

BUSINESS OCCUPANCIES



BUSINESS OCCUPANCIES						
1.0	GENERAL REQUIREMENTS.	The requirements of this chapter shall apply to buildings or portions thereof used as business occupancies.				
	An occupancy used for the transaction of business other than mercantile.					
	Government Halls / Courthouses (Transaction of Public Business and the keeping of books and records)	College / University Buildings, Instructional Laboratories, Classrooms (< 50 persons)	Dentists / Doctors Offices and Outpatient Clinics (Ambulatory to ≤ 3 patients)	General Offices and Service Facilities (News Stands, Lunch Counters serving < 50 persons, Barber Shops, and Beauty Parlors)		
1.1	GENERAL CONDITIONS AND BUILDING LIMITS					
	Building Category	Building Height (m)	Floor Area (m²)	Basement Levels		
1.1.1	LOW-RISE Buisness Occupancies	< 15.0 m Habitable Height	No Limit	No Limit [in Floor Area/Fire Area, Depth or Levels]		
1.1.2	MID-RISE Business Occupancies	≥ 15 m to < 28 m Habitable Height				
1.1.3	HIGH-RISE Business Occupancies	≥ 28 m Habitable Height				
FIRE AND LIFE SAFETY (FLS) REQUIREMENT						
Item	Fire Safety Provisions	Minimum Requirements		Low-rise	Mid-rise	High-rise
1.2	CLASSIFICATION OF OCCUPANCIES					
1.2.1	MULTIPLE OCCUPANCIES		All multiple occupancies shall be in accordance with NFPA 101 section 6.1.14 and the requirements of either 1.2.1.1 or 1.2.1.2.	Required	Required	Required
1.2.1.1	Mixed Occupancies		Each portion of the building shall be classified as to its use and shall comply with the most restrictive requirements of the occupancies involved, unless separate safeguards are approved.	Permitted	Permitted	Permitted



Item	Fire Safety Provisions	Minimum Requirements	Type A	Type B	Type C
1.2.1.2	Separated occupancies	Each part of the building comprising a distinct occupancy, shall be completely separated from other occupancies by the required separation, as specified in NFPA 101 Table 6.1.14.4.1(a) and Table 6.1.14.4.1(b).	Permitted	Permitted	Permitted
1.2.1.3	Combined Business Occupancies and Parking Structures.	The fire barrier separating parking structures from a building classified as a business occupancy shall be a fire barrier having a minimum 2-hour fire resistance rating.	Required	Required	Required
1.2.1.3(1)	Exemptions	Openings in the fire barrier shall not be required to be protected with fire protection-rated opening protectives in enclosed parking structures that are protected throughout by an approved, automatic sprinkler system, or in open parking structures, provided that all of the conditions in 1.2.1.3(1)(a) through 1.2.1.3(1)(f) are met:	Permitted	Permitted	Permitted
1.2.1.3 (1) (a)	Area of Openings	The openings do not exceed 25 percent of the area of the fire barrier in which they are located.	Required	Required	Required
1.2.1.3 (1) (b)	Use of the Openings	The openings are used as a public entrance and for associated sidelight functions	Required	Required	Required
1.2.1.3 (1) (c)	Extinguishing System	The building containing the business occupancy is protected throughout by an approved, automatic sprinkler system	Required	Required	Required
1.2.1.3 (1) (d)	Fuel Spill Protection	Means are provided to prevent spilled fuel from accumulating adjacent to the openings and entering the building.	Required	Required	Required
1.2.1.3 (1) (e)	Barriers	Physical means are provided to prevent vehicles from being parked or driven within 3050 mm of the openings.	Required	Required	Required
1.2.1.3 (1) (f)	Smoke Partition	The openings are protected as a smoke partition, with no minimum fire protection rating required.	Required	Required	Required
1.2.1.4	Atrium walls	Atrium walls shall be permitted to serve as part of the separation for creating separated occupancies on a story-by-story basis from non-hazardous spaces in assembly, educational, day care, health care, ambulatory health care, residential, and mercantile occupancies other than bulk merchandise buildings.	Permitted	Permitted	Permitted



Item	Fire Safety Provisions	Minimum Requirements	Type A	Type B	Type C
1.3	OCCUPANT LOAD (OL)	Determined on the basis of the occupant load factors (OLF) that are characteristic of the use of the space as specified in 1.3.1.	Required	Required	Required
1.3.1	OCCUPANT LOAD FACTOR (OLF) General Business Use Areas	The occupant load shall be not less than the number of persons determined by dividing the floor area assigned to that use by the occupant load factor of 9.3 m ² per person.	Required	Required	Required
1.4	CLASSIFICATION OF HAZARD OF CONTENTS	Contents of business occupancies shall be classified as Ordinary Hazard.	Required	Required	Required
1.5	MINIMUM CONSTRUCTION REQUIREMENTS.	Construction shall be in accordance with NFPA 5000 Chapters 7-8, 13-14, 31, and 35- 40.	Required	Required	Required
1.6	ACCESSIBILITY.	Accessibility shall be in accordance with NFPA 5000 Chapter 12.			
1.7	(Reserved).				
2.0	MEANS of EGRESS REQUIREMENTS	Means of egress shall comply with NFPA 101 Chapter 7, and as modified in item 2.0 of this FLS Occupancy Chapter.			
2.1	GENERAL				
2.1.1	STAIRS and RAMPS serving two or more floors below a street floor occupied for business use	Where two or more floors below the street floor are occupied for business use, the same stairs or ramps shall be permitted to serve each floor.	Permitted	Permitted	Permitted
2.1.1.1		An inside open stairway or inside open ramp shall be permitted to serve as a component of the required means of egress system from not more than one floor level below the street floor.	Permitted	Permitted	Permitted
2.2	MEANS OF EGRESS COMPONENTS	Means of egress components shall be limited to the types described in 2.2.1 through 2.2.7.	Required	Required	Required
2.2.1	DOORS	Doors shall be in accordance with NFPA 101 section 7.2.1, and the requirements in items 2.2.1.	Required	Required	Required
2.2.1.1	Door Locking to Prevent Unwanted Entry	Only where specialized security measures are needed to prevent unwanted entry in college and university classrooms, areas of office spaces open to the public, laboratories, or instructional rooms or spaces.	Permitted	Permitted	Permitted



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2.2.1.2	Locks	Locks complying with NFPA 101 section 7.2.1.5.5 shall be permitted only on principal entrance/exit doors that is expected to be unlocked in order for the facility to do business.	Permitted	Permitted	Permitted
2.2.1.3	Elevator Lobby Exit Access Door Assemblies Locking	Electrically locked door assemblies separating the elevator lobby from the exit access, in accordance with NFPA 101 section 7.2.1.6.3.	Permitted	Permitted	Permitted
2.2.1.4	Delayed-Egress Electrical Locking Systems	Approved, delayed-egress electrical locking systems installed on door assemblies serving low- and ordinary-hazard contents in buildings protected throughout by an automatic fire detection system or an automatic sprinkler system, complying with NFPA 101 section 7.2.1.6.1.	Permitted	Permitted	Permitted
2.2.1.5	Sensor-Release of Electrical Locking Systems	Door assemblies in the means of egress equipped with sensor-release electrical locking system hardware complying with NFPA 101 7.2.1.6.2.	Permitted	Permitted	Permitted
2.2.1.6	Horizontal or Vertical Security Grilles or Doors	As part of the required means of egress from a tenant space complying with NFPA 101 section 7.2.1.4.1(3)	Permitted	Permitted	Permitted
2.2.1.7	Revolving Doors	Revolving door assemblies, used or not used in the means of egress, complying with NFPA 101 section 7.2.1.10.	Permitted	Permitted	Permitted
2.2.2	STAIRS	Stairs complying with NFPA 101 section 7.2.2 and as specified in 2.2.2.1.	Permitted	Permitted	Permitted
2.2.2.1	Spiral Stairs	Spiral stairs as a component in a means of egress complying with NFPA 101 section 7.2.2.2.3.	Permitted	Permitted	Permitted
2.2.3	SMOKEPROOF ENCLOSURES	Smokeproof enclosures complying with NFPA 101 section 7.2.3.	Permitted	Permitted	Permitted
2.2.4	HORIZONTAL EXITS	Horizontal exit as a component in a means of egress or used as substitute for other exits complying with NFPA 101 section 7.2.4.	Permitted	Permitted	Permitted
2.2.5	RAMPS	Every ramp used as a component in a means of egress complying with NFPA 101 section 7.2.5.	Permitted	Permitted	Permitted
2.2.6	EXIT PASSAGEWAY	Exit passageways used as exit components complying with NFPA 101 section 7.2.6.	Permitted	Permitted	Permitted



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2.2.6.1		An exit passageway serving as a horizontal means of exit travel that is protected from fire in a manner similar to an enclosed interior exit stair.	Required	Required	Required
2.2.7	AREA OF REFUGE	Areas of refuge complying with NFPA 101 section 7.2.12.	Required	Required	Required
2.3	CAPACITY OF MEANS OF EGRESS	The capacity of means of egress shall be in accordance with NFPA 101 section 7.3 and as modified in 2.3.1.	Required	Required	Required
2.3.1	CORRIDOR OR PASSAGEWAY	The clear width of any corridor or passageway serving an occupant load of 50 or more shall not be less than 1200mm.	Required	Required	Required
2.3.2	STREET FLOOR EGRESS CAPACITY	Street floor exits shall be sufficient for the occupant load of the street floor plus the required capacity of open stairs and ramps discharging through the street floor.	Required	Required	Required
2.4	NUMBER OF MEANS OF EGRESS	The number of means of egress shall be in accordance with NFPA 101 7.4.	Required	Required	Required
2.4.1	GENERAL	Means of egress shall comply with all of the following, except as otherwise permitted by 2.4.3	Required	Required	Required
2.4.1.1		Not less than two separate exits shall be provided on every story.	Required	Required	Required
2.4.1.2		Not less than two separate exits shall be accessible from every part of every story.	Required	Required	Required
2.4.2	SINGLE EXIT ACCESS PATH	Exit access, as required by 2.4.1.2, shall be permitted to include a single exit access path for the distances permitted as common paths of travel.	Permitted	Permitted	Permitted
2.4.3	SINGLE EXIT PROVISION	Any building of not more than 15 m habitable height, shall be permitted a single separate exit to each story, provided that all of the conditions in 2.4.3.1 through 2.4.3.7 are met:	Permitted	NP-Not Permitted	NP
2.4.3.1	Floor Area Limit	Gross floor area is equal or less than 500 m ² per floor level	Required	-	-
2.4.3.2	Exit Discharge	The exit shall discharge directly to the building external at the level of exit discharge.	Required	-	-
2.4.3.3	Common Path of Travel	The total distance of travel from any point, to an exit, shall not exceed 23 m. or 30 m. in a single tenant business occupancy.	Required	-	-



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2.4.3.4	Corridor Wall Protection	All corridors serving as access to exits in a multiple tenant business occupancy shall have a minimum of 1-hour fire resistance rating. Single tenant occupancy shall not require corridor wall protection.	Required	-	-
2.4.3.5	Openings in Corridor Walls	All doors openings onto the exit access corridors (multi-tenant) are protected with self-closing door assemblies of 1-hour fire protection rating.	Required	-	-
2.4.3.6	Exit Stair Enclosures	Exit stairway is completely enclosed or separated from the rest of the building by a minimum 2-hour fire resistance rating (1.5-hrs doors) where the exit connects four or more stories.	Required	-	-
2.4.3.7	Exit Stair Ventilation	Provisions of smoke vents at the top of the stairwell, for buildings exceeding 9m (to not more than 15 m) habitable height.	Required	-	-
2.4.5	SINGLE EXIT PROVISIONS in Mezzanine	A single means of egress shall be permitted from a mezzanine, provided that the common path of travel does not exceed 23 m, or 30 m if protected throughout by an automatic sprinkler system.	Permitted	Permitted	Permitted
2.5	ARRANGEMENT OF MEANS OF EGRESS	Access to all required exits shall be arranged in accordance with NFPA 101 section 7.5. and as modified by 2.5.	Required	Required	Required
2.5.1	TRAVEL DISTANCE (TD) TO EXITS	Travel distance shall comply with 2.5.1.1 and 2.5.1.2.	Required	Required	Required
2.5.1.1		Travel distance to an exit shall from any point shall not exceed 61 m.	Required	Required	Required
2.5.1.2	Buildings Protected Throughout by an Approved Automatic Sprinkler System	Travel distance in business occupancies shall not exceed 91 m.	Required	Required	Required
2.5.2	COMMON PATH (CP) OF TRAVEL	Limits on common path of travel shall comply with 2.5.2.1 thru 2.5.2.3.	Permitted	Permitted	Permitted
2.5.2.1	Common Path Limit	Common path of travel shall not exceed 23 m.	Required	Required	Required
2.5.2.2	Buildings Protected Throughout by an Approved Automatic Sprinkler System	Common path of travel shall not exceed 30 m.	Required	Required	Required



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2.5.2.3		Common path of travel within a single tenant space having an occupant load not exceeding 30 persons shall not exceed 30 m.	Required	Required	Required
2.5.3	DEAD-END (DE) CORRIDOR	Dead-end corridors in accordance with 2.5.3.1 and 2.5.3.2.	Permitted	Permitted	Permitted
2.5.3.1		Dead-end corridors in buildings shall not exceed 6.0 m.	Required	Required	Required
2.5.3.2	Buildings Protected Throughout by an Approved Automatic Sprinkler System	Dead-end corridors shall not exceed 15 m.	Required	Required	Required
2.6	DISCHARGE FROM EXITS	Exit discharge shall comply with NFPA 101 section 7.7.	Required	Required	Required
2.6.1	EXIT TERMINATION	Exits shall terminate directly, at a public way or an exterior exit discharge.	Required	Required	Required
2.6.2	EXIT DISCHARGE THROUGH INTERIOR BUILDING AREAS	Exits shall be permitted to discharge through interior building areas, provided that all of the criteria in NFPA 101 section 7.7.2 are met.	Permitted	Permitted	Permitted
2.7	ILLUMINATION OF MEANS OF EGRESS	Means of egress shall be illuminated in accordance with NFPA 101 7.8.	Required	Required	Required
2.8	EMERGENCY LIGHTING	Emergency lighting shall be provided in accordance with NFPA 101 section 7.9 and as specified in 2.8.1 through 2.8.3.	Required	Required	Required
2.8.1		Emergency lighting shall be provided in any building where any one of the conditions in 2.8.1.1 through 2.8.1.3 exists:	Required	Required	Required
2.8.1.1	Number of Stories	The building is three (3) or more stories in height.	Required	Required	Required
2.8.1.2	Number of Occupants	The occupancy is subject to 50 or more occupants above or below the level of exit discharge.	Required	Required	Required
2.8.1.3	Total Number of Occupants	The occupancy is subject to 300 or more total occupants.	Required	Required	Required
2.8.2	UNDERGROUND AND LIMITED ACCESS STRUCTURES	Emergency lighting in accordance with Section 2.8 shall be provided for all underground and limited access structures.	Required	Required	Required
2.8.3	OFFICE AREAS	Emergency lighting shall be provided in corridors leading to multiple-closed offices and in open work area.	Required	Required	Required
2.9	MARKINGS OF MEANS OF EGRESS	Means of egress shall have signs in accordance with NFPA 101 section 7.10.	Required	Required	Required



Item	Fire Safety Provisions	Minimum Requirements	Type A	Type B	Type C
2.10	SPECIAL MEANS OF EGRESS FEATURES				
2.10.1	HAZARDOUS MATERIALS	Where hazardous materials are stored, used, or handled, the provisions of 2.10.1.1 and 2.10.1.2 shall apply.	Required	Required	Required
2.10.1.1	Hazardous materials classified as high-hazard contents	Hazardous materials that are stored, used, or handled, and that are also classified as high-hazard contents shall comply with the Special Provisions for Occupancies with High Hazard Contents in NFPA 101 section 7.12.2.	Required	Required	Required
2.10.1.2	Hazardous Materials	Hazardous materials shall comply with both 2.10.1.2(1) and 2.10.1.2(2)	Required	Required	Required
2.10.1.2(1)		Means of egress requirements of this Code	Required	Required	Required
2.10.1.2(2)		Applicable means of egress requirements of NFPA 30, NFPA 45, NFPA 55, NFPA 58, NFPA 400, and NFPA 495 that are stricter than NFPA 101 Chapter 7 requirements for Means of Egress and this occupancy chapter.	Required	Required	Required
3.0	PROTECTION	Protection shall comply with the applicable NFPA codes and standards, QCD FLS Annex and as modified in item 3.0 of this FLS Occupancy Chapter.			
3.1	PROTECTION OF VERTICAL OPENINGS	Vertical openings shall be enclosed or protected in accordance with NFPA 101 section 8.6.	Required	Required	Required
3.1.1	CONVENIENCE OPENINGS	Convenience openings in accordance with NFPA 101 section 8.6.9.	Permitted	Permitted	Permitted
3.1.1.1		Unenclosed vertical openings not concealed within the building construction in accordance with NFPA 101 section 8.6.9.1.	Permitted	Permitted	Permitted
3.1.2	CONVENIENCE STAIRWAYS	Unenclosed vertical openings created by convenience stairways complying with the conditions in NFPA 101 section 8.6.9.2.	Permitted	Permitted	Permitted
3.1.3	ESCALATORS AND MOVING WALKS not constituting an exit	Unenclosed vertical openings in accordance with NFPA 101 8.6.9.7, shall be permitted and the number of contiguous stories shall not be limited.	Permitted	Permitted	Permitted



Item	Fire Safety Provisions	Minimum Requirements	Type A	Type B	Type C
3.1.4	EXIT ACCESS STAIR	Unenclosed exit access stairs traversing a maximum two-story, single-tenant space complying with 3.1.4.1, 3.1.4.2 and 3.1.4.3.	Permitted	Permitted	Permitted
3.1.4.1		The building is protected throughout by an automatic sprinkler system, or	Required	Required	Required
3.1.4.2		Not less than two separate exits shall be provided on every story.	Required	Required	Required
3.1.4.3		The total travel to the outside does not exceed 30 m.	Required	Required	Required
3.1.5	FLOORS BELOW STREET FLOOR	Floors that are below the street floor and are used for storage or other than a business occupancy shall have no unprotected openings to business occupancy floors	Required	Required	Required
3.2	PROTECTION FROM HAZARDS	Hazardous areas including, but not limited to, areas used for general storage, boiler rooms, and maintenance shops that include woodworking and painting areas shall be protected in accordance with NFPA 101 section 8.7.	Required	Required	Required
3.2.1	GENERAL STORAGE/ARCHIVE	Protection of rooms inside individual tenant spaces that are used to store routine office supplies for that tenant.	NR- Not required	NR	NR
3.2.2	HIGH HAZARD CONTENTS AREAS	High hazard contents areas, shall meet all of the following criteria:	Required	Required	Required
3.2.2.1	Enclosures/Separation from Other Areas	The area shall be separated from other parts of the building by fire barriers having a min. 1-hour FR rating, and all openings therein protected by self-closing door assemblies having a min. 3/4-hour FP rating.	Required	Required	Required
3.2.2.2	Extinguishing Requirements	The area shall be protected by an automatic extinguishing system.	Required	Required	Required
3.2.3	HAZARDOUS MATERIALS	Business occupancies with storage, use, handling of hazardous materials and in areas where hazardous materials are present in excess of the maximum allowable quantities shall comply with the following codes: NFPA 30, NFPA 54, NFPA 55, NFPA 58, NFPA 400, and NFPA 495.	Required	Required	Required



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3.2.4	MEDICAL GAS	Medical gas storage areas and the operation, management, and maintenance of medical gases shall be in accordance with NFPA 99.	Required	Required	Required
3.2.5	COMMERCIAL COOKING OPERATIONS	Commercial cooking operations shall be protected in accordance with NFPA 96, unless the cooking equipment in 3.2.5.1 and 3.2.5.2 are used.	Required	Required	Required
3.2.5.1	Types of Cooking Equipment	Outdoor equipment	Permitted	Permitted	Permitted
3.2.5.2		Equipment used only for food warming	Permitted	Permitted	Permitted
3.3	INTERIOR FINISH	Interior finish shall be in accordance with NFPA 101 section 10.2.	Required	Required	Required
3.3.1	INTERIOR WALL AND CEILING FINISH	Interior wall and ceiling finish material shall be Class A or Class B in exits and in exit access corridors	Required	Required	Required
3.3.1.1		Interior wall and ceiling finishes shall be Class A, Class B, or Class C in areas other than those specified in 3.3.1	Required	Required	Required
3.3.2	INTERIOR FLOOR FINISH	Interior floor finish in exit enclosures shall be Class I or Class II.	Required	Required	Required
3.4	DETECTION, ALARM & COMMUNICATION REQUIREMENTS				
3.4.1	GENERAL	Complete coverage of Fire Detection and Alarm System.	Required	Required	Required
3.4.2	INITIATION	Complete coverage of an Automatic Detection and Manual Initiating Devices.	Required	Required	Required
3.4.3	OCCUPANT NOTIFICATION	Complete Coverage of an Occupant Notification (audible & visible).	Required	Required	Required
3.4.3.1	Emergency Voice Evacuation System	Mass Notification System	NR	NR	Required
3.4.4	SUPPLEMENTARY				
3.4.4.1	Fire Telephone	In every required provisions of a fire command center (FCC) or emergency control center (ECC).	Required	Required	Required
3.4.4.2	Graphic Annunciator (PC Panel) or Mimic Panel	In every required provisions of a fire command center (FCC) or emergency control center (ECC).	Required	Required	Required
3.5	EXTINGUISHMENT REQUIREMENTS				



Item	Fire Safety Provisions	Minimum Requirements	Type A	Type B	Type C
3.5.1	AUTOMATIC SPRINKLER (AS) SYSTEM	Business occupancies shall be protected throughout by an approved, supervised automatic sprinkler system.	NR	NR	Required
3.5.1.1	Basement Level/s	Basement level (car park and other usage) with fire area or fire compartment exceeding 1115 m ² .	Required	Required	Required
3.5.1.2		Multiple-level Basement (car park and other usage) regardless of fire area or fire compartment.	Required	Required	Required
3.5.1.3	Vertical Openings: Convenience Stairways & Atrium	Buildings with unprotected openings shall be protected throughout by an approved, supervised automatic sprinkler system.	Required	Required	Required
3.5.2	OTHER AUTOMATIC SUPPRESSION SYSTEM	Where an automatic sprinkler system is required in Section 3.5.1 and 3.5.1.1 through 3.5.1.3, the appropriate type of automatic suppression system shall be permitted.	Permitted	Permitted	Permitted
3.5.3	Fire Hose Reel	Fire hose reels are required in buildings protected by an approved supervised automatic sprinkler system.	Required	Required	Required
3.5.4	Portable Fire Extinguisher	Applicable Portable Fire Extinguishers required in all buildings.	Required	Required	Required
3.5.5	Rising Main (Dry or Wet Standpipe)	Refer to Annex Fire Fighting System Annex_FFS_G1 Revisions 2021	Required	Required	Required
3.6	SMOKE CONTROL / VENTILATION REQUIREMENTS	Legend: NR-Not Required; NA-Not Applicable; NP-Not Permitted			
3.6.1	STAIRWELL/LOBBY	Design conditions per Annex ACMV_N1 Revisions 2021.			
3.6.1.1	Less than 9 m habitable height		No Reqmt	No Reqmt	No Reqmt
3.6.1.2	9 m to 15 m habitable height	Vent at top of stairwell	Required	NA	NA
		Stair ventilation openings at every floor level (for stairs along external walls)	Permitted	NA	NA
		Stairwell Pressurization	NR	NA	NA



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3.6.1.3	>15 m to < 28 m habitable height	Vent at top of stairwell	NA	NP	NA
		Stair ventilation openings at every floor level (for stairs along external walls)	NA	Required	NA
		Stairwell Pressurization	NA	Permitted	NA
3.6.1.4	≥28 m habitable height	Vent at top of stairwell	NA	NA	NP
		Stair ventilation openings at every floor level (for stairs along external walls)	NA	NA	NP
		Stairwell pressurization, smoke stop/fire fighting lobby pressurization	NA	NA	Required
	Connecting Basement Levels				
3.6.1.5	Two basement levels or ≤6 m deep, ≤2000 m ² floor area	Vent at top of stairwell : * Permitted up to five (5) connecting above floors (2B+G+4 or less) or 12 m habitable height ; whichever is less; otherwise next below provisions shall apply.	*Required	NP	NP
		Stair ventilation openings at every floor level (for stairs along external walls)	Permitted	Required	NP
		Stairwell pressurization, smoke stop/fire fighting lobby pressurization	Permitted	Permitted	Required
3.6.1.6	Three basement levels or ≤ 9.1m deep, ≤2000 m ² floor area	Vent at top of stairwell : * Permitted up to three (3) connecting above floors only (3B+G+2 or less) or 6m habitable height, whichever is less; otherwise next below provisions shall apply	*Required	NP	NP
		Stair ventilation openings at every floor level (for stairs along external walls)	NA	NA	NA
		Stairwell pressurization, smoke stop/fire fighting lobby pressurization	Permitted	Permitted	Permitted



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3.6.1.7	Two basement levels or ≤ 6 m deep, >2000 m ² floor area	Vent at top of stairwell: * Permitted up to four (4) connecting floors (2B+G+3 or less) or 9 m habitable height ; whichever is less; otherwise next below provisions shall apply.	*Required	NP	NP
		Stair ventilation openings at every floor level (for stairs along external walls)	Required	NP	NP
		Stairwell pressurization, smoke stop/fire fighting lobby pressurization	Permitted	Required	Required
3.6.1.8	Three basement levels or ≤ 9.1 m deep, >2000 m ² floor area, connecting one floor above only	Vent at top of stairwell : * Permitted up to two connecting above floors or 3 m habitable height only (3B+G+1 or less); whichever is less, otherwise next below provisions shall apply	*Required	NP	NP
		Stair ventilation openings at every floor level (for stairs along external walls)	NA	NA	NA
		Stairwell pressurization, smoke stop/fire fighting lobby pressurization.	Permitted	Required	Required
3.6.1.9	Lowest basement level >9.1 m below ground level, regardless of floor area	Vent at top of stairwell	NP	NP	NP
		Stair ventilation openings at every floor level (for stairs along external walls)	NP	NP	NP
		Stairwell pressurization, smoke stop/fire fighting lobby pressurization	Required	Required	Required
3.6.2	ESCAPE CORRIDOR PROTECTION	Design conditions per Annex ACMV_N1 Revisions 2021.			
3.6.2.1	Interior Corridors	Vents (Fixed or Automatic Opening)	Required in specific type of Occupancy: Healthcare Occupancies and in Detention and Correctional Occupancies		
		Mechanical Ventilation of Corridor			
		Pressurization of Corridor			
3.6.2.2	Corridor with side/s located along exterior walls	Vents (Fixed or Automatic Opening)			
		Mechanical Ventilation of Corridor			
		Pressurization of Corridor			



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3.6.3	ATRIUM and OTHER FLOOR OPENINGS PROTECTION	Design conditions per Annex ACMV_N1 Revisions 2021.			
3.6.3.1	Malls (with floor openings connecting >2 floors)	Smoke Vents (Fixed or Automatic Opening)	Required	NP	NP
		Mechanical Smoke Exhaust Ventilation System/Engineered	Permitted	Required	Required
3.6.3.2	Other Occupancies (connecting >3 floor levels)	Smoke Vents (Fixed or Automatic Opening)	Required	Permitted	NP
		Mechanical Smoke Exhaust Ventilation System/Engineered	Permitted	Permitted	Required
3.6.4	CAR PARKS/PARKING STRUCTURES PROTECTION	Design conditions per Annex ACMV_N1 Revisions 2021.			
3.6.4.1	Open Parking Structures	The open parking structure shall justify that no smoke stagnation will occur such as from a fire located somewhere in the middle of the car park; otherwise mechanical equipment that will aid in effective dispersal of smoke shall be provided	Required	Required	Required
3.6.4.2	Aboveground Enclosed Car Parks				
3.6.4.2.1	Aggregate floor area of $\leq 2000 \text{ m}^2$	Smoke Vents (Fixed or Automatic)	Required	Required	Permitted
		Mechanical Smoke Purging/Clearance	Permitted	Permitted	Required
		Engineered Smoke Control System	Permitted	Permitted	Permitted
3.6.4.2.2	Aggregate floor area of $> 2000 \text{ m}^2$	Smoke Vents (Fixed or Automatic)	Required	NP	NP
		Mechanical Smoke Purging/Clearance	Permitted	Required	NP
		Engineered Smoke Control System	Required	Permitted	Required
3.6.4.3	Belowground Car Parks		$\leq 6\text{m}$ Deep	$> 6\text{m} -$ $\leq 9.1 \text{ m}$ Deep	$> 9.1 \text{ m}$ Deep
3.6.4.3.1	Aggregate floor area of $\leq 2000 \text{ m}^2$	Smoke Vents (Fixed or Automatic)	Required	NP	NP
		Mechanical Smoke Purging/Clearance	Permitted	Required	Required
		Engineered Smoke Control System	Permitted	Permitted	Permitted



Item	Fire Safety Provisions	Minimum Requirements	Type A	Type B	Type C
3.6.4.3.2	Aggregate floor area of >2000 m ²	Smoke Vents (Fixed or Automatic)	NP	NP	NP
		Mechanical Smoke Purging/Clearance	Required	NP	NP
		Engineered Smoke Control System	Permitted	Required	Required
3.7	CORRIDORS		Low-rise	Mid-rise	High-rise
3.7.1	WALLS	Where access to exits is provided by corridors, such corridors shall be separated from use areas by fire barriers having a minimum 1-hour fire resistance rating, unless one of the conditions in 3.7.1.1, 3.7.1.2 or 3.7.1.3 exists:	Required	Required	N/A - Not Applicable
3.7.1.1		Where exits are available from an open floor area, such as open plan buildings, corridors are not required to be separated.	Permitted	Permitted	Permitted
3.7.1.2		Within a space occupied by a single tenant limited to an area occupied under a single management and work the same hours.	Permitted	Permitted	Permitted
3.7.1.3		Within buildings protected throughout by an automatic sprinkler system	Permitted	Permitted	Permitted
3.7.2	Openings in Corridor Walls	All doors and other openings onto the exit access corridors shall have not less than 30 minutes fire protection rating unless the corridor serves spaces occupied by a single tenant.	Required	Required	Required
3.7.2.1	Self-closing Devices	Doors required to be protected in accordance with 3.7.2, shall be self-closing and self-latching.	Required	Required	Required
3.8	(Reserved).				
4.0	SPECIAL PROVISIONS.	Special Provisions for Firefighting and Rescue shall comply with QCD FLS Annex and as modified in item 4.0 of this FLS Occupancy Chapter.			
4.1	FIRE (EMERGENCY) COMMAND CENTER (FCC)	QCD FLS Annex_A5 – Revisions_2021.	NR-Not Required	NR	Required
4.1.1		A Fire Command Center shall be provided in buildings that requires Emergency Voice Communication System and/or Smoke Control System.	Required	Required	Required



Item	Fire Safety Provisions	Minimum Requirements	Type A	Type B	Type C
4.1.2	Exemptions	In other than high-rise buildings, instead of a dedicated FCC, lobbies or other spaces adjacent to the main entrance/s may be permitted.	Permitted	Permitted	NP-Not Permitted
4.2	FIREMAN'S ACCESS PANELS/ OPENINGS	QCD FLS Annex_A3 – Revisions_2021	Required	Required	Required
4.3	FIRE LIFTS (FIRE SERVICE ACCESS ELEVATORS)	QCD FLS Annex_A4 – Revisions_2021	NR-Not Required	NR	Required
4.3.1		The building basements is more than nine (9) meters below the average ground level.	Required	Required	Required
4.3.2	FIREFIGHTING LOBBY	QCD FLS Annex_A2 – Revisions_2021	Required	Required	Required
4.3.3	SMOKE-STOP LOBBY	QCD FLS Annex_A2 – Revisions_2021	Required	Required	Required
4.4	AMBULANCE STRETCHER ACCOMMODATION	QCD FLS Annex_A4 – Revisions_2021	NR	Required	Required
4.5	EXTERNAL ACCESS TO SITE AND BUILDINGS	QCD FLS Annex_A3 – Revisions_2021	Required	Required	Required
4.5.1	SITE ACCESS/ACCESS ROAD	For gated facility development a 4.0 m wide access road and 4.5 m clear height vertical clearance entry gate or site access shall be provided.	Required	Required	Required
4.5.2	FIRE ENGINE HARDSTANDING (FEH)	FEH with longer side parallel to the façade of the building shall be provided in buildings exceeding the habitable height of 10 m.	Required	Required	Required
4.6	REFUGE FLOORS	QCD FLS Annex_A1 – Revisions_2021	NA	NA	Required
4.7	(Reserved).				
5.0	BUILDING SERVICES and FIRE PROTECTION EQUIPMENT	Building Services and Fire Protection Equipment shall comply with the applicable NFPA codes and standards and QCD FLS Annex.			
5.1	ELECTRICAL SYSTEM	Electrical wiring and equipment shall be in accordance with NFPA 70.	Required	Required	Required



Item	Fire Safety Provisions	Minimum Requirements	Type A	Type B	Type C
5.1.1	ELECTRICAL EQUIPMENT/PANEL ROOMS AND SIMILAR ROOMS/ SPACES	QCD FLS Annex _A7 – Revisions_2021	Required	Required	Required
5.1.2	EMERGENCY GENERATORS AND STANDBY POWER SYSTEMS.	Emergency generators and standby power systems shall be installed, tested, and maintained in accordance with NFPA 110.	Required	Required	Required
5.1.3	STORED ELECTRICAL ENERGY SYSTEMS	Stored electrical energy systems shall be installed, tested, and maintained in accordance with NFPA 111.	Required	Required	Required
5.2	COMMERCIAL COOKING OPERATIONS	Where permitted, commercial cooking operations shall be protected in accordance with NFPA 96.	Required	Required	Required
5.3	ELEVATORS, ESCALATORS, and CONVEYORS	An elevator, shall not be considered a component in a required means of egress and shall be in accordance with NFPA 101 section 9.4.	Required	Required	Required
5.3.1	NUMBER OF CARS	The number of elevator cars permitted in a hoistway shall be not more than three (3).	Required	Required	Required
5.3.2	OPENINGS TO EXIT ENCLOSURES	Conveyors, elevators, dumbwaiters, and pneumatic conveyors serving various stories of a building shall not open to an exit enclosure.	Required	Required	Required
5.4	WASTE HANDLING SYSTEM	Waste chutes and its associated trash collection storage rooms and service opening rooms, when provided shall comply with NFPA 101 section 9.5.	Required	Required	Required
5.4.1		Approved waste chutes and transport systems, including gravity waste chutes, full pneumatic waste conveying systems, and gravity pneumatic waste conveying systems, shall comply with the provisions of NFPA 82.	Required	Required	Required
5.4.1.1	Construction	Waste chutes, shall be separately enclosed by walls or partitions of not less than 2-hrs fire resistance rating and chute intake openings protection of 1.5-hour fire protection rating.	Required	Required	Required



Item	Fire Safety Provisions	Minimum Requirements	Type A	Type B	Type C
5.4.1.2	Trash Collection Storage Rooms	Waste chutes shall have its associated trash collection, service opening rooms separately enclosed by walls of not less than 1-hr fire resistance rating and openings protection of 3/4-hour fire protection rating.	Required	Required	Required
5.4.1.3		The doors of chutes shall open only to a trash collection, service opening room, laundry storage room or to a room that is designed and used exclusively for accessing the chute opening.	Required	Required	Required
5.4.2	GRAVITY CHUTES	A waste chute shall extend (full size) at least 0.92 m. above the roof of a building.	Required	Required	Required
5.4.2.1		The chute shall be open to the atmosphere, with the opening being the same cross-sectional area as the chute.	Required	Required	Required
5.5	FIRE PUMPS				
5.5.1	FIRE PUMPS ROOM	QCD FLS Annex _A6 – Revisions_2021	Required	Required	Required
5.6	SUBSTATION and SWITCHGEARS	QCD FLS Annex _A8 – Revisions_2021	Required	Required	Required
5.7	(Reserved).				

