.(5) where soffits fire blocked for (4) and building is combustible, additional finishes allowed on surface of fire block materials.



3.2.3.7 CONSTRUCTION OF EXPOSING BUILDING FACES

Construction requirements have been made into Table 3.2.3.7

- Now construction is in 4 categories:
0-10%, 10% - 25%, **25% - 50%**, 50% - 100%
- Previously in 3 categories:
0-10%, 10% - 25%, 25% - 100%

Table 3.2.3.7.
Minimum Construction Requirements for Exposing Building Faces
Forming Part of Sentences 3.2.3.7.(1) and (2)

<i>Occupancy Classification of Building or Fire Compartment</i>	<i>Maximum Area of Unprotected Openings Permitted, % of Exposing Building Face Area</i>	<i>Minimum Required Fire-Resistance Rating</i>	<i>Type of Construction Required</i>	<i>Type of Cladding Required</i>
Group A, B, C, D, or Group F, Division 3	0 to 10	1 h	Noncombustible	Noncombustible
	> 10 to 25	1 h	Combustible or Noncombustible	Noncombustible
	> 25 to 50	45 min	Combustible or Noncombustible	Noncombustible
	> 50 to < 100	45 min	Combustible or Noncombustible	Combustible or Noncombustible
Group E, or Group F	0 to 10	2 h	Noncombustible	Noncombustible
	> 10 to 25	2 h	Combustible or Noncombustible	Noncombustible
	> 25 to 50	1h	Combustible or Noncombustible	Noncombustible
	> 50 to < 100	1h	Combustible or Noncombustible	Combustible or Noncombustible

3.2.3.7.(4) non-combustible cladding where permitted openings 25% - 50%

Non-combustible cladding not required where :

- L.D. > 5M
- Building sprinklered throughout, including attic spaces
- Cladding has FSR < 25 for wood derived cladding to 9.27.6 - 9.27.10

OR

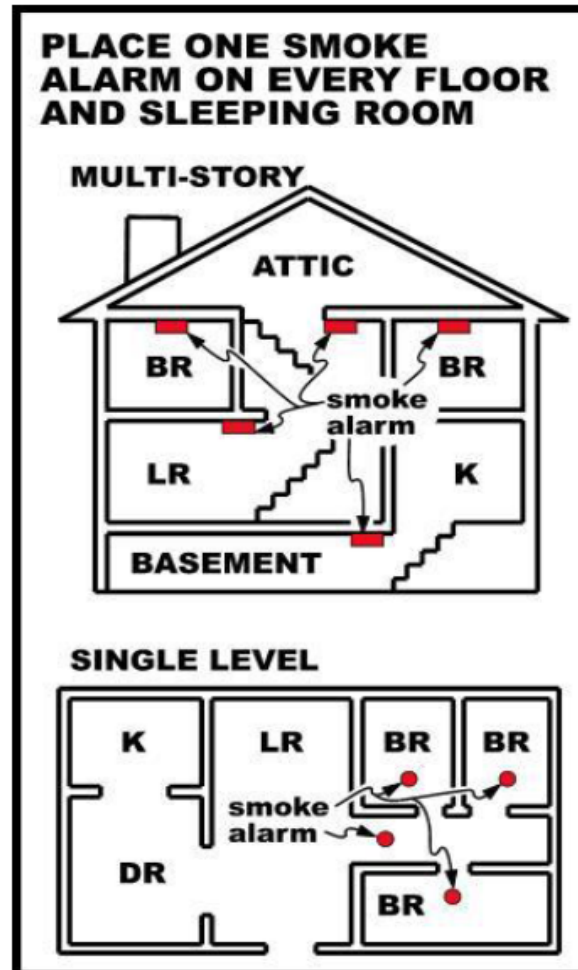
- Cladding is vinyl siding to 9.27.12

3.2.3.7.(5) cladding requirements where permitted openings 10% - 25%

- Non-combustible cladding not required, where the requirements of 3.1.5.5. (combustible cladding systems for exterior walls in non-combustible construction) are met
- Walls are tested to CAN/ULC S – 134 “Fire Test of Exterior Wall Assemblies”

3.2.4.21.(3)(a) SMOKE ALARMS

- SMOKE ALARMS NOW REQUIRED IN ALL SLEEPING ROOMS, IN ADDITION TO PREVIOUS REQUIREMENTS



EXIT SIGNS 3.4.5

- Green pictograms to ISO standards
- Allows photo luminescent technology
- 3.4.5.1 (6)& (7) clarify placement :

- 6) Where no *exit* is visible from a *public corridor*, from a corridor used by the public in a Group A or B *major occupancy*, or from principal routes serving an open *floor area* having an *occupant load* of more than 150, an *exit* sign conforming to Clauses (2)(b)&(c) with an arrow or pointer indicating the direction of egress shall be provided.
- 7) Except for egress doorways described in sentence 3.3.2.4.(4), an exit sign conforming to sentence (2) – (5) shall be placed over or adjacent to every egress doorway from rooms with an occupant load of more than 60 in a Group A ,Div 1 occupancy, dance halls, licensed beverage establishments, and other similar occupancies that, when occupied , have lighting levels below that which would provide easy identification of the egress doorway.



3.2.7.10 HIGH RISE ELEC CONDUCTOR PROTECTION

- 1) The protection of electrical and emergency conductors referred to in Clauses (a) to (c) shall conform to the requirements stated in Sentences (2) to (B):
 - a) electrical conductors located within *buildings* identified in Article 3.2.6.1. serving
 - i) fire alarms,
 - ii) emergency lighting, or
 - iii) emergency equipment within the scope of Articles 3.2.6.2. to 3.2.6.8.,
 - b) emergency conductors serving fire pumps required to be installed under Article 3.2.5.1B., and
 - c) electrical conductors serving mechanical systems serving
 - i) areas of refuge identified in Clause 3.3.3.6.(1)(b), or
 - ii) *contained use areas* identified in Clauses 3.3.3.7.(4)(a) and (b).
- 2) Except as otherwise required by Sentence (3) and permitted by this Article, electrical conductors that are used in conjunction with systems identified in Sentence (1) shall
 - a) conform to ULC-S139, "Fire Test for Evaluation of Integrity of Electrical Cables," including the hose stream application, to provide a circuit integrity rating of not less than 1 h, or
 - b) be located in a service space that is separated from the remainder of the *building* by a *fire separation* that has a *fire-resistance rating* not less than 1, h.
- 3) Electrical conductors identified in Clause (1)(c) shall
 - a) conform to ULC-S139, "Fire Test for Evaluation of Integrity of Electrical Cables," including the hose stream application, to provide a circuit integrity rating of not less than 2 h, or
 - b) be located in a *service space* that is separated from the remainder of the *building* by a *fire separation* that has a *fire-resistance rating* not less than 2 h.
- 4) The *service spaces* referred to in Clauses (2)(b) and (3)(b) shall not contain any *combustible* materials other than the conductors being protected.
- 5) Except as stated in Sentences (7) and (9), the electrical conductors referred to in Sentence (1) are those that extend from the source of emergency power to
 - a) the equipment served, or
 - b) the distribution equipment supplying power to the equipment served, if both are in the same room (see Appendix A).
- 6) If a fire alarm transponder or annunciator in one *fire compartment* is connected to a central processing unit or another transponder or annunciator located in a different *fire compartment*, the electrical conductors connecting them shall be protected in accordance with Sentence (2).
- 7) Fire alarm system branch circuits within a *storey* that connect transponders and individual devices need not conform to Sentence (2). (See Appendix A.)
- 8) Except as permitted in Sentence (9), if a distribution panel supplies power to emergency lighting, the power supply conductors leading up to the distribution panel shall be protected in accordance with Sentence (2).
- 9) Conductors leading from a distribution panel referred to in Sentence (8) to emergency lighting units in the same *storey* need not conform to Sentence (2).

3.2.7.10 HIGH RISE ELEC CONDUCTOR PROTECTION

Typically protected conductors serve:

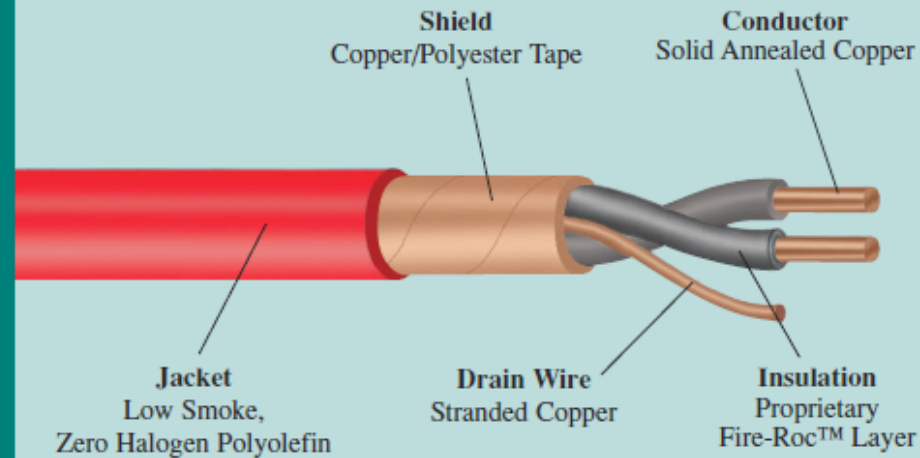
- Fire pumps – Feeder/controls
- Elevators
- Smoke control equipment
- Pressurized stairway systems
- Smoke management systems
- Fire alarm systems
- Electrical equipment room feeders
- Emergency Generators and Standby Power systems
- Communications systems
- Emergency Lighting

VITALink® CI Circuit Integrity Cable

CSA Type FAS 90, FT4
File No: 014444 0 000
Shielded Fire Alarm Cable

ULC-S139-00
2 Hour Fire Resistant Cable
File CR 2810

Spec. VL-104



Scope

VITALink® CI is a ULC listed fire resistant cable intended for use as fire alarm wiring when survivability is of the utmost concern. It has established a minimum 2-hour fire resistant rating by passing the applicable requirements of ULC-S139-00, "Standard Method of Fire Test for Evaluation of Integrity of Electrical Cables".

These cables when installed per the relevant sections of the National Building Code of Canada and the Canadian Electrical Code are permitted as a means of providing 2-hour survivability to your circuits. This "survivability" characteristic makes the cable ideal for any circuit where continued operation may enhance the ability to save lives or property.

3.3.6 DESIGN OF HAZARDOUS AREAS

- Contains material from Fire Code
- Applies to all buildings, not only industrial buildings
- Contains restrictions for materials stored in quantities in excess of those listed in the National Fire Code table 3.2.7.1.

Small Quantity Exemptions for Dangerous Goods
Forming part of Sentences 3.2.7.1.(1) and (2), and 3.3.4.1.(2) and (3)

Class ⁽¹⁾	Dangerous Goods	Maximum Exempt Amount
1	Explosives	See Article 3.1.1.2.
2	Gases	
	Division 1 ⁽¹⁾⁽²⁾ Flammable	25 kg ⁽³⁾
	Division 2 Non-flammable and non-toxic	150 kg
	Division 3 Toxic or corrosive	0
3	<i>Flammable Liquids and Combustible Liquids</i>	0 ⁽⁴⁾
4	Flammable Solids	
	Division 1 Flammable solids	100 kg ⁽⁵⁾
	Division 2 Subject to spontaneous ignition	50 kg
	Division 3 Reactive with water	50 kg
5	Oxidizing Substances	
	Division 1 Oxidizers	
	Packing Group I ⁽⁶⁾⁽⁷⁾	250 kg or 250 L
	Packing Group II ⁽⁸⁾	
	Packing Group III	
Division 2 Organic peroxides	100 kg or 100 L	
6	Poisonous and Infectious Substances	
	Division 1 Poisonous substances	
	Packing Group I	0
	Packing Group II	100 kg or 100 L
	Packing Group III	1 000 kg or 1 000 L
	Division 2 Infectious substances	0
7	Radioactive Materials	See Article 3.1.1.2.
8	Corrosive Substances	
	Packing Group I	500 kg or 500 L
	Packing Group II	1 000 kg or 1 000 L
	Packing Group III	2 000 kg or 2 000 L
9	Miscellaneous	See Article 3.1.2.1. ⁽⁹⁾

Small Quantity Exemptions for Dangerous Goods
Forming part of Sentences 3.2.7.1.(1) and (2), and 3.3.4.1.(2) and (3)

Class ⁽¹⁾	Dangerous Goods	Maximum Exempt Amount
1	Explosives	See Article 3.1.1.2.
2	Gases	
	Division 1 ⁽¹⁾⁽²⁾ Flammable	25 kg ⁽³⁾
	Division 2 Non-flammable and non-toxic	150 kg
	Division 3 Toxic or corrosive	0
3	<i>Flammable Liquids and Combustible Liquids</i>	0 ⁽⁴⁾
4	Flammable Solids	
	Division 1 Flammable solids	100 kg ⁽⁵⁾
	Division 2 Subject to spontaneous ignition	50 kg
	Division 3 Reactive with water	50 kg
5	Oxidizing Substances	
	Division 1 Oxidizers	
	Packing Group I ⁽⁶⁾⁽⁷⁾	250 kg or 250 L
	Packing Group II ⁽⁸⁾	
	Packing Group III	
Division 2 Organic peroxides	100 kg or 100 L	
6	Poisonous and Infectious Substances	
	Division 1 Poisonous substances	
	Packing Group I	0
	Packing Group II	100 kg or 100 L
	Packing Group III	1 000 kg or 1 000 L
	Division 2 Infectious substances	0
7	Radioactive Materials	See Article 3.1.1.2.
8	Corrosive Substances	
	Packing Group I	500 kg or 500 L
	Packing Group II	1 000 kg or 1 000 L
	Packing Group III	2 000 kg or 2 000 L
9	Miscellaneous	See Article 3.1.2.1. ⁽⁹⁾

RESIDENTIAL CARE FACILITIES

- A new occupancy class has been created for "Care Facilities" , B3. The intent is to define a category that fits " in between " the existing B occupancy classes and outright C residential occupancies.
- The new category relaxes some of the minimum corridor, door sizes and fire separations that are required in hospitals under B2, while still addressing safety concerns unique to this occupancy class.

RESIDENTIAL CARE FACILITIES

- Table 3.1.2.1 has been revised to have the following categories:
- B1 Detention Occupancies
- B2 Treatment Occupancies
- **B3 Care Occupancies**

Definitions have been updated to include the following:

- "Detention Occupancy" means the occupancy by persons who are restrained from or are incapable of evacuating to a safe location without the assistance of another person because of security measures not under their control.
- "Treatment" means the provision of medical or other health-related intervention to persons, where the administration of these interventions may render them incapable of evacuating to a safe location without the assistance of another person.
- "Treatment Occupancy" means the "occupancy" or use of a "building" or part thereof for the provision of "treatment", and where overnight accommodation is available to facilitate the "treatment".

Definitions have been updated to include the following:

- "Care" means the provision of services other than "treatment" by or through care facility management to residents who require these services because of cognitive , physical or behavioural limitations.
- "Care Occupancy" means the "occupancy" or use of a building or part thereof where "care" is provided to residents. The appendix note clarifies care is provided by management of the facility on an ongoing basis , exceeding 24 hrs.

Appendix A-1.4.1.2.(1)

- Support services rendered by or through care facility management refer to services provided by the organization that is responsible for the care for a period exceeding 24 consecutive hours. They do not refer to services provided by residents of dwelling units or suites or to services arranged directly by residents of dwelling units or suites with outside agencies.

Appendix A-1.4.1.2.(1) (cont.)

- In the context of care occupancies , these services may include a daily assessment of the resident's functioning, awareness of their whereabouts, the making of appointments for residents and reminding them of those appointments, the ability and readiness to intervene if a crisis arises for a resident, supervision in areas of nutrition or medication , and provision of transient medical services. Services may also include activities of daily living such as bathing, dressing , feeding and assistance in the use of washroom facilities, etc.
- No actual treatment is provided by or through the care facility management.

Changes to coordinate B3

- B3 facilities must be designed to Part 3 - Div A -1.3.3.2 (1)(b)(ii)
- All B3 facilities will be sprinklered - 3.2.2.42 – 3.2.2.45
- Sprinkler standards are clarified
 - NFPA 13 R is allowed for up to 3 stories and 10 occupants
 - NFPA 13 D is allowed for up to 2 suites and 5 residents
- Combustible construction will be permitted on up to 3 stories – 3.2.2.43 – 3.2.2.45.
- Smoke detectors in sleeping rooms and suites are permitted to be replaced by smoke alarms. 3.2.4.12.(2), 3.2.4.21.
- Corridors 3.3.3.3.
 - may be 1100 wide, instead of 1650 , where occupant load does not exceed 10 persons.
 - Dead end portions of public corridors are allowed up to 6 m
- Doorways to corridors may be 850 mm clear width 3.3.3.4(1). Doors within suites of residential care are exempted.

Changes to coordinate B3 (cont.)

- Fire separations around sleeping rooms are eliminated within suites of care occupancy - 3.3.3.5.(11)
- Fire compartment requirements are eliminated where occupant load of patients is not more than 10 persons. 3.3.3.5.(1)
- Fire separations with storage garages are relaxed for buildings with up to 5 suites, similar to residential occupancies 3.3.3.5.17
- Vestibules on doors to storage garages are waived if occupant load is not more than 10 persons - 3.3.5.7.
- "care" occupancies cannot open into an exit lobby – 3.4.4.2.(2)(c)
- "care" facilities are assigned washrooms similar to residential occupancies - 3.7.2.2.(10)
- Care Facilities (B3) has accessibility Design Requirements in 3.8.2.26, which requires accessibility provisions to 3.8.2.25, similar to Treatment facilities (B2) .
- Requirements are access to main entrance from street or h/c parking, work functions, each type of facility and public washrooms to 3.8.2.3.(2).
- 3.7.2.10.(12) allows variations on the arrangement of fixtures and grab bars to accommodate the needs of children, patients and care providers.
- Power door operators are required for barrier free access to "care" facilities over 500 sq m. - 3.8.3.5.(4)(e)

3.1.2.6. Group A, Division 2, Low Occupant Load

- **1)** A *suite* of Group A, Division 2 *Assembly occupancy* is permitted to be classified as a Group D, *Business and personal services occupancy* provided
 - a) the number of occupants in the *suite* does not exceed 30, and
 - b) except as permitted by Sentence (2), the *suite* is separated from all other *suites* by a *fire separation* having a *fire-resistance rating* of not less than 1 hr.
- **2)** The *fire separation* required by Sentence (1) need not have a *fire-resistance rating* where the *suite* is located in a *building* that is *sprinklered* throughout.
- **3)** A permanent sign, with lettering not less than 50 mm high with a 12 mm stroke, indicating the lesser of the *occupant load* for the *suite* or 30 persons, shall be posted in a conspicuous location near the *suite's* principal entrance.

STAIRS, RAMPS & HANDRAILS

- Generally, there is an effort to harmonize the requirements between Part 3 and Part 9 .

Changes to stairs ramps handrails

- Stairs within dwelling units and exterior stairs serving dwelling units are referenced in 3.3.4.7. , which states section 9.8 is to be used.
- 9.8.1.2. now explicitly says garage stairs serving a single dwelling unit are treated the same as stairs within units. This allows stairs to omit landings at the top of stairs , if the door swings away.
- 3.4.3.4. defines headroom clearance on stairs as 2050 mm. Headroom is clarified as being measured across the entire clear width of the stairway and is measured to the lowest element above.
- 3.4.6.3.(3) waives the requirement for a landing at the bottom of an exterior stair or ramp, if no gate, door or obstruction is within the lesser of :
 - The width of the stair or ramp
 - 1100 mm

More changes to stairs ramps handrails

- 3.4.6.5.(7) allows a max 1070 mm height for handrails on landings, where guards are required.
- The construction tolerances of stairs are clarified in 3.4.6.8.(3)&(4)
 - the maximum tolerance is 5 mm for adjacent treads or risers
 - the maximum tolerance is 10 mm within an entire flight of stairs for treads or risers
- 3.4.6.8.(7) specifies that the maximum slope on treads or landings is 1 in 50 (2 %) .
- 3.4.6.8.(8) redefines the leading edge bevel as between 6 mm -13 mm

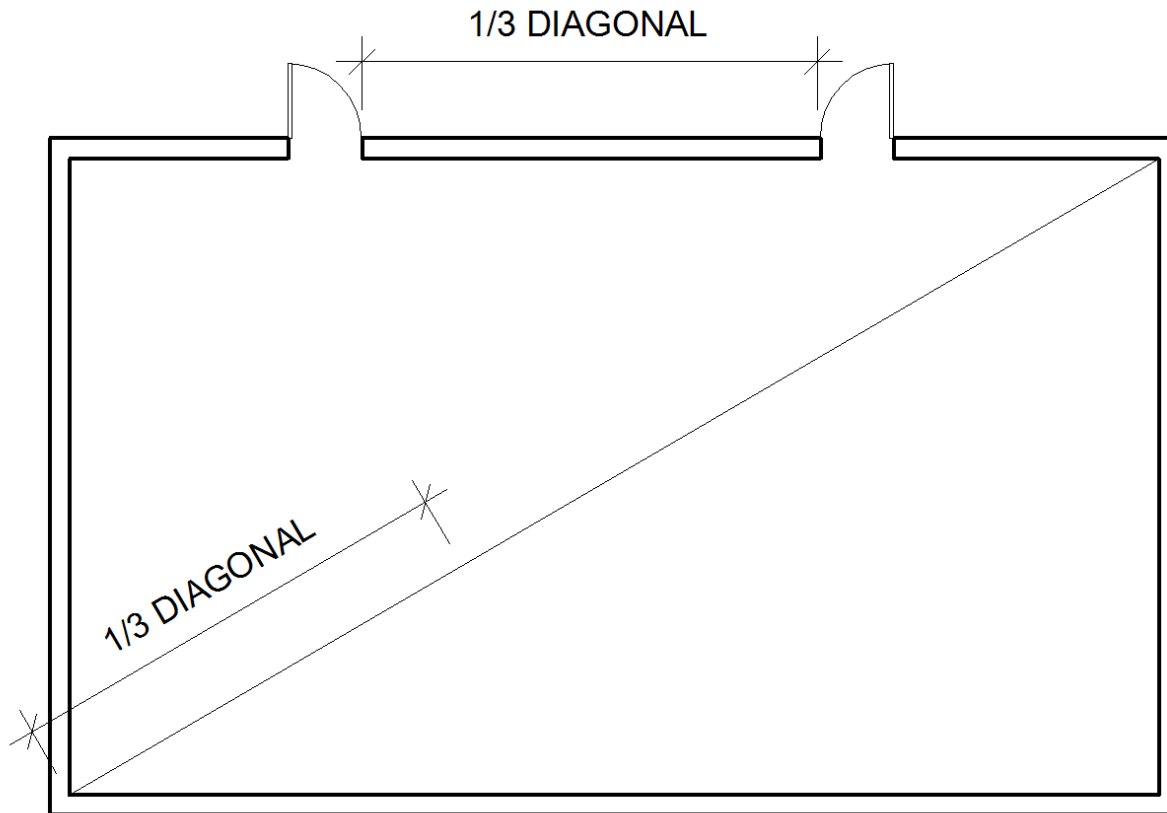
WINDOW OPENINGS AND GUARDS

- A new section has been added , entitled **3.3.4.8 Protection of Openable Windows.** The section mandates an effective guard at openable windows in residential suites.
- Windows within Part 3 residential suites must :
 - Have the bottom edge of any openable portion above 1070mm above finished floor.
 - Have a 1070 h guard in front of the window
 - Have any portion of the window restricted to opening 100 mm , where the other dimension is greater than 380 mm. Or
 - Have the bottom edge of the openable window section at less than 1800mm above grade on the outside.

EGRESS FROM A ROOM

- Section 3.3.1.5. Egress Doorways defines the safe egress from rooms. It specifies 2 doors must be provided from a room , unless limits on area , occupancy and travel distance are met.
- The first sentence , 3.3.1.5.(1), requires (except for dwelling units) that 2 doors must be provided, so that one doorway can provide egress , if the other becomes inaccessible due to a fire originating within the room.
- A new sentence, 3.3.1.5.(2) has been added to further clarify how the 2 doors should be located. It specifies that the **minimum distance between the 2 doors must be at least 1/3 of the maximum overall diagonal dimension** , measured as the shortest distance for smoke to travel.

EGRESS FROM A ROOM



ELEVATOR REQUIREMENTS

- **3.1.13. Interior Finish** has been augmented with **3.1.13.11 Elevator Cars**. This section separately sets the requirements of finishes for the interior of elevator cars:
 - 3.1.13.11.(1) requires wall and ceiling surfaces in all elevator cars to have a "flame spread rating" not more than 75.
 - 3.1.13.11.(2) requires wall , ceiling and floor surfaces of all elevator cars to have a smoke developed classification of not more than 450.
 - Table 3.1.13.7 requires elevator car floors in High Buildings to have a flame spread rating of not more than 300.
 - Walls and ceilings in High Buildings are the same (75) in Table 3.1.13.7.

ASSEMBLY SEATING

- The special requirements for seating, aisles, guards in assembly occupancies, including outdoor stadiums and bleachers are defined in **3.3.2. Assembly Occupancy.**
- 3.3.2.1.(2)(3) have been added to provide an alternate set of requirements, in **NFPA 101 "Life Safety Code"**. Specific sections in this document are identified by number for use, in lieu of specific sections within 3.3.2. that are referenced.
- There is one further qualification that **every aisle serving seating must be at least 400 mm wide.**

A-3.3.2.1.(2) states that the intent is to allow Code users to use NFPA 101 requirements for :

- Means of egress
- Egress routes within assembly occupancies
- Aisles
- Access serving seating not at tables
- Guards and railings
- Life safety evaluation
- Smoke protected assembly seating

- A-3.3.2.1.(2) clarifies that all the referenced NFPA 101 provisions must be followed , if this option is selected.
- “It is not intended that Code users randomly select and apply a mix of provisions from both the NBC and NFPA.

NFPA 101® Life Safety Code® 2012 Edition

Chapter 1 Administration

- 1.1 Scope
- 1.2 Purpose
- 1.3 Application
- 1.4 Equivalency
- 1.5 Units and Formulas
- 1.6 Enforcement

Chapter 2 Referenced Publications

- 2.1 General
- 2.2 NFPA Publications
- 2.3 Other Publications
- 2.4 References for Extracts in Mandatory Sections

Chapter 3 Definitions

- 3.1 General
- 3.2 NFPA Official Definitions
- 3.3 General Definitions

Chapter 4 General

- 4.1 Goals
- 4.2 Objectives
- 4.3 Assumptions
- 4.4 Life Safety Compliance Options
- 4.5 Fundamental Requirements
- 4.6 General Requirements
- 4.7 Fire Drills
- 4.8 Emergency Plan

Chapter 5 Performance-Based Option

- 5.1 General Requirements
- 5.2 Performance Criteria
- 5.3 Retained Prescriptive Requirements
- 5.4 Design Specifications and Other Conditions
- 5.5 Design Fire Scenarios
- 5.6 Evaluation of Proposed Designs
- 5.7 Safety Factors
- 5.8 Documentation Requirements

Chapter 6 Classification of Occupancy and Hazard of Contents

- 6.1 Classification of Occupancy
- 6.2 Hazard of Contents

Chapter 7 Means of Egress

- 7.1 General
- 7.2 Means of Egress Components

- 7.3 Capacity of Means of Egress
- 7.4 Number of Means of Egress
- 7.5 Arrangement of Means of Egress
- 7.6 Measurement of Travel Distance to Exits
- 7.7 Discharge from Exits
- 7.8 Illumination of Means of Egress
- 7.9 Emergency Lighting
- 7.10 Marking of Means of Egress
- 7.11 Special Provisions for Occupancies with High Hazard Contents
- 7.12 Mechanical Equipment Rooms, Boiler Rooms, and Furnace Rooms
- 7.13 Normally Unoccupied Building Service Equipment Support Areas
- 7.14 Elevators for Occupant-Controlled Evacuation Prior to Phase I Emergency Recall Operations

Chapter 8 Features of Fire Protection

- 8.1 General
- 8.2 Construction and Compartmentation
- 8.3 Fire Barriers
- 8.4 Smoke Partitions
- 8.5 Smoke Barriers
- 8.6 Vertical Openings
- 8.7 Special Hazard Protection

Chapter 9 Building Service and Fire Protection Equipment

- 9.1 Utilities
- 9.2 Heating, Ventilating, and Air-Conditioning
- 9.3 Smoke Control
- 9.4 Elevators, Escalators, and Conveyors
- 9.5 Rubbish Chutes, Incinerators, and Laundry Chutes
- 9.6 Fire Detection, Alarm, and Communications Systems
- 9.7 Automatic Sprinklers and Other Extinguishing Equipment
- 9.8 Carbon Monoxide (CO) Detection and Warning Equipment
- 9.9 Special Inspections and Tests

Chapter 10 Interior Finish, Contents, and Furnishings

- 10.1 General
- 10.2 Interior Finish
- 10.3 Contents and Furnishings

Chapter 11 Special Structures and High-Rise Buildings

- 11.1 General Requirements
- 11.2 Open Structures
- 11.3 Towers
- 11.4 Water-Surrounded Structures
- 11.5 Piers
- 11.6 Vehicles and Vessels
- 11.7 Underground and Limited Access Structures
- 11.8 High-Rise Buildings
- 11.9 Permanent Membrane Structures
- 11.10 Temporary Membrane Structures
- 11.11 Tents

Chapter 12 New Assembly Occupancies

- 12.1 General Requirements
- 12.2 Means of Egress Requirements
- 12.3 Protection
- 12.4 Special Provisions
- 12.5 Building Services
- 12.6 Reserved
- 12.7 Operating Features

Chapter 13 Existing Assembly Occupancies

- 13.1 General Requirements
- 13.2 Means of Egress Requirements
- 13.3 Protection
- 13.4 Special Provisions
- 13.5 Building Services
- 13.6 Reserved
- 13.7 Operating Features

Chapter 14 New Educational Occupancies

- 14.1 General Requirements
- 14.2 Means of Egress Requirements
- 14.3 Protection
- 14.4 Special Provisions
- 14.5 Building Services
- 14.6 Reserved
- 14.7 Operating Features

Chapter 15 Existing Educational Occupancies

- 15.1 General Requirements
- 15.2 Means of Egress Requirements
- 15.3 Protection
- 15.4 Special Provisions
- 15.5 Building Services
- 15.6 Reserved
- 15.7 Operating Features

Chapter 16 New Day-Care Occupancies

- 16.1 General Requirements
- 16.2 Means of Egress Requirements
- 16.3 Protection
- 16.4 Special Provisions
- 16.5 Building Services
- 16.6 Day-Care Homes
- 16.7 Operating Features

Chapter 17 Existing Day-Care Occupancies

- 17.1 General Requirements
- 17.2 Means of Egress Requirements



- 17.3 Protection
- 17.4 Special Provisions
- 17.5 Building Services
- 17.6 Day-Care Homes
- 17.7 Operating Features

Chapter 18 New Health Care Occupancies

- 18.1 General Requirements
- 18.2 Means of Egress Requirements
- 18.3 Protection
- 18.4 Special Provisions
- 18.5 Building Services
- 18.6 Reserved
- 18.7 Operating Features

Chapter 19 Existing Health Care Occupancies

- 19.1 General Requirements
- 19.2 Means of Egress Requirements
- 19.3 Protection
- 19.4 Special Provisions
- 19.5 Building Services
- 19.6 Reserved
- 19.7 Operating Features

Chapter 20 New Ambulatory Health Care Occupancies

- 20.1 General Requirements
- 20.2 Means of Egress Requirements
- 20.3 Protection
- 20.4 Special Provisions
- 20.5 Building Services
- 20.6 Reserved
- 20.7 Operating Features

Chapter 21 Existing Ambulatory Health Care Occupancies

- 21.1 General Requirements
- 21.2 Means of Egress Requirements
- 21.3 Protection
- 21.4 Special Provisions
- 21.5 Building Services
- 21.6 Reserved
- 21.7 Operating Features

Chapter 22 New Detention and Correctional Occupancies

- 22.1 General Requirements
- 22.2 Means of Egress Requirements
- 22.3 Protection
- 22.4 Special Provisions
- 22.5 Building Services
- 22.6 Reserved
- 22.7 Operating Features

Chapter 23 Existing Detention and Correctional Occupancies

- 23.1 General Requirements
- 23.2 Means of Egress Requirements
- 23.3 Protection
- 23.4 Special Provisions
- 23.5 Building Services
- 23.6 Reserved
- 23.7 Operating Features

Chapter 24 One- and Two-Family Dwellings

- 24.1 General Requirements
- 24.2 Means of Escape Requirements
- 24.3 Protection
- 24.4 Reserved
- 24.5 Building Services

Chapter 25 Reserved

Chapter 26 Lodging or Rooming Houses

- 26.1 General Requirements
- 26.2 Means of Escape Requirements
- 26.3 Protection
- 26.4 Reserved
- 26.5 Building Services
- 26.6 Reserved
- 26.7 Operating Features

Chapter 27 Reserved

Chapter 28 New Hotels and Dormitories

- 28.1 General Requirements
- 28.2 Means of Egress Requirements
- 28.3 Protection
- 28.4 Special Provisions
- 28.5 Building Services
- 28.6 Reserved
- 28.7 Operating Features

Chapter 29 Existing Hotels and Dormitories

- 29.1 General Requirements
- 29.2 Means of Egress Requirements
- 29.3 Protection
- 29.4 Special Provisions
- 29.5 Building Services
- 29.6 Reserved
- 29.7 Operating Features

Chapter 30 New Apartment Buildings

- 30.1 General Requirements
- 30.2 Means of Egress Requirements
- 30.3 Protection
- 30.4 Special Provisions
- 30.5 Building Services
- 30.6 Reserved
- 30.7 Operating Features

Chapter 31 Existing Apartment Buildings

- 31.1 General Requirements
- 31.2 Means of Egress Requirements
- 31.3 Protection
- 31.4 Special Provisions
- 31.5 Building Services
- 31.6 Reserved
- 31.7 Operating Features

Chapter 32 New Residential Board and Care Occupancies

- 32.1 General Requirements
- 32.2 Small Facilities
- 32.3 Large Facilities
- 32.4 Suitability of an Apartment Building to House a Board and Care Occupancy
- 32.5 Reserved
- 32.6 Reserved
- 32.7 Operating Features

Chapter 33 Existing Residential Board and Care Occupancies

- 33.1 General Requirements
- 33.2 Small Facilities
- 33.3 Large Facilities
- 33.4 Suitability of an Apartment Building to House a Board and Care Occupancy
- 33.5 Reserved
- 33.6 Reserved
- 33.7 Operating Features

Chapter 34 Reserved

Chapter 35 Reserved

Chapter 36 New Mercantile Occupancies

- 36.1 General Requirements
- 36.2 Means of Egress Requirements
- 36.3 Protection
- 36.4 Special Provisions
- 36.5 Building Services
- 36.6 Reserved
- 36.7 Operating Features

Chapter 37 Existing Mercantile Occupancies

- 37.1 General Requirements

37.2 Means of Egress Requirements	43.2 Special Definitions
37.3 Protection	43.3 Repairs
37.4 Special Provisions	43.4 Renovations
37.5 Building Services	43.5 Modifications
37.6 Reserved	43.6 Reconstruction
37.7 Operating Features	43.7 Change of Use or Occupancy Classification
Chapter 38 New Business Occupancies	43.8 Additions
38.1 General Requirements	43.9 Reserved
38.2 Means of Egress Requirements	43.10 Historic Buildings
38.3 Protection	Annex A Explanatory Material
38.4 Special Provisions	Annex B Supplemental Evacuation Equipment
38.5 Building Services	Annex C Informational References
38.6 Reserved	Index
38.7 Operating Features	
Chapter 39 Existing Business Occupancies	
39.1 General Requirements	
39.2 Means of Egress Requirements	
39.3 Protection	
39.4 Special Provisions	
39.5 Building Services	
39.6 Reserved	
39.7 Operating Features	
Chapter 40 Industrial Occupancies	
40.1 General Requirements	
40.2 Means of Egress Requirements	
40.3 Protection	
40.4 Special Provisions — High-Rise Buildings	
40.5 Building Services	
40.6 Special Provisions for Aircraft Servicing Hangars	
40.7 Operating Features	
Chapter 41 Reserved	
Chapter 42 Storage Occupancies	
42.1 General Requirements	
42.2 Means of Egress Requirements	
42.3 Protection	
42.4 Special Provisions — High-Rise Buildings	
42.5 Building Services	
42.6 Special Provisions for Aircraft Storage Hangars	
42.7 Special Provisions for Grain Handling, Processing, Milling, or Other Bulk Storage Facilities	
42.8 Special Provisions for Parking Structures	
42.9 Operating Features	
Chapter 43 Building Rehabilitation	
43.1 General	

END OF PRESENTATION