CONSTRUCTION ASSOCIATION OF NEW BRUNSWICK

2025 NBC UPDATES

Presented by:

RJ Bartlett Engineering

A division of CBCL Solutions today Tomorrow mind

March 2025

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SEMINAR NOTES

General flexibility

~20-minute modules

Two-way discussion

Questions? **Fire** away!

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AGENDA

- **Introductions**
- **Module 1**
  - Transition period dates
  - Revised structure
  - Notes to part 2
- **Module 2**
  - Occupancy classification
  - Farm buildings
- **Module 3**
  - Construction types
  - Fire separations and stopping
  - Encapsulated mass timber

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AGENDA

- **Module 4**
  - Construction requirements
  - Fire alarm and protection systems
  - Sprinklers and standpipes
  - Emergency lighting and power
- **Module 5**
  - Egress doorways
  - Safety within floor areas
- **Module 6**
  - Exiting facilities
  - Tactile signage

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AGENDA

- **Module 7**
  - Housing and small buildings
  - Stairs, ramps, handrails, & guards
  - Means of egress
  - Fire protection
- **Module 8**
  - Safety at construction and demolition sites
- **Module 9**
  - 2020 national fire code
  - 2025 proposed changes

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INTRODUCTION

CANDACE COLPITTS
M.SC.E., P.ENG.
PROJECT MANAGER

- FIRE PROTECTION ENGINEERING
- BUILDING & FIRE CODE CONSULTING

B.SC. MECHANICAL ENGINEERING
(UNIVERSITY OF NEW BRUNSWICK, 2015)

M.SC.E MECHANICAL ENGINEERING
(UNIVERSITY OF NEW BRUNSWICK, 2017)

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INTRODUCTION

ESTABLISHED 1987

22 STAFF

- FIRE PROTECTION ENGINEERING
- BUILDING & FIRE CODE CONSULTING
- FORENSIC INVESTIGATIONS
- FIRE SAFETY PLANNING
- FIRE PROTECTION SYSTEMS

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INTRODUCTION

Clients & Projects

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INTRODUCTION

CONTRIBUTIONS TO DEVELOPMENT OF NATIONAL CODES AND STANDARDS:

CANADIAN STANDARDS ASSOCIATION

- MEMBER, TECHNICAL SUBCOMMITTEE ON HEALTH CARE FACILITY COMMISSIONING

NATIONAL RESEARCH COUNCIL CANADIAN CODE COMMISSION

- MEMBER, TASK GROUP ON PLANNING AND IMPLEMENTATION OF OBJECTIVE BASED CODES
- MEMBER, STANDING COMMITTEE ON HAZARDOUS MATERIALS AND ACTIVITIES (NFC PARTS 3, 4, AND 5)
- MEMBER, TASK GROUP ON BIG BOX STORES
- MEMBER, STANDING COMMITTEE ON USE AND EGRESS (NBC PART 3)

UNDERWRITERS' LABORATORY OF CANADA

- MEMBER OF STANDARDS SUBCOMMITTEES ON INSTALLATION (S524), INSPECTION AND TESTING (S536), AND VERIFICATION OF FIRE ALARM SYSTEMS (S537)

INTRODUCTION

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AREAS OF EXPERTISE

CLIENT SERVICE

FIRE PROTECTION ENGINEERING

- FIRE DYNAMICS
- FIRE MODELING
- FIRE PROTECTION SYSTEMS DESIGN
- FIRE PROTECTION SYSTEMS COMMISSIONING

BUILDING AND FIRE CODE CONSULTING

FIRE SAFETY PLANNING

FIRE HAZARD ANALYSIS

TECHNICAL TRAINING

INTRODUCTION

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AREAS OF EXPERTISE

FIRESTOP SYSTEMS EVALUATION

FORENSIC INVESTIGATIVE ENGINEERING

- FILE MANAGEMENT
- ORIGIN AND CAUSE
- SCOPE AND DAMAGES
- REPAIR AND REPLACEMENT COSTS
- EVENT RECONSTRUCTION
- EXPERT RESOURCE AND WITNESS

DUE DILIGENCE

CODES

NBC

NFC

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CODE EVOLUTION

- ENGLISH AND FRENCH LANGUAGES
- ADOPTED BY A REGULATORY AUTHORITY
- REGIONAL AMENDENTS AND/OR SUPPLEMENTS TO SUIT NEEDS
- 2020: 15TH NBC EDITION / 11TH NFC EDITION
- 5-YEAR CYCLES AS A RULE
- CCBFC → CBHCC
- PUBLIC REVIEWS - TYPICALLY IN FALL
- STANDARDS DEVELOPMENT (CGSA, NFPA, CSA, ASTM …)
- CCMC – EVALUATION OF NEW AND INNOVATIVE PRODUCTS

OVERVIEW

REVISED STRUCTURE

NEW BRUNSWICK WILL ADOPT THE 2020 NBC AS OF **APRIL 1, 2025**

2015 → 2020

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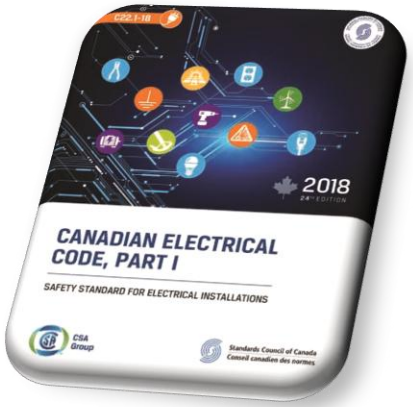
APPLICABLE EDITIONS



2012 → 2018

2013 → 2019

2014 → 2019

2015 → 2020

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TERMS AND ABBREVIATIONS

D E F I N E D T E R M S

POST-DISASTER BUILDING

BUILDING THAT IS **NECESSARY** FOR THE PROVISION OF ESSENTIAL SERVICESTO THE **GENERAL PUBLIC** IN THE EVENT OF A **DISASTER**

ADDED:
CONTROL CENTRES FOR NATURAL GAS DISTRIBUTION
WATER TREATMENT FACILITIES
WATER STORAGE FACILITIES
SEWAGE PUMPING STATIONS

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NOTES TO PART 1 & 2

NOTES TO DIVISION A - PART 1

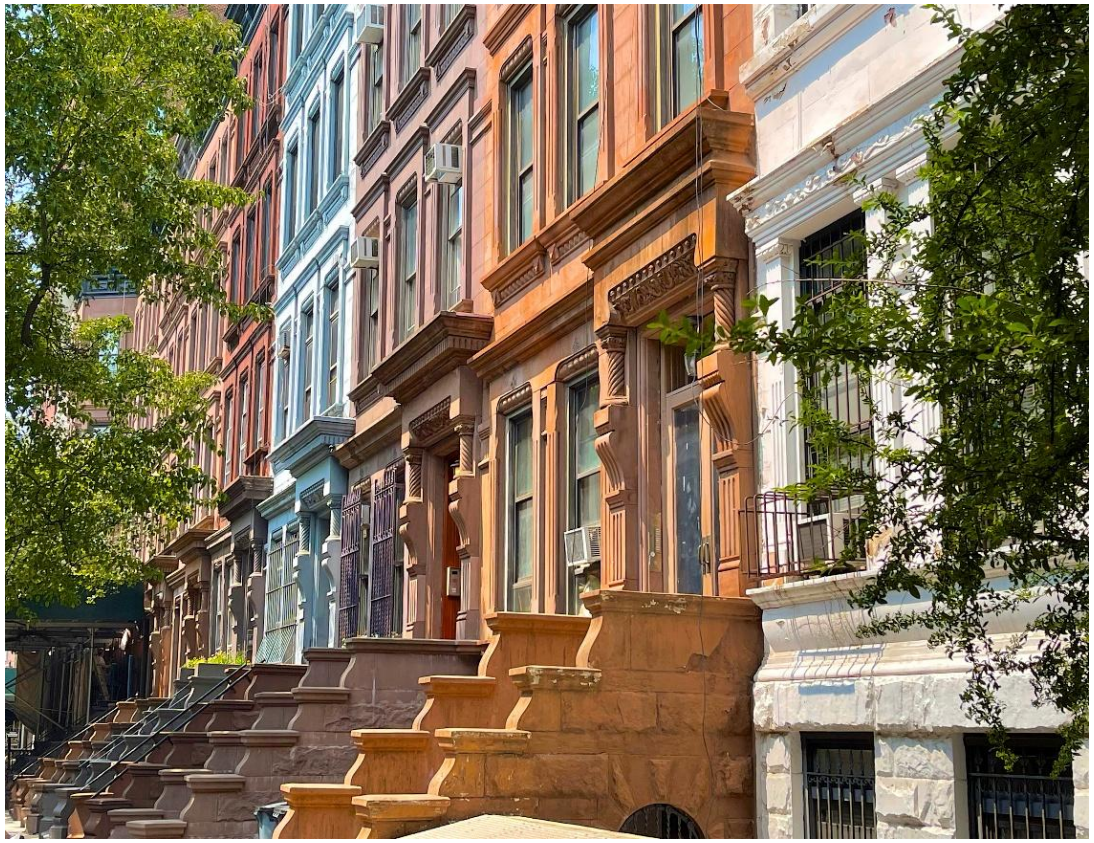
ARTICLE 1.4.1.2

SECONDARY SUITE

RESIDENTIAL OCCUPANCY

CONTAINS ONLY ONE OTHER DWELLING UNIT AND COMMON SPACES,

BOTH DWELLING UNITS CONSTITUTE A SINGLE REAL ESTATE ENTITY



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NOTES TO DIVISION A - PART 2

NOTE A–2.2.1.1.(1)

PERSON

ANY INDIVIDUAL IN OR ADJACENT TO THE BUILDING, INCLUDING THE OCCUPANTS, THE PUBLIC, AND EMERGENCY RESPONDERS **INCLUDING FIREFIGHERS WHEN PERFORMING DUTIES**

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NOTES TO DIVISION B - PART 2

NOTE A–2

FARM BUILDINGS

PART 2 DOES NOT APPLY TO **LARGE** FARM BUILDINGS THAT DO NOT QUALIFY AS HAVING “LOW HUMAN OCCUPANCY”

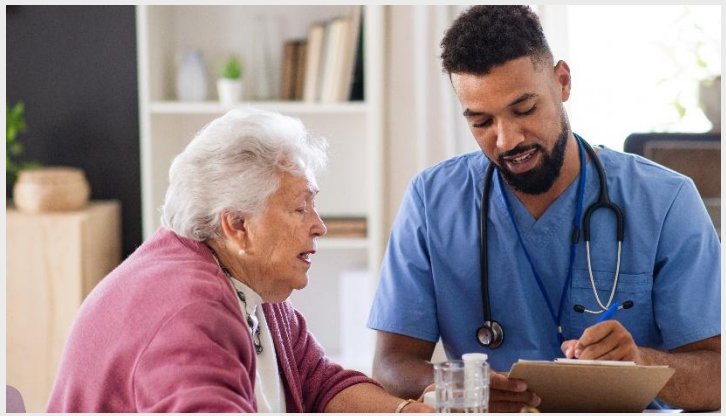
OCCUPANCY CLASSIFICATION

NEW OCCUPANCY TYPES

APPLICATION OF CODE

GROUP B, DIVISION 4

HOME-TYPE CARE



GROUP G, DIVISIONS 1 TO 4

AGRICULTURAL OCCUPANCIES

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OCCUPANCY CLASSIFICATION

GROUP B, DIVISION 4

HOME-TYPE CARE

THE OCCUPANCY OR USE OF A BUILDING CONSISTING OF A SINGLE DETACHED HOUSEKEEPING UNIT WHERE CARE IS PROVIDED TO RESIDENTS AND MAY INCLUDE THE LIVING SPACE OF THE CAREGIVER AND THEIR FAMILY

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OCCUPANCY CLASSIFICATION

AGRICULTURAL OCCUPANCY

ARTICLE 1.4.1.2

ASSOCIATED WITH AND DEVOTED TO:

- FARMING,
- RAISING FARM ANIMALS, OR
- PREPARING/MARKETING/STORING/ PROCESSING AGRICULTURAL PRODUCTS

ARTICLE 1.1.1.1.(3)

FARM BUILDINGS:

- ≤ 3 STOREYS
- ≤ 600 m^2 BUILDING AREA
- GROUP G, DIVISION 1, 2, OR 3 AGRICULTURAL OCCUPANCIES
- CONFORM TO 1995 NATIONAL FARM BUILDING CODE

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AGRICULTURAL OCCUPANCIES

GROUP G, DIV 1

HIGH-HAZARD AGRICULTURAL OCCUPANCIES

- LIVESTOCK WITH BELOW-FLOOR LIQUID MANURE STORAGE
- FEED MILLS
- GRAIN ELEVATORS
- FLAMMABLE/COMPRESSED GASES & LIQUIDS STORAGE

GROUP G, DIV 2

AGRICULTURAL OCCUPANCIES NOT ELSEWHERE CLASSIFIED IN GROUP G

- ANIMAL EXERCISE/TRAINING FACILITIES
- PACKAGING & PROCESSING OF AGRICULTURAL PRODUCTS
- PRODUCTION OF PLANTS AND FUNGI
- FRUIT AND VEGETABLE STORAGE
- MILKING FACILITIES

GROUP G, DIV 3

GREENHOUSE AGRICULTURAL OCCUPANCIES

- GREENHOUSES

GROUP G, DIV 4

AGRICULTURAL OCCUPANCIES WITH NO HUMAN OCCUPANTS

- BIOMASS FACILITIES
- BY-PRODUCT FACILITIES
- GRAIN BINS
- HORIZONTAL/VERTICAL SILOS
- STORAGE BINS

FARM BUILDINGS

DIVISION B - PART 2

SCOPE

FIRE, STRUCTURAL, HEATING, VENTILATING AND AIR-CONDITIONING PERFORMANCE OF FARM BUILDINGS

THE PROCESSES AND OPERATIONS CARRIED OUT

INVOLVE RISK OF EXPLOSION, HIGH FLAMMABILITY OR RELATED CONDITIONS

EXCEPTIONS

GROUP G, DIVISION 1 OR 4 MAJOR OCCUPANY CANNOT CONTAIN A GROUP A, B, OR C OCCUPANY

GROUP G, DIVISION 2 OR 3 MAJOR OCCUPANY CANNOT CONTAIN A GROUP A, DIVISION 1 OR 3, OR GROUP B OCCUPANY

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FARM BUILDINGS

FIRE ALARM SYSTEM

REQUIREMENTS

INSTALLED IN A BUILDING THAT IS NOT SPRINKLERED THROUGHOUT AND THAT:

CONTAINS A GROUP G, DIVISION 1 OCCUPANY WITH **> 25 PEOPLE**,

CONTAINS A GROUP G, DIVISION 2 OR 3 OCCUPANY WITH **> 150 PEOPLE**, **> 1 STOREY**, OR BASEMENT USED FOR A PURPOSE OTHER THAN THE HOUSING OF SERVICE EQUIPMENT

FIRE ALARM SYSTEMS

SINGLE-STAGE SYSTEM IN GROUP G, DIVISION 1

SINGLE- OR 2-STAGE SYSTEM IN GROUP G, DIVISION 2 OR 3

3.1. GENERAL

COMBUSTIBLE CONSTRUCTION

EXTERIOR CLADDING

3.1.4.8.(1)

FOR 3.2.2.51 & 3.2.2.60. BUILDINGS**, ≥ 90%** of the CLADDING ON EACH WALL BE:

- NONCOMBUSTIBLE, OR
- A WALL ASSEMBLY SATISFYING **CAN/ULC-S134**

3.1.4.8.(2)

FOR 3.2.2.51 & 3.2.2.60. BUILDINGS FACING **1 STREET**, CLADDING ON EACH WALL BE:

- NONCOMBUSTIBLE, OR
- A WALL ASSEMBLY SATISFYING **CAN/ULC-S134**

3.1.4.8.(3)

FIRE-RETARDANT-TREATED WOOD IS TO BE TESTED FOR FIRE EXPOSURE

TESTED AFTER **ASTM D2898** ACCELERATED WEATHERING TEST

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NBC APPENDIX D, SECTION D-6

FIRE PERFORMANCE OF EXTERIOR WALL ASSEMBLIES

EXTERIOR WALL ASSEMBLIES CONSTRUCTED IN CONFORMANCE WITH **D-6** MEET CLAUSE 3.1.5.5.(1)(b) WHEN TESTED IN ACCORDANCE WITH **CAN/ULC-S134**, *"STANDARD METHOD OF FIRE TEST OF EXTERIOR WALL ASSEMBLIES"*

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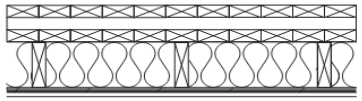
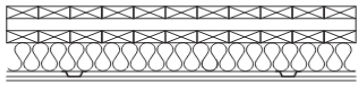
Table D-6.1.1.
Construction Specifications for Exterior Wall Assemblies that Are Deemed to Satisfy the Criteria of Clause 3.1.5.5.(1)(b) when Tested in Accordance with CAN/ULC-S134

Wall Number	Structural Members	Absorptive Material	Sheathing	Cladding	Design
EXTW-1	38 mm × 89 mm wood studs spaced at 400 mm o.c.(1)(2)	89 mm thick rock or slag fibre in cavities formed by studs(3)(4)	—	12.7 mm thick fire-retardant-treated plywood siding(5)	 GG00531A
EXTW-2	38 mm × 140 mm wood studs spaced at 400 mm o.c.(1)(2)	140 mm thick rock or slag fibre in cavities formed by studs(3)(4)	Gypsum sheathing ≥ 12.7 mm thick	Noncombustible exterior cladding	 GG00530A
EXTW-3	38 mm × 140 mm wood studs spaced at 400 mm o.c.(1)(2)	140 mm thick rock or slag fibre in cavities formed by studs(3)(4)	15.9 mm thick fire-retardant-treated plywood(6)	Noncombustible exterior cladding	 GG00532A
EXTW-4	38 mm × 140 mm wood studs spaced at 600 mm o.c.(1)(7) attached to cross-laminated timber (CLT) wall panels ≥ 38 mm thick(8)	140 mm thick glass, rock or slag fibre in cavities formed by studs(3)	Gypsum sheathing ≥ 12.7 mm thick	Noncombustible exterior cladding	 GG00533A
EXTW-5	89 mm horizontal Z-bars spaced at 600 mm o.c. attached to CLT wall panels ≥ 105 mm thick(8)	89 mm thick rock or slag fibre in cavities formed by Z-bars(3)(4)	—	Noncombustible exterior cladding attached to 19 mm vertical hat channels spaced at 600 mm o.c.	 GG00534A

Notes to Table D-6.1.1.:

(1) The stated stud dimensions are maximum values. Where wood studs with a smaller depth are used, the thickness of the absorptive material in the cavities formed by the studs must be reduced accordingly.

(2) Horizontal blocking between the vertical studs or horizontal stud plates must be installed at vertical intervals of not more than 2 324 mm, such that the maximum clear length between the horizontal blocking or stud plates is 2 286 mm.

(3) The absorptive material must conform to CAN/ULC-S702.1, "Standard for Mineral Fibre Thermal Insulation for Buildings, Part 1: Material Specification."

(4) The absorptive material must have a density not less than 32 kg/m^3.

(5) The fire-retardant-treated plywood siding must conform to the requirements of Article 3.1.4.5. and must have been conditioned in conformance with ASTM D2898, "Standard Practice for Accelerated Weathering of Fire-Retardant-Treated Wood for Fire Testing," before being tested in accordance with CAN/ULC-S102, "Standard Method of Test for Surface Burning Characteristics of Building Materials and Assemblies."

(6) The fire-retardant-treated plywood must conform to the requirements of Article 3.1.4.5.

(7) Horizontal blocking between the vertical studs or horizontal stud plates must be installed at vertical intervals of not more than 2 438 mm, such that the maximum clear length between the horizontal blocking or stud plates is 2 400 mm.

(8) A water-resistant barrier is permitted to be attached to the face of the CLT wall panels.

NONCOMBUSTIBLE CONSTRUCTION

MINOR COMBUSTIBLE COMPONENT

SENTENCE 3.1.5.2.(1)(g)

PERMITTED IN A BUILDING OF NON-COMBUSTIBLE CONSTRUCTION:

WOOD BLOCKING INTENDED FOR THE ATTACHEMENT OF WINDOW ELEMENTS WITHIN EXTERIOR WALL ASSEMBLIES

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NONCOMBUSTIBLE CONSTRUCTION

WINDOWS, GLAZING & SKYLIGHTS

SENTENCE 3.1.5.4.(5)

RESTRICTIONS REMOVED ON AREA FOR COMBUSTIBLE WINDOW FRAMES

UNCHANGED SINCE 1965

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NONCOMBUSTIBLE CONSTRUCTION

WINDOWS, GLAZING & SKYLIGHTS

SENTENCE 3.1.5.4.(5)

COMBUSTIBLE WINDOW SASHES AND FRAMES PERMITTED IN NONCOMBUSTIBLE CONSTRUCTION, PROVIDED THEY ARE VERTICALLY NON-CONTIGUOUS BETWEEN STOREYS

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NONCOMBUSTIBLE CONSTRUCTION

COMBUSTIBLE CLADDING ON EXTERIOR WALLS

SENTENCE 3.1.5.5.(4) AND 3.1.5.6.(2)

EXTERIOR WALL ASSEMBLIES CONSTRUCTED IN ACCORDANCE WITH SECTION **D-6** OF NBC APPENDIX D ARE DEEMED TO SATISFY **CAN/ULC-S134** CRITERIA FOR FIRE TEST OF EXTERIOR WALLS

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FIRE SEPARATIONS

FIRE SEPARATIONS AND CLOSURES

GENERAL REQUIREMENTS

ARTICLE 3.1.8.1

PARTITIONS TO BE CONSTRUCTED AS A CONTINUOUS ELEMENT **IN CONFORMANCE WITH ARTICLE 3.1.8.3,** OR PROTECTED BY CLOSURES, SHAFTS, OR OTHER MEANS IN CONFORMANCE WITH ARTICLES 3.1.8.4 TO 3.1.8.20 AND SUBSECTIONS 3.1.9 AND 3.2.8.

FIRE SEPARATIONS AND CLOSURES

EXPANDED REQUIREMENTS FOR CONTINUITY OF FIRE SEPARATIONS

3.1.8.3. Continuity of Fire Separations

1) Except as permitted by Sentence 3.6.4.2.(2), a *horizontal service space* or other concealed space located above a required vertical *fire separation*, including the walls of a vertical shaft, shall be divided at the *fire separation* by an equivalent *fire separation* within the *service space*.

2) Except as provided in Sentence (5), the continuity of a *fire separation* having a *fire-resistance rating* that abuts another *fire separation*, a floor, a ceiling, or a roof shall be maintained by a *firestop* conforming to Sentence (3). (See Note A-3.1.8.3.(2).)

3) The *firestop* required in Sentence (2) shall have an FT rating not less than the *fire-resistance rating* of the abutting *fire separation* when subjected to the fire test method in CAN/ULC-S115, "Standard Method of Fire Tests of Firestop Systems."

4) Except as provided in Sentence (5), joints located in a horizontal plane between a floor and an exterior wall shall be sealed by a *firestop* that, when subjected to the fire test method in ASTM E2307, "Standard Test Method for Determining Fire Resistance of Perimeter Fire Barriers Using Intermediate-Scale, Multi-storey Test Apparatus," has an F rating not less than the *fire-resistance rating* of the horizontal *fire separation*.

5) Joints between ceilings and walls, between floors and walls, and between walls at corners need not comply with Sentences (2) and (4) where such joints consist of gypsum board that is attached to framing members and arranged so as to restrict the passage of flame and smoke through the joints. (See Note A-3.1.8.3.(5).)

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TEMPERATURE RISE LIMIT FOR DOORS

Table 3.1.8.17.
Restrictions on Temperature Rise and Glazing for Closures
Forming Part of Articles 3.1.8.17. and 3.1.8.18.

Location	Minimum Required *Fire-Protection Rating* of Door	Maximum Temperature Rise on Opaque Portion of Unexposed Side of Door, °C	Maximum Aggregate Area of Wired Glass or Safety Glazing in a Door, m²	Maximum Aggregate Area of Glass Block, Wired Glass or Safety Glazing Panels Not in a Door, m²
Between a dead-end corridor and an adjacent *occupancy* where the corridor provides the only *access to exit* and is required to have a *fire-resistance rating*	Less than 45 min	No limit	No limit	No limit
	45 min	250 after 30 min	0.0645	0.0645
Between an *exit* enclosure and the adjacent *floor area* in a *building* not more than 3 *storeys* in *building height*	All ratings	No limit	0.8	0.8
Between an *exit* enclosure and the adjacent *floor area* (except as permitted above)	45 min	250 after 30 min	0.0645	0.0645
	1.5 h	250 after 1 h	0.0645	0.0645
	2 h	250 after 1 h	0.0645	0.0645
In a *firewall*	45 min	250 after 30 min	0.0645	0
	1.5 h	250 after 30 min	0.0645	0
	3 h	250 after 1 h	0	0

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PENETRATIONS IN FIRE SEPARATIONS & FIRE-RATED ASSEMBLIES

F I R E S T O P S

SENTENCE 3.1.9.1.(1)

ONLY STEEL, FERROUS, COPPER, CONCRETE, OR MASONRY PERMITTED TO BE **CAST IN PLACE**

SENTENCE 3.1.9.1.(6)

SERVICE EQUIPMENT PENETRATIONS CONTAINED WITHIN THE CAVITY OF A **HORIZONTAL** FIRE SEPARATION ARE PERMITTED TO BE SEALED AT THE PENETRATION BY A FIRESTOP THAT HAS AN **F RATING** NOT LESS THAN THE FRR FOR THE FIRE SEPARATION PER **CAN/ULC-S115**

SENTENCE 3.1.9.1.(7)

SERVICE EQUIPMENT PENETRATIONS THROUGH A HORIZONTAL FIRE SEPARATION PERMITTED TO BE SEALED AT THE PENETRATION BY A FIRESTOP THAT HAS AN **F RATING** ≥ THE FRR FOR THE FIRE SEPARATION, PROVIDED THE PENETRATION:

a) IS CONTAINED WITHIN THE CONCEALED SPACE OF A FLOOR/CEILING ASSEMBLY

b) IS LOCATED ABOVE A CEILING MEMBRANE THAT IS A HORIZONTAL FIRE SEPARATION, OR

c) IS CONTAINED WITHIN A HORIZONTAL SERVICE SPACE DIRECTLY ABOVE/BELOW THE FLOOR

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SERVICE PENETRATIONS

2015 NBC ARTICLE 3.1.9.2. to 3.1.9.4. COMBINED INTO NEW ARTICLE 3.1.9.2. and 3.1.9.3.

3.1.9.2. Service Equipment Penetrations

1) Ducts, electrical outlet boxes, pipes, totally enclosed raceways, optical fibre cables, electrical wires and cables, and other similar service equipment are permitted to penetrate a *fire separation* or a membrane forming part of an assembly required to have a *fire-resistance rating*, provided they are protected at the penetration with a *firestop* conforming to Sentence 3.1.9.1.(1). (See Note A-3.1.9.2.(1).)

2) *Combustible* totally enclosed raceways that are embedded in a concrete floor slab are permitted in an assembly required to have a *fire-resistance rating*, provided the concrete cover between the raceway and the bottom of the slab is not less than 50 mm.

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SERVICE PENETRATIONS

2015 NBC ARTICLE 3.1.9.2. to 3.1.9.4. COMBINED INTO NEW ARTICLE 3.1.9.2. and 3.1.9.3.

3.1.9.3. Penetration by Outlet Boxes

(See Note A-3.1.9.3.) (See also Note A-3.1.9.2.(1).)

1) Except as provided in Sentence (3), outlet boxes are permitted to penetrate the membrane of an assembly required to have a *fire-resistance rating*, provided they are sealed at the penetration by a *firestop* that has an FT rating not less than the *fire-resistance rating* of the *fire separation* when subjected to the fire test method in CAN/ULC-S115, "Standard Method of Fire Tests of Firestop Systems."

2) *Combustible* outlet boxes are permitted to penetrate the membrane of an assembly required to have a *fire-resistance rating*, provided they are sealed at the penetration by a *firestop* that, when subjected to the fire test method in CAN/ULC-S115, "Standard Method of Fire Tests of Firestop Systems," has an FT rating not less than the *fire-resistance rating* for the *fire separation*.

3) Except as provided in Sentences 3.1.9.1.(2) and (3), *noncombustible* outlet boxes that penetrate a vertical *fire separation* or a membrane forming part of an assembly required to have a *fire-resistance rating* need not conform to Sentence (1), provided

a) they do not exceed
   i) 0.016 m^2 in area, and
   ii) an aggregate area of 0.065 m^2 in any 9.3 m^2 of surface area, and
b) the annular space between the membrane and the *noncombustible* electrical outlet boxes does not exceed 3 mm.

4) Outlet boxes on opposite sides of a vertical *fire separation* having a *fire-resistance rating* shall be separated by

a) a horizontal distance of not less than 600 mm,
b) a *fire block* conforming to Article 3.1.11.7., or
c) a *firestop* installed on each outlet box that has an FT rating not less than the *fire-resistance rating* of the *fire separation* when subjected to the fire test method in CAN/ULC-S115, "Standard Method of Fire Tests of Firestop Systems."

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PENETRATIONS IN FIRE SEPARATIONS & FIRE-RATED ASSEMBLIES

NEW REQUIREMENTS FOR COMBUSITBLE PIPING PENETRATIONS

NEW CLAUSE 3.1.9.4.(4)(a) and (b)

4) *Combustible* drain, waste and vent piping is permitted to penetrate a *fire separation* required to have a *fire-resistance rating* or a membrane that forms part of an assembly required to have a *fire-resistance rating*, provided

a) except as provided in Clause (b), the piping is sealed at the penetration by a *firestop* that has an F rating not less than the *fire-resistance rating* required for the *fire separation* when subjected to the fire test method in CAN/ULC-S115, "Standard Method of Fire Tests of Firestop Systems,"

b) in *buildings* more than 3 *storeys* in *building height*, the piping is sealed at the penetration by a *firestop* that has an F rating not less than the *fire-resistance rating* required for the *fire separation* when subjected to the fire test method in CAN/ULC-S115, "Standard Method of Fire Tests of Firestop Systems," with a pressure differential of 50 Pa between the exposed and unexposed sides, with the higher pressure on the exposed side, and

c) the piping is not located in a *vertical service space*.

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PENETRATIONS IN FIRE SEPARATIONS & FIRE-RATED ASSEMBLIES

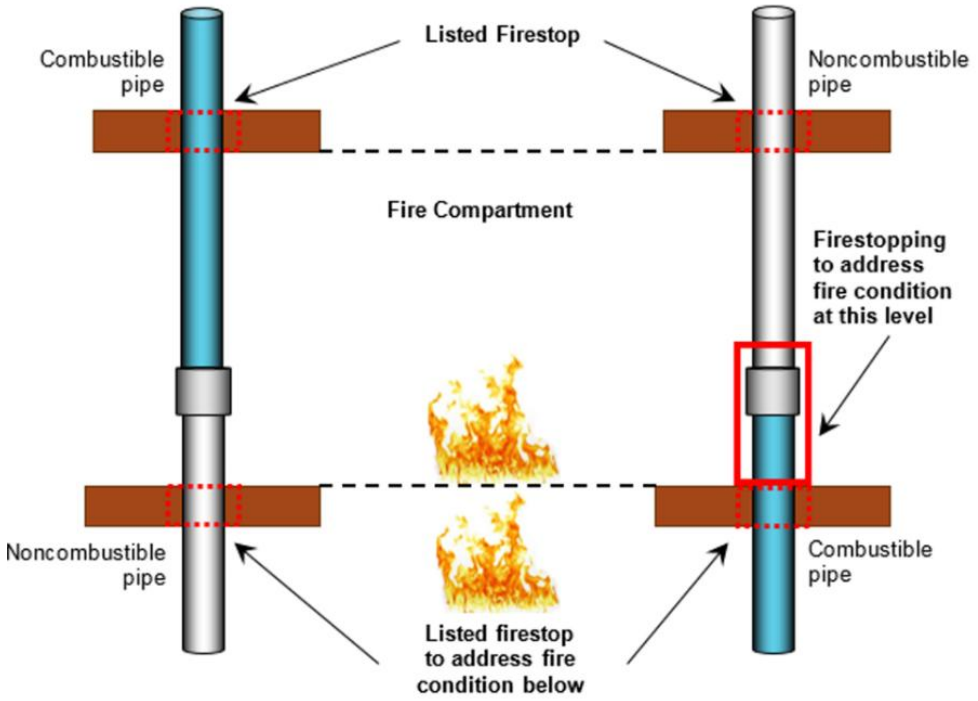
P I P I N G P E N E T R A T I O N S

SENTENCE 3.1.9.4.(7)

PENETRATIONS INCORPORATING **TRANSITIONS** BETWEEN COMBUSTIBLE AND NONCOMBUSTIBLE DRAIN, WASTE, AND VENT PIPING ARE TO BE SEALED BY A FIRESTOP IN ACCORDANCE WITH **CAN/ULC-S115**

SENTENCE 3.1.9.4.(8)

TRANSITIONS BETWEEN VERTICAL NONCOMBUSTIBLE DRAIN, WASTE, AND VENT PIPING AND COMBUSTIBLE BRANCHES FOR DRAIN, WASTE, AND VENT PIPING ARE PERMITTED ON EITHER SIDE SEPARATION, PROVIDED THEY ARE NOT IN A **VERTICAL SERVICE SPACE**



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SERVICE FACILITIES

STORAGE OF COMBUSTIBLES

ARTICLE 3.6.2.5.

ROOM WITH **TEMPORARY** COMBUSTIBLE REFUSE/RECYCLING STORAGE:

1 h FIRE SEPARATION, OR

45 min FIRE SEPARATION PERMITTED IF FLOOR ASSEMBLY ≤ 45 min

STILL MUST BE SPRINKLERED

3.1.6. ENCAPSULATED MASS TIMBER CONSTRUCTION (EMTC)

ENCAPSULATED MASS TIMBER CONSTRUCTION

RESEARCH

WOOD CONSTRUCTION CAN MEET INTENT OF NONCOMBUSTIBILITY REQUIREMENTS FOR STRUCTURAL ELEMENTS

SUCCESSFUL IN EUROPE

50 min ENCAPSULATION RATING

PERMISSIONS FOR SOME SURFACES TO BE EXPOSED

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ENCAPSULATED MASS TIMBER CONSTRUCTION

CONSTRUCTION

BEAMS, COLUMNS, ARCHES, WALL, FLOOR, AND ROOF ASSEMBLIES:

- HEAVY SOLID MASS
- NO CONCEALED SPACES (UNLESS PERMITTED BY 3.1.6.3.(4))
- SMOOTH FLAT SURFACES
- NO THIN SECTIONS
- SHARP PROJECTIONS

ENCAPSULATION MATERIALS

- GYPSUM BOARD
- GYPSUM CONCRETE
- NONCOMBUSTIBLE MATERIALS
- CAN/ULC-S135
- COMBINATION OF ALL OF THE ABOVE

BUILDING MATERIALS PERMITTED

MATERIALS IN EMTC TO CONFORM TO SUBSECTION 3.1.5. (NONCOMBUSTIBLE CONSTRUCTION)

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ENCAPSULATED MASS TIMBER CONSTRUCTION

STRUCTURAL MASS TIMBER

SOLID SAWN HEAVY TIMBER (HEAVY TIMBER)

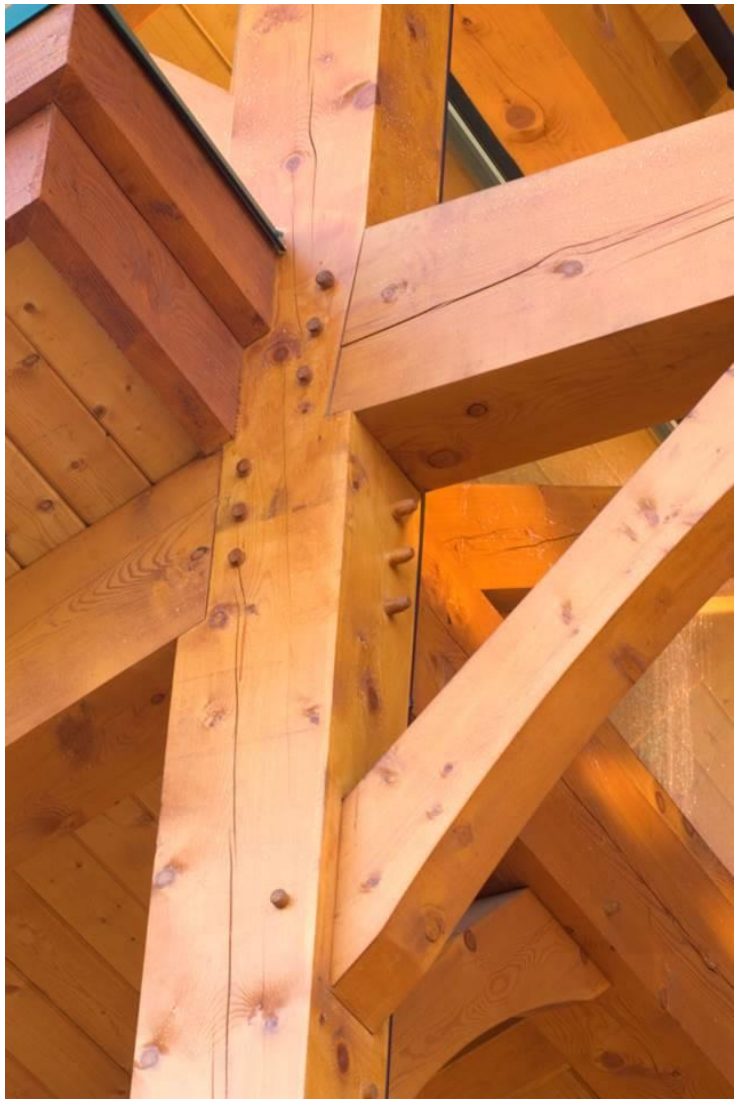
GLUED-LAMINATED TIMBER (GLULAM)

STRUCTURAL COMPOSITE LUMBER (SCL)

CROSS-LAMINATED TIMBER (CLT)

NAIL-LAMINATED TIMBER (NLT)

DOWEL-LAMINATED TIMBER (DLT)



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ENCAPSULATED MASS TIMBER CONSTRUCTION

Table 3.1.6.3.
Minimum Dimensions of Structural Mass Timber Elements in Encapsulated Mass Timber Construction
Forming Part of Sentences 3.1.6.3.(2), 3.1.6.8.(1) and 3.1.6.17.(1)

Structural Wood Elements	Minimum Thickness, mm	Minimum Width × Depth, mm × mm
Walls that are *fire separations* or exterior walls (1-sided fire exposure)	96	—
Walls that require a *fire-resistance rating*, but are not *fire separations* (2-sided fire exposure)	192	—
Floors(1) and roofs (1-sided fire exposure)	96	—
Beams, columns and arches (2- or 3-sided fire exposure)	—	192 × 192
Beams, columns and arches (4-sided fire exposure)	—	224 × 224

Notes to Table 3.1.6.3.:

(1) The minimum dimensions for floor assemblies are also applicable to mezzanines and exterior balconies.

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ENCAPSULATED MASS TIMBER CONSTRUCTION

ENCAPSULATION RATINGS (≥ 50 MIN)

- GYPSUM-CONCRETE TOPPING AND GYPSUM **≥ 38 mm** THICK (50 MIN)
- **2-LAYERS 12.7 mm** TYPE X GYPSUM BOARD (50 MIN)
- RATING DETERMINED IAW **CAN/ULC-S146**

50 MIN RATING EXEMPTIONS:

- **≤ 10%** WALL AREA WITHIN A SUITE/FIRE COMPARTMENT & FLAME SPREAD RATING (FSR) **≤ 150**
- IF EXPOSED SURFACES FACE SAME DIRECTION & FSR **≤ 150**
- **≤ 10%** CEILING AREA WITHIN A SUITE & FSR **≤ 150**
- **≤ 25%** CEILING AREA WITHIN A SUITE WITH NO MASS TIMBER WALLS & FSR **≤ 75**

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ENCAPSULATED MASS TIMBER CONSTRUCTION

COMBUSTIBLE WINDOW SASHES AND FRAMES

PERMITTED PROVIDED:

- EACH WINDOW IS SEPARATED FROM OTHER OPENINGS BY **NONCOMBUSTIBLE** OR **EMTC**
- **≥ 1 m** SEPARATION BETWEEN CONTIGUOUS STOREYS
- AGGREGATE AREA OF OPENINGS IN SINGLE FIRE COMPARTMENT **≤ 40%** EXTERIOR WALL FACE

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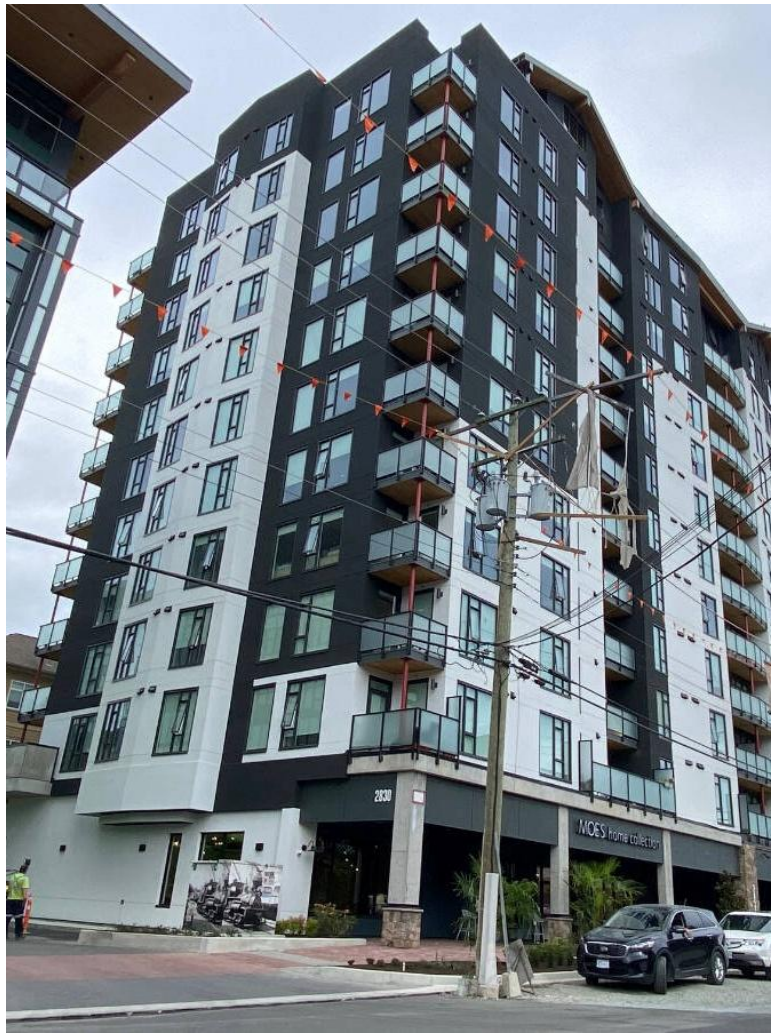
ENCAPSULATED MASS TIMBER CONSTRUCTION



EXTERIOR CLADDING (ARTICLE 3.1.6.9.)

- NONCOMBUSTIBLE, EXCEPT AS OTHERWISE PERMITTED
- COMBUSTIBLE CLADDING PERMITTED IN ACCORDANCE WITH ARTICLE 3.1.6.9
  - LIMITS ON AGGREGRATE AREA
  - REQUIRED SEPARATION BETWEEN INDIVIDUAL PORTIONS
  - LIMITS ON FSR
  - 100% COMBUSTIBLE CLADDING PERMITTED ON **1ST STOREY** IF LOCATED 15 M FROM A STREET/FD ACCESS ROUTE
  - PERMITTED IF IN ACCORDANCE WITH CLAUSE 3.1.5.5.(1)(b)
- IF PERMITTED UPTO ≤10%, TABLE 3.2.3.7. CONSTRUCTION REQUIREMENTS TO BE MET

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ENCAPSULATED MASS TIMBER CONSTRUCTION

COMBUSTIBLE STAIRS (ARTICLE 3.1.6.13)

PERMITTED IN EXIT STAIRWELLS, PROVIDED STAIRS AND LANDINGS MEET 3.1.6.3. AND 3.1.6.4.(1) AND (2)

PERMITTED WITHIN A SUITE

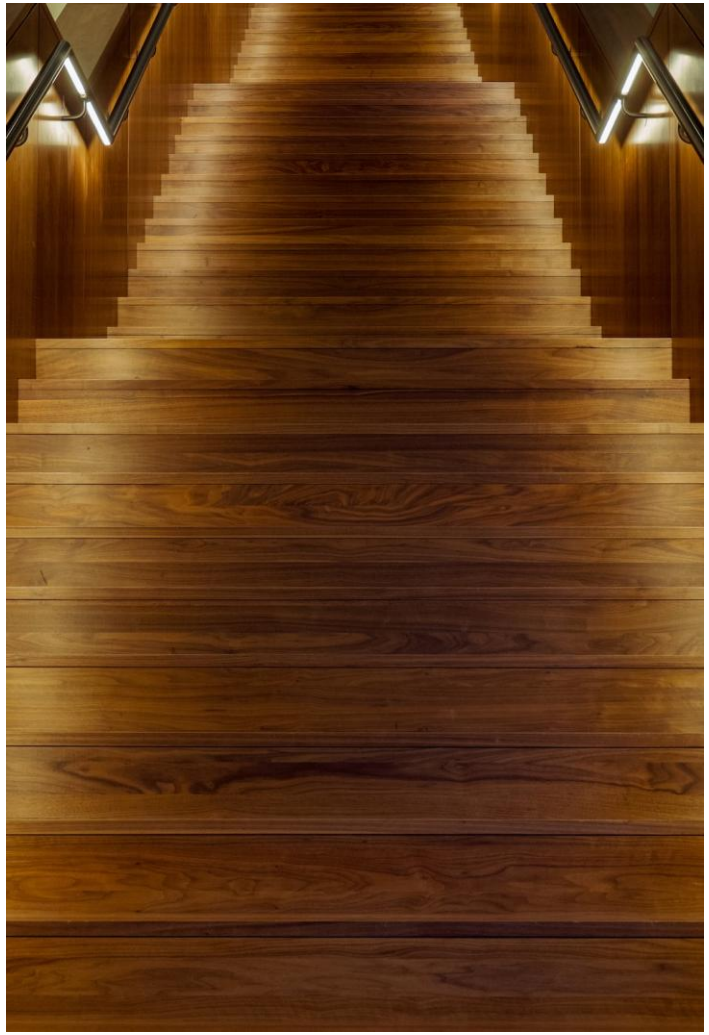
COMBUSTIBLE INTERIOR FINISHES (ARTICLE 3.1.6.14)

≤ 1 mm THICK WALLS & CEILINGS

WALLS: **≤ 25 mm** THICK, IF FSR **≤ 150**

CEILINGS:
≤ 25 mm THICK, IF FSR **≤ 25**
≤ 10% OF CEILING, IF FSR **≤ 150**
≤ 25 mm THICK FIRE RETARDENT TREATED WOOD

NO FOAMED PLASTICS UNLESS **≤ 1 mm**



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ENCAPSULATED MASS TIMBER CONSTRUCTION

3.2.2.48.

GROUP C

UP TO 12 STOREYS

SPRINKLERED

3.2.2.57.

GROUP D

UP TO 12 STOREYS

SPRINKLERED

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3.2. BUILDING FIRE SAFETY

CONSTRUCTION REQUIREMENTS

S T R E E T S

SENTENCE 3.2.2.10.(3)

ARTICLE 3.2.2.51. OR 3.2.2.60. BUILDINGS CONSIDERED TO FACE 1 STREET WHERE:

a) ≥ **25%** OF THE BUILDING PERIMETER IS LOCATED WITHIN 15 m OF A STREET, OR

b) ≥ **10%** OF THE BUILDING PERIMETER LOCATED WITHIN 15 m OF A STREET OR STREETS, & **EXTERIOR CLADDING** CONFORMS TO SENTENCE 3.1.4.8.(2).

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CONSTRUCTION REQUIREMENTS

BALCONIES

SENTENCE 3.2.2.11.(2)

BALCONIES SERVING BUILDINGS CONSTRUCTED TO 3.2.2.48. OR 3.2.2.57. ARE TO:

a) BE OF NONCOMBUSTIBLE CONSTRUCTION, OR

b) BE CONSTRUCTED IN ACCORDANCE WITH ARTICLE 3.1.6.3., BUT NEED NOT COMPLY WITH ARTICLE 3.1.6.4.(1)

CONSTRUCTION REQUIREMENTS

ROOF ASSEMBILES & MEZZANINES

SENTENCE 3.2.2.17.(2)

MEZZANINE **FIRE-RESISTANCE RATING** WAIVED FOR GYNASIUMS, SWIMMING POOLS, ARENAS, AND RINKS:

- MEZZANINE ≠**STOREY**
- MEZZANINE ONLY FOR VENTILATING, SOUND & LIGHTING EQUIPMENT, AND
- MEZZANINE **≥ 6 m** ABOVE THE MAIN FLOOR/BALCONY

(DOES NOT APPLY TO INCLINED/STEPPED FLOOR ASCENDING FROM MAIN FLOOR OR BALONY SEATING)

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CONSTRUCTION REQUIREMENTS

GROUP C, UP TO 12 STOREYS, SPRINKLERED

ARTICLE 3.2.2.48.

- GROUP C
- SPRINKLERED
- BUILDING HEIGHT ≤ **12** STOREYS AND ≤ **42 m**
- BUILDING AREA ≤ **6,000 m²**
- ***ENCAPSULATED MASS TIMBER CONSTRUCTION*** OR ***NONCOMBUSTIBLE CONSTRUCTION*** PERMITTED
- **2 h** FLOOR ASSEMBLIES
- **1 h** MEZZANINES
- LOADBEARING WALLS/COLUMNS/ARCHES WITH FIRE-RESISTANCE RATING NOT LESS THAN THAT REQUIRED FOR THE SUPPORTED ASSEMBLY

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CONSTRUCTION REQUIREMENTS

GROUP C, UP TO 12 STOREYS, SPRINKLERED

ARTICLE 3.2.2.48.

- FLOOR ASSEMBLIES WITHIN DWELLING UNITS WITH **> 1 STOREY**, TO BE **1 h**, BUT **NEED NOT BE CONSTRUCTED AS FIRE SEPARATIONS**

- **GROUP A, DIVISION 2**, **GROUP E** MAJOR OCCUPANCIES, AND **STORAGE GARAGES** PERMITTED, PROVIDED:
  - GROUP A, DIVISION LOCATED BELOW THE **4TH STOREY**,
  - GROUP E LOCATED BELOW THE **3RD STOREY**, AND
  - STORAGE GARAGE LOCATED BELOW THE **5TH STOREY**

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CONSTRUCTION REQUIREMENTS

GROUP D, UP TO 12 STOREYS, SPRINKLERED

ARTICLE 3.2.2.57.

- GROUP **D**
- SPRINKLERED
- BUILDING HEIGHT ≤ **12** STOREYS AND ≤ **42 m**
- BUILDING AREA ≤ **6,000 m²**
- ***ENCAPSULATED MASS TIMBER CONSTRUCTION*** OR ***NONCOMBUSTIBLE CONSTRUCTION*** PERMITTED
- **2 h** FLOOR ASSEMBLIES
- **1 h** MEZZANINES
- LOADBEARING WALLS/COLUMNS/ARCHES WITH FIRE-RESISTANCE RATING NOT LESS THAN THAT REQUIRED FOR THE SUPPORTED ASSEMBLY

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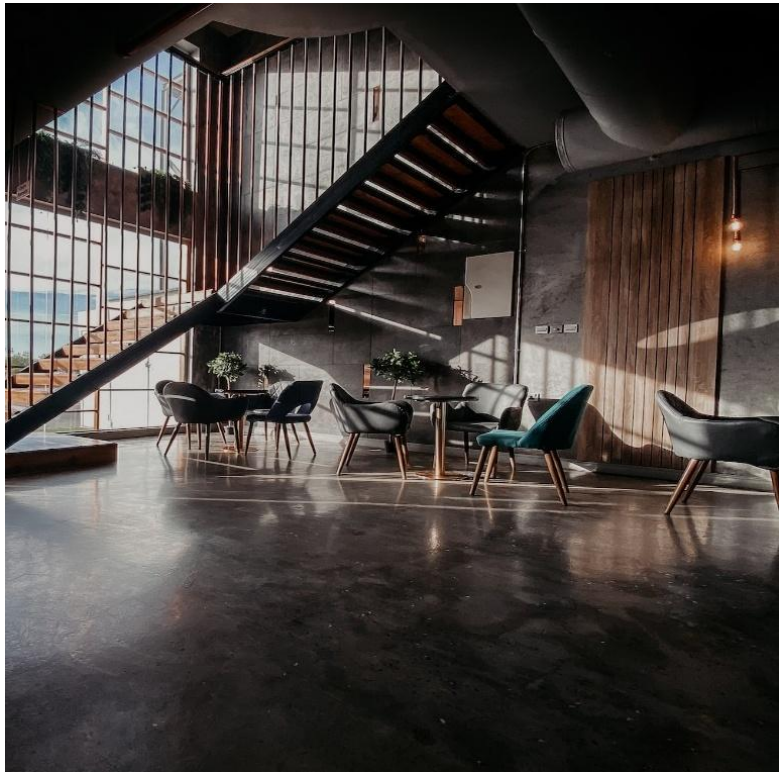
CONSTRUCTION REQUIREMENTS

GROUP D, UP TO 12 STOREYS, SPRINKLERED

ARTICLE 3.2.2.57.

- **GROUP A, DIVISION 2**, **GROUP E** MAJOR OCCUPANCIES, AND **STORAGE GARAGES** PERMITTED, PROVIDED:
  - GROUP A, DIVISION LOCATED BELOW THE **4TH STOREY**,
  - GROUP E LOCATED BELOW THE **3RD STOREY**, AND
  - STORAGE GARAGE LOCATED BELOW THE **5TH STOREY**



CONSTRUCTION REQUIREMENTS

GROUP C & D, UP TO 6 STOREYS, SPRINKLERED

SENTENCES
3.2.2.51.(5) & 3.2.2.60.(4)

a) **GROUP A, DIVISION 2** AND **GROUP E** MAJOR OCCUPANCY PERMITTED BELOW THE **3RD STOREY**, AND

b) **STORAGE GARAGE** PERMITTED BELOW THE **4TH STOREY**

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HIGH RISE BUILDINGS

APPLICATION

SENTENCE 3.2.6.1.(2)

GROUP D EMTC/NC UP TO 12 STOREYS AS PER ARTICLE 3.2.2.57
FLOOR LEVEL OF HIGHEST STOREY IS **> 18 m** ABOVE GRADE

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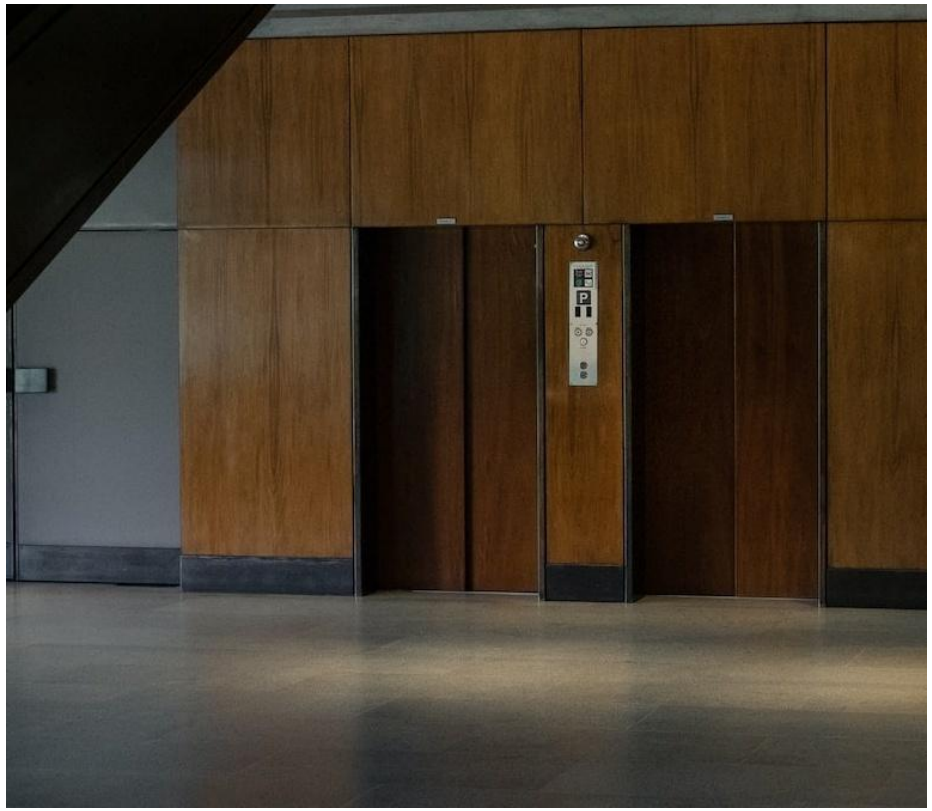
HIGH RISE BUILDINGS

ELEVATORS FOR USE BY FIREFIGHTERS

- ELECTRICAL CONDUCTORS PERMITTED TO CONFORM TO **CAN/ULC-S139**
- *"STANDARD FOR FIRE TEST FOR CIRCUIT INTEGRITY OF FIRE-RESISTIVE POWER, INSTRUMENTATION, CONTROL AND DATA CABLES"*
- INCLUDING HOSE STREAM APPLICATION
- PROVIDE CIRCUIT INTEGRITY RATING **≥ 1 h**



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FIRE ALARM AND PROTECTION SYSTEMS

FIRE ALARMS AND DETECTION SYSTEMS

REQUIREMENTS FOR FIRE ALARM SYSTEM

SENTENCE 3.2.4.1.(5)

NOT REQUIRED IN RESIDENTIAL OCCUPANCY THAT IS NOT SPRINKLERED WHERE:

a) ≤ **4 SUITES** SHARE COMMON MEANS OF EGRESS, OR

b) EACH SUITE HAS **DIRECT ACCESS** TO AN EXTERIOR EXIT FACILITY LEADING TO GRADE

FIRE ALARMS AND DETECTION SYSTEMS

ELECTRICAL SUPERVISION

SENTENCE 3.2.4.9.(5)

ELECTRICAL SUPERVISION IS TO BE PROVIDED TO INDICATE A LOSS OF POWER TO A HEAT TRACING CABLE THAT IS INSTALLED TO HEAT STANDPIPE RISERS AND SPRINKLER LINES

SENTENCE 3.2.4.9.(6)

SUPERVISORY SIGNALS FOR **FIRE PUMPS AND SPRINKLER** SYSTEMS ARE TO BE TRANSMITTED TO THE FIRE DEPARTMENT IN CONFORMANCE WITH SENTENCE 3.2.4.7.(4).

FIRE ALARMS AND DETECTION SYSTEMS

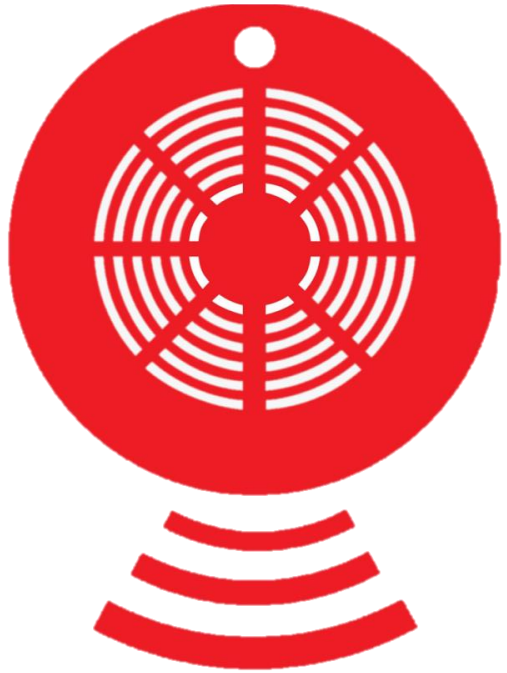
AUDIBILITY OF ALARM SYSTEMS

SENTENCE 3.2.4.18.(6)

AUDIBLE SIGNAL DEVICES IN SLEEPING ROOMS IN A BUILDING OF RESIDENTIAL OCCUPANCY ARE TO EMIT A **LOW FREQUENCY SIGNAL**

SENTENCE 3.2.4.18.(7)

AUDIBLE SIGNAL DEVICE ≥ 10 dBA ABOVE AMBIENT NOISE LEVEL AND ≥ 65 dBA **WHEN ANY INTERVENING DOORS BETWEEN THE DEVICE AND THE REST OF THE FLOOR AREA ARE CLOSED**

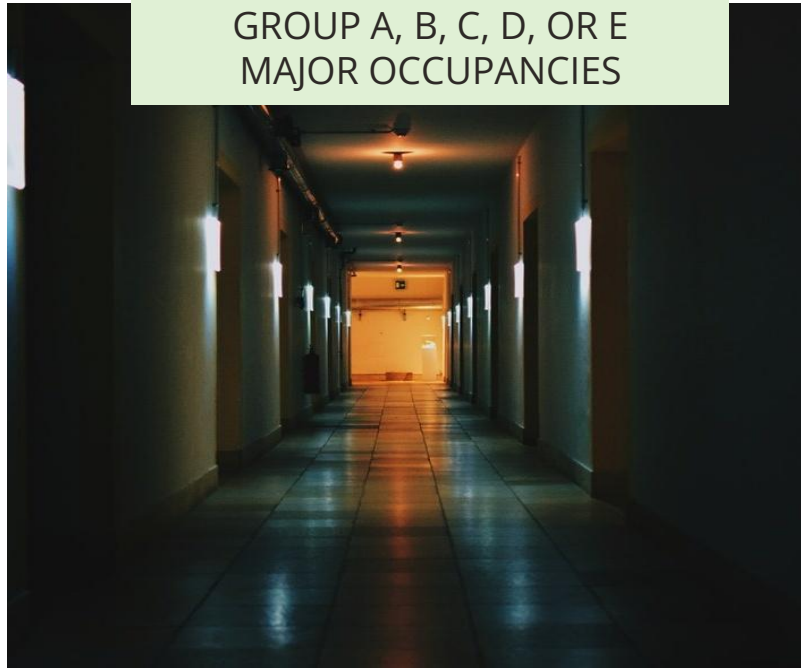


FIRE ALARMS AND DETECTION SYSTEMS

VISIBLE SIGNALS

IN CORRIDORS USED BY PUBLIC
IN GROUP A, DIVISION 2
MAJOR OCCUPANCIES

IN PUBLIC CORRIDORS SERVING
GROUP A, B, C, D, OR E
MAJOR OCCUPANCIES



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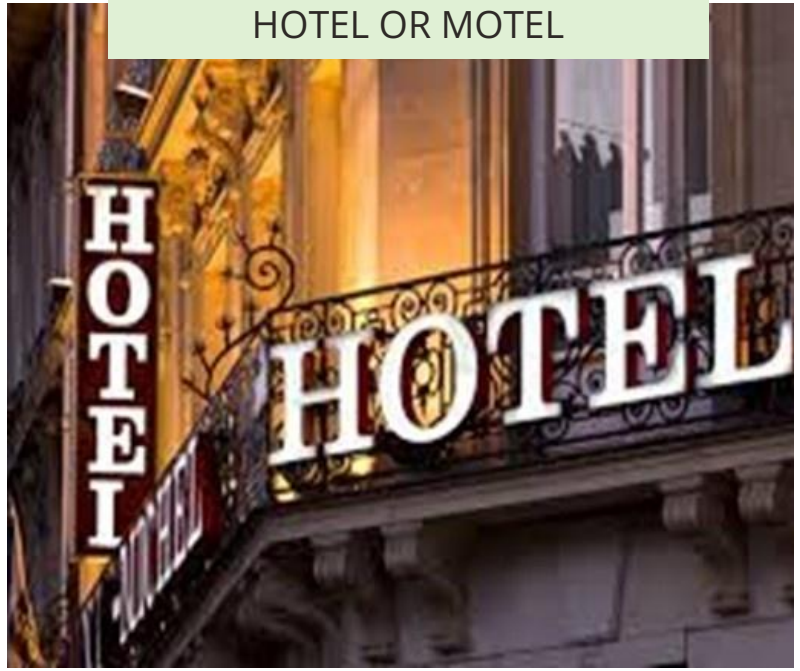
FIRE ALARMS AND DETECTION SYSTEMS

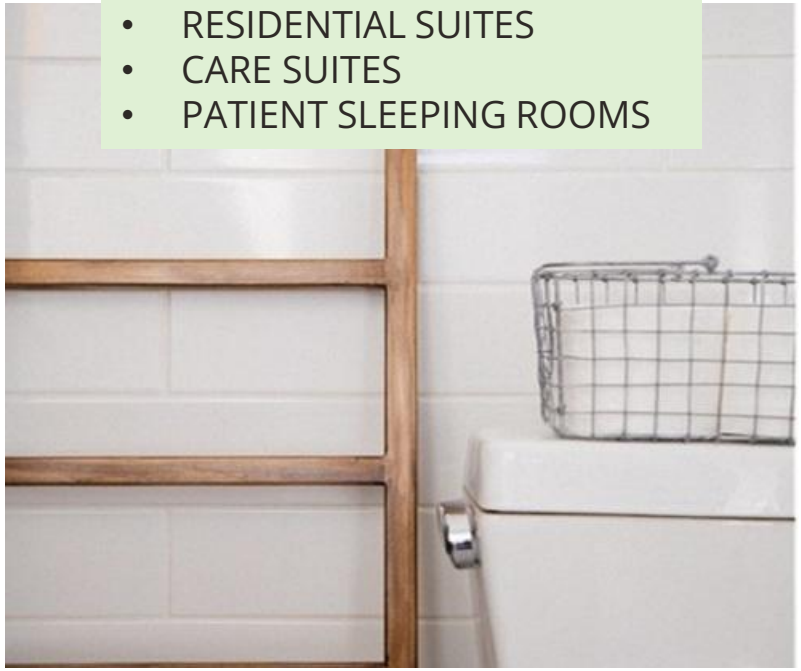
VISIBLE SIGNALS

IN ≥ 10% OF SUITES OF A HOTEL OR MOTEL



IN WASHROOMS EXCEPT:

- RESIDENTIAL SUITES
- CARE SUITES
- PATIENT SLEEPING ROOMS



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FIRE ALARMS AND DETECTION SYSTEMS

SMOKE ALARMS

SENTENCE 3.2.4.20.(7)

HOTELS AND MOTELS **WITH** A FIRE ALARM SYSTEM, ROOM SMOKE ALARMS THAT ARE REQUIRED TO HAVE A VISIBLE SIGNAL DEVICE CONNECTED TO THE FIRE ALARM SYSTEM ARE TO HAVE A **VISIBLE COMPONENT** INSTALLED IN ACCORDANCE WITH **CAN/ULC-S524**

SENTENCE 3.2.4.20.(8)

HOTELS AND MOTELS **WITHOUT** A FIRE ALARM SYSTEM, SMOKE ALARMS INSTALLED IN **≥ 10%** SLEEPING ROOMS OF THE SUITES OF RESIDENTIAL OCCUPANCY TO HAVE A VISIBULE COMPONENT INSTALLED IAW CAN/ULC-S524

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FIRE ALARMS AND DETECTION SYSTEMS

SMOKE ALARMS

SENTENCE 3.2.4.20.(10)

SMOKE DETECTORS CAN BE USED IN LIEU OF SMOKE ALARMS, IF THEY:

3.2.4.20.(10)(a)

ARE CAPABLE OF INDEPENDENTLY **SOUNDING AUDIBLE SIGNALS BETWEEN 75 dBA AND 110 dBA** WITHIN INDIVIDUAL SUITES

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PROVISIONS FOR FIREFIGHTING

AUTOMATIC SPRINKLER SYSTEM

3.2.5.12. NFPA 13D

- CAN BE APPLIED TO CARE OCCUPANCIES WHERE:
  - NOT MORE THAN **2** SUITES OF CARE,
  - NOT MORE THAN **5** RESIDENTS, AND
  - A 30 MIN WATER SUPPLY DURATION IS MET

- RESIDENTIAL OCCUPANCIES WITH **> 2** DWELLING UNITS WHERE:
  - NO UNIT ABOVE ANOTHER (EXCEPT SECONDARY SUITES),
  - ALL SUITES SEPARATED BY A VERTICAL FIRE SEPARATION WITH A **1 H** FRR,
  - FIRE SEPARATION MUST PROVIDE CONTINUOUS PROTECTION TO UNDERSIDE OF ROOF DECK,
  - EACH UNIT HAS ITS OWN WATER SUPPLY,
  - PASSIVE PURGE SPRINKLER SYSTEM DESIGN IS USED, AND
  - WHERE SPRINKLER IS USED TO REDUCE LIMITING DISTANCES, ALL ROOMS ADJOINING EBF ARE SPRINKLERED

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PROVISIONS FOR FIREFIGHTING

AUTOMATIC SPRINKLER SYSTEM

3.2.5.12. NFPA 13

- **NFPA 13,** *"STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS"*

- EXCEPT AS REQUIRED FOR INTERCONNECTED FLOOR SPACES, CLOSELY SPACED SPRINKLERS AND ASSOCIATED DRAFT STOPS **NEED NOT BE** INSTALLED AROUND FLOOR OPENINGS

LIGHTING AND EMERGENCY POWER SYSTEMS

MINIMUM LIGHTING REQUIREMENTS

ARTICLE 3.2.7.1.

- ENTIRE LENGTH OF ESCALATORS AND MOVING WALKS ≥ **100 lx** AT TREAD LEVEL & WALKING SURFACES
- CONTROLS REQUIRED BY ARTICLE 3.8.2.6. **≥ 100 lx**
  - IF VISUAL INFORMATION IS PROVIDED AT CONTROLS, **≥ 200 lx**
- SIGNS DISPLAYING VISUAL INFORMATION, **≥ 200 lx**

LIGHTING AND EMERGENCY POWER SYSTEMS

EMERGENCY LIGHTING

ARTICLE 3.2.7.3.

REQUIRED AT:

- DOORS EQUIPPED WITH ELECTROMAGNETIC LOCKS,
- UNIVERSAL WASHROOMS,
- SHOWER ROOMS,
- ACCESSIBLE CHANGE SPACES

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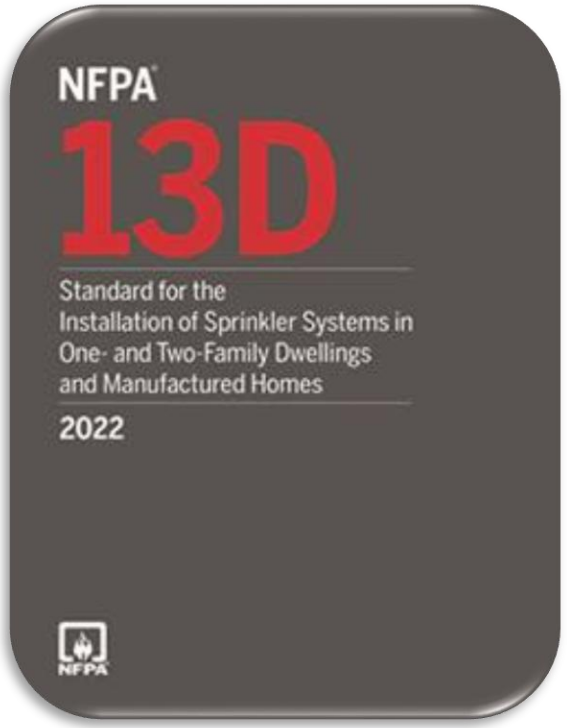
LIGHTING AND EMERGENCY POWER SYSTEMS

BUILDING SERVICES



SENTENCE 3.2.7.9.(4)

EMERGENCY POWER SUPPLY FOR EQUIPMENT THAT SUPPLIES WATER FOR FIRE SUPPRESSION DOES **NOT** NEED TO BE PROVIDED FOR SPRINKLER SYSTEMS CONFORMING TO **NFPA 13D**

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MEZZANINES AND OPENINGS THROUGH FLOOR ASSEMBLIES

SPRINKLERS

SENTENCE 3.2.8.3.(2)

CLOSELY SPACED SPRINKLERS AND ASSOCIATED DRAFT STOPS TO BE INSTALLED AROUND FLOOR OPENINGS IN CONFORMANCE WITH **NFPA 13**

EXCEPT FOR LARGE FLOOR OPENINGS AS DESCRIBED IN **NFPA 13**

MEZZANINES AND OPENINGS THROUGH FLOOR ASSEMBLIES

EXCEPTIONS

CLAUSE 3.2.8.2.(5)(c)

CLOSELY SPACE SPRINKLERS AND ASSOCIATED DRAFT STOPS ARE INSTALLED AROUND OPENINGS FOR ESCALATORS OR INCLINDED WALKWAYS IN CONFORMANCE WITH **NFPA 13**

SAFETY WITHIN FLOOR AREAS

SAFETY WITHIN FLOOR AREAS

HEADROOM & PROTRUDING OBJECTS

SENTENCE 3.3.1.8.(2)

EXCEPT FOR PATHS OF TRAVEL IN SERVICE ROOMS AND DWELLING UNITS

PROTRUDING BUILDING ELEMENTS LOCATED WITHIN **1,980 mm** OF THE FLOOR ARE NOT TO PROJECT **> 100 mm** HORIZONTALLY INTO PATHS OF TRAVEL **IN A MANNER THAT WOULD CREATE A HAZARD**

SENTENCE 3.3.1.8.(3)

PERMITTED TO BE **> 100 mm** IF CLEARANCE BETWEEN PROTRUDING ELEMENT AND FLOOR IS **< 680 mm**

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SAFETY WITHIN FLOOR AREAS

D O O R S & D O O R H A R D W A R E

SENTENCE 3.3.1.13.(1)

CLEAR OPENING OF ≥ **850 mm** IF ONLY ONE DOOR LEAF

DOORWAY > 1 LEAF, ACTIVE LEAF TO PROVIDE CLEAR OPENING OF ≥ **850 mm**

SENTENCE 3.3.1.13.(5)

DOOR RELEASE HARDWARE TO BE INSTALLED BETWEEN **900 mm** & **1,100 mm** ABOVE FINISHED FLOOR

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SAFETY WITHIN FLOOR AREAS

TACTILE WALKING SURFACES

ARTICLE 3.3.1.19.

- **CSA B651,** *"ACCESSIBLE DESIGN FOR THE BUILT ENVIRONMENT"*

INSTALLED AT:

- TOP FLIGHTS OF UNENCLOSED STAIRS
- DROP-OFF EDGES WITH A CHANGE IN ELEVATION > 300 mm UNPROTECTED BY A GUARD

DOES NOT APPLY TO:

- SERVICE SPACES
- BLEACHERS
- STAGES
- INDUSTRIAL OCCUPANCIES
- INSIDE DWELLING UNITS
- STAIRS SERVING ≤ 2 DWELL UNITS

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ASSEMBLY OCCUPANCY

D O O R S

ARTICLE 3.3.2.7.

DOOR EQUIPPED WITH A LATCHING MECHANISM IN AN **ACCESS TO EXIT** FROM A ROOM OR SUITE OF **ASSEMBLY OCCUPANY** WITH **> 100 OCCUPANTS** TO BE EQUIPPED WITH A DEVICE THAT COMPLIES WITH SENTENCE 3.4.6.16.(3)

SENTENCES 3.4.6.16.(3) & (7)

DEVICE REQUIRED MUST:

- EXTEND ACROSS ≥ ½ WIDTH OF DOOR,
- RELEASE LATCH,
- ALLOW DOOR TO SWING WIDE OPEN WHEN A FORCE IS APPLIED IN THE DIRECTION OF TRAVEL TO THE EXIT
- BE INSTALLED BETWEEN **900 mm** & **1,100 mm** ABOVE FLOOR

ASSEMBLY OCCUPANCY

SAFETY GLAZING

ARTICLE 3.3.2.17

GLAZING IN ALL FIXED AND OPERABLE PANELS OF DOORS AND WINDOWS CONFORMS TO CLASS A **CAN/CGSB-12.1,** *"SAFETY GLAZING"*

INDIVIDUAL FIXED OR OPERABLE PANELS OF DOORS NEED NOT COMPLY WHERE:

- BOTTOM EXPOSED EDGE OF GLAZING > **1,525 mm** ABOVE WALKING SURFACE ON EACH SIDE OF DOOR
- OPENING IN DOOR DOES NOT PERMIT THE PASSAGE OF A SPHERE WITH DIAMETER > **75 mm**

INDIVIDUAL FIXED OR OPERABLE PANELS OF WINDOWS DO NOT COMPLY WHERE:

- BOTTOM EXPOSED EDGE OF GLAZING > **1,525 mm** ABOVE WALKING SURFACE ON EACH SIDE OF WINDOW
- GLAZING LOCATED > **915 mm** AWAY FROM WALKING SURACE ON EACH SIDE OF WINDOW

RESIDENTIAL OCCUPANCY

OPENABLE WINDOWS

CLAUSE 3.3.4.8.(1)(b) (REWORDED)

3.3.4.8. Protection of Openable Windows

1) Except as provided in Sentence (2), openable windows in *suites* of *residential occupancy* shall be protected by

a) a *guard* with a minimum height of 1 070 mm constructed in accordance with Article 3.3.1.18., or

b) a mechanism that can only be released with the use of tools or special knowledge to control the free swinging or sliding operation of the openable part of the window so as to limit any clear unobstructed opening to not more than 100 mm measured either vertically or horizontally.

2) Windows need not be protected in accordance with Sentence (1) where

a) the only opening having greater dimensions than those allowed by Clause (1)(b) is located higher than 1 070 mm above the finished floor, or

b) the bottom edge of the openable portion of the window is located less than 1 800 mm above the floor or ground on the other side of the window.

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3.4. EXITING

TYPES OF EXIT FACILITIES

DOOR WIDTH

TABLE 3.4.3.2.-A

- MINIMUM EXIT DOOR WIDTH INCREASED TO **850 mm** FOR:
  - **ASSEMBLY (GROUP A)**
  - **DETENTION (GROUP B, DIVISION 1)**
  - **RESIDENTIAL (GROUP C)**
  - **BUSINESS AND PERSONAL SERVICES (GROUP D)**
  - **MERCANTILE (GROUP E)**
  - **INDUSTRIAL (GROUP F)**

TYPES OF EXIT FACILITIES

TACTILE SIGNAGE

- LOCATED ON APPROACH SIDE OF **EXIT**
- REQUIRED ON EXIT STAIR SIDE FOR **EMERGENCY CROSSOVER** ACCESS
- REQUIRED FOR ELECTROMAGNETIC LOCKING DEVICES ARE INSTALLLED IN ACCORDANCE WITH NBC SENTENCES 3.4.6.16.(5) AND (6)
- FLOOR NUMBERING AND IDENTIFICATION OF STAIR SHAFTS

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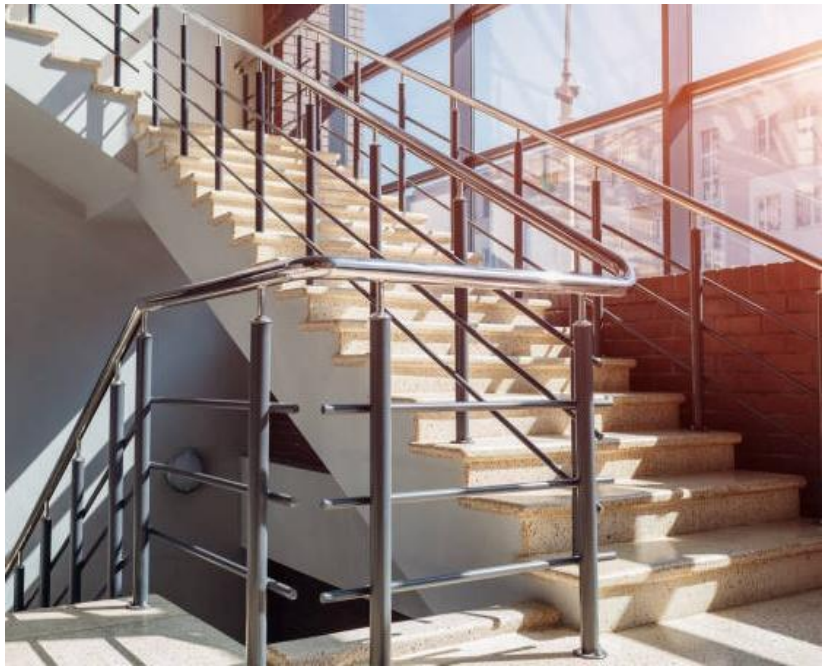
TYPES OF EXIT FACILITIES

H A N D R A I L S

SENTENCE 3.4.6.5.(5)

- CONTINUOUSLY GRASPABLE ALONG ENTIRE LENGTH, FREE OF ANY SHARP OR ABRASIVE ELEMENTS
- CIRCULAR CROSS-SECTION OUTSIDE DIAMETER **≥ 30 mm** AND **≤ 50 mm**
- NON-CIRCULAR CROSS-SECTION PERIMETER **≥ 100 mm** AND **≤ 160 mm**
- LARGEST CROSS-SECTIONAL DIMENSION **≤ 57 mm**



TYPES OF EXIT FACILITIES

R A M P S L O P E

ARTICLE 3.4.6.7.

MAX UNIFORM SLOPE **1 IN 12**

INDUSTRIAL OCCUPANCIES:

a) **1 IN 6** FOR ***INTERIOR*** RAMPS

b) **1 IN 10** FOR ***EXTERIOR*** RAMPS

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TYPES OF EXIT FACILITIES

DOOR RELEASE HARDWARE

SENTENCE 3.4.6.16.(3)

DEVICES REQUIRED BY SENTENCE (2) ARE TO:

- EXTEND ACROSS NOT LESS THAN ONE HALF OF THE WIDTH OF THE DOOR
- RELEASE LATCH
- ALLOW THE DOOR TO SWING OPEN IN THE DIRECTION OF TRAVEL WHEN MET WITH A FORCE LESS THAN THAT SPECIFIED IN SENTENCE 3.8.3.6.(8)

VERTICAL TRANSPORTATION

D I M E N S I O N S & S I G N S

SENTENCE 3.5.4.1.(2)

INSIDE DIMENSIONS RESTRICTIONS DO NOT APPLY TO LIMITED-USE/LIMITED-APPLICATION (LULA) ELEVATORS DESIGNED WITH **ASME A17.1/CSA B44**, *"SAFETY CODE FOR ELEVATORS AND ESCALATORS"*

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HORIZONTAL SERVICE SPACES & SERVICE FACILITIES

PLENUM REQUIREMENTS

SUBCLAUSE 3.6.4.3.(1)(a)(iii)

PLENUM WITHIN A FLOOR OR ROOF ASSEMBLY NEED NOT CONFORM TO SENTENCE 3.1.5.18.(1) AND ARTICLE 3.6.5.1, IF TOTALLY ENCLOSED RACEWAYS WITH AN FT6 RATING ARE PROVIDED IN BUILDINGS OF NONCOMBUSTIBLE CONSTRUCTION, OR IN BUILDINGS OR IN PARTS OF BUILDINGS PERMITTED TO BE OF **ENCAPSULATED MASS TIMBER CONSTRUCTION**


PART 8

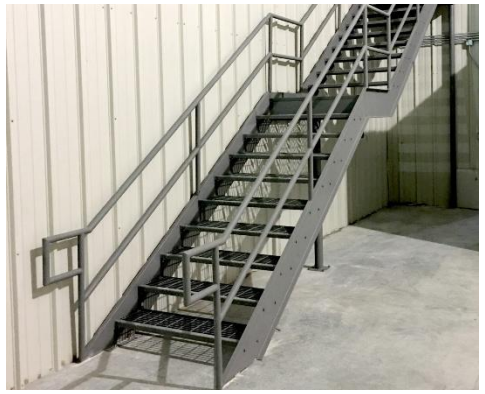
SAFETY MEASURES AT CONSTRUCTION AND DEMOLITION SITES

NO CHANGES TO PART 8
OF THE NBC

PART 9

STAIRS, RAMPS, HANDRAILS, AND GUARDS

OPEN STAIR RISERS



SENTENCE 9.8.4.9.(2)

OPEN RISERS ARE PERMITTED IN:

- INTERIOR AND EXTERIOR STAIRS THAT SERVE A SINGLE DWELLING UNIT OR A HOUSE WITH A SECONDARY SUITE,
- FIRE ESCAPE STAIRS,
- STAIRS PRINCIPALLY USED FOR MAINTENANCE,
- STAIRS THAT SERVE SERVICE ROOMS, AND
- STAIRS THAT SERVE INDUSTRIAL OCCUPANCIES OTHER THAN STORAGE GARAGES.

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STAIRS, RAMPS, HANDRAILS, AND GUARDS

REQUIRED GUARDS

ARTICLE 9.8.8.1.

(1) EVERY ACCESSIBLE SURFACE SHALL BE PROTECTED BY A GUARD ON EACH SIDE THAT IS NOT PROTECTED BY A WALL FOR THE LENGTH WHERE THE DIFFERENCE IN ELEVATION IS MORE THAN 600 mm EXCEPT AS PROVIDED IN SENTENCE (2) OR **AT THE LEADING EDGE AT THE TOP OF A FLIGHT OF STAIRS**

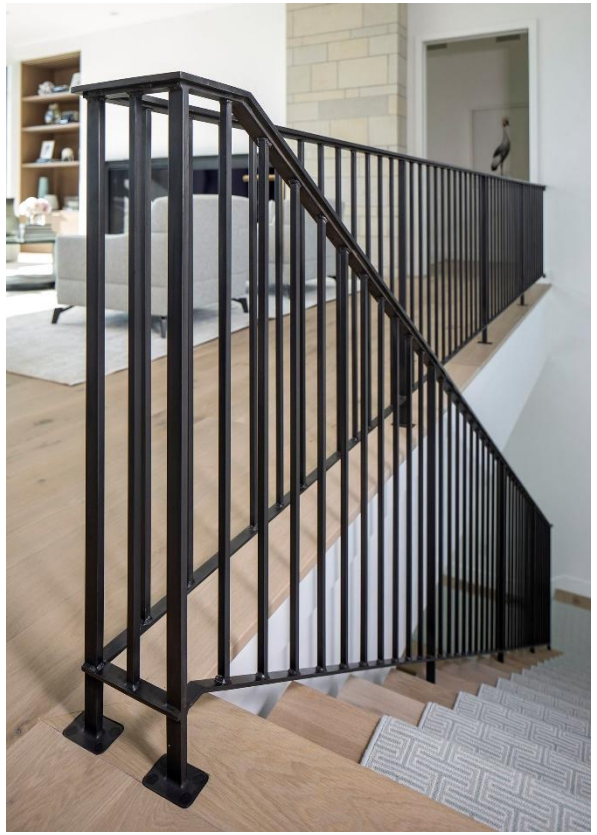
(4)(b) OPENABLE WINDOWS SHALL BE PROTECTED **BY A MECHANISM THAT CAN ONLY BE RELEASED WITH TOOLS OR SPECIAL KNOWLEDGE** TO CONTROL THE OPENABLE PART OF THE WINDOW SO AS TO LIMIT ANY CLEAR UNOBSTRUCTED OPENING TO NOT MORE THAN 100 mm MEASURED EITHER VERTICALLY OR HORIZONTALLY.

(5) WINDOWS NEED NOT BE PROTECTED IN ACCORDANCE WITH SENTENCE (4), WHERE THE BOTTOM EDGE OF THE OPENABLE PORTION OF THE WINDOW IS LOCATED:

- MORE THAN 900 mm ABOVE THE FINISHED FLOOR, OR
- LESS THAN 1,800 mm ABOVE THE FLOOR OR GROUND ON THE OTHER SIDE OF THE WINDOW

STAIRS, RAMPS, HANDRAILS, AND GUARDS

OPENINGS IN GUARDS



SENTENCE 9.8.8.2.(2) (NEW)

THE OPENING BETWEEN TWO ADJACENT VERTICAL GUARD ELEMENTS SHALL NOT EXCEED THE REQUIRED LIMITS WHEN SUBJECTED TO A LIVE LOAD OF 0.1 kN APPLIED IN OPPOSITE DIRECTIONS SO AS TO PRODUCE THE MOST CRITICAL EFFECT.

SENTENCES 9.8.8.5.(2) (NEW)

EXCEPT FOR GUARDS THAT SERVE INDUSTRIAL OCCUPANCIES, THE TRIANGULAR OPENINGS FORMED BY STAIR RISERS, TREADS AND THE BOTTOM ELEMENT OF A GUARD SHALL PREVENT THE PASSAGE OF A 150 mm DIAMETER SPHERE.

EXIT AND EGRESS

DOOR HARDWARE

SENTENCE 9.9.6.7.(3)

DOOR RELEASE HARDWARE ON DOORS IN A MEANS OF EGRESS IS TO BE INSTALLED **900 mm TO 1,100 mm** ABOVE THE FINISHED FLOOR

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SPRINKLER PROTECTION

HOME–TYPE CARE OCCUPANCIES

SENTENCE 9.10.2.2.(2)

HOME-TYPE CARE OCCUPANCIES WITH **≤ 10** SLEEPING ACCOMMODATIONS:

- COMPLY WITH PART 9 REQUIREMENTS RELATED TO **DETACHED HOUSES,** AND
- SPRINKLERED IN CONFORMANCE WITH **NFPA 13D**
  - **≥ 30 min** WATER SUPPLY FOR SPRINKLER SYSTEM

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SPRINKLER PROTECTION

HOME–TYPE CARE OCCUPANCIES

SENTENCE 9.10.2.2.(3)

SPRINKLER SYSTEM NOT REQUIRED:

1 STOREY, WITHOUT BASEMENT OR MEZZANINE

SLEEPING ACCOMMODATIONS **≤ 4** RESIDENTS RECEIVING **CARE** ON A FLOOR AREA SERVED BY **2 BARRIER-FREE** MEANS OF EGRESS & MAXIMUM TRAVEL DISTANCE **30 m**

IN LIEU OF SMOKE ALARMS, PROVIDED WITH RESIDENTIAL FIRE WARNING SYSTEM:

- INSTALLED PER **CAN/ULC-S540**
- **SMOKE DETECTORS** IN SLEEPING ROOMS, KITCHENS, & COMMON SPACES
- **HEAT DETECTORS** IN ATTACHED STORAGE GARAGES, SERVICE ROOMS, LAUNDRY AND STORAGE ROOMS,
- **AUDIBLE SIGNALS** AT FREQUENCY OF ≤ 520 Hz
- POWERED IN ACCORDANCE WITH ARTICLE 9.10.19.4
- EQUIPPED WITH **SILENCING DEVICE**
- ANNUNCIATOR PANEL WITH SEPARATE ZONE INDICATION
- NOTIFY THE **FIRE DEPARTMENT**

SPRINKLER PROTECTION

HOME–TYPE CARE OCCUPANCIES

SENTENCE 9.10.2.2.(3)

SPRINKLER SYSTEM NOT REQUIRED:

HAS EMERGENCY LIGHTING IN COMMON MEANS OF EGRESS

COMPLIES WITH ACCESSIBILITY REQUIREMENTS OF SECTION 3.8

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SPRINKLER PROTECTION

HOME–TYPE CARE OCCUPANCIES

SENTENCE 9.10.2.2.(4)

SPRINKLER SYSTEM NOT REQUIRED:

NOT MORE THAN 2 STOREYS

SLEEPING ACCOMMODATIONS ≤ **4** RESIDENTS RECEIVING **CARE** ONLY ON **1ST STOREY**

1ST STOREY SERVED BY 2 **BARRIER-FREE** MEANS OF EGRESS & MAXIMUM TRAVEL DISTANCE **30 m**

IN LIEU OF SMOKE ALARMS, PROVIDED WITH RESIDENTIAL FIRE WARNING SYSTEM:

- INSTALLED PER **CAN/ULC-S540**
- **SMOKE DETECTORS** IN SLEEPING ROOMS, KITCHENS, & COMMON SPACES
- **HEAT DETECTORS** IN ATTACHED STORAGE GARAGES, SERVICE ROOMS, LAUNDRY AND STORAGE ROOMS,
- **AUDIBLE SIGNALS** AT FREQUENCY OF ≤ 520 Hz
- POWERED IN ACCORDANCE WITH ARTICLE 9.10.19.4
- EQUIPPED WITH **SILENCING DEVICE**
- ANNUNCIATOR PANEL WITH SEPARATE ZONE INDICATION
- NOTIFY THE **FIRE DEPARTMENT**

SPRINKLER PROTECTION

HOME–TYPE CARE OCCUPANCIES

SENTENCE 9.10.2.2.(4)

SPRINKLER SYSTEM NOT REQUIRED:

ALL FLOORS HAVE **EMERGENCY LIGHTING** IN COMMON MEANS OF EGRESS

AIR-HANDLING SYSTEM **SHUTS DOWN** UPON SIGNAL FROM RESIDENTIAL FIRE WARNING SYSTEM SERVING THE BASEMENT AND OTHER STOREYS

BASEMENT SEPARATED BY DOOR & CONTINUOUS SMOKE-TIGHT BARRIER **≥ 12.7 mm** GYPSUM BOARD ON BOTH SIDES AND THE UNDERSIDE OF THE FLOOR-CEILING FRAMING

1st STOREY COMPLIES WITH SECTION 3.8

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OCCUPANCY CLASSIFICATION

HOME–TYPE CARE OCCUPANCIES

SENTENCE 9.10.2.2.(5)

- **10** SLEEPING ACCOMMODATIONS TO COMPLY WITH PART 3 FOR CARE OCCUPANCIES
- (GROUP B, DIVISION 3)

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FIRE SEPARATIONS AND SMOKE-TIGHT BARRIERS

CONTINUITY OF BARRIERS

ARTICLE 9.10.9.2.

(3) **CONTINUITY** OF A FIRE SEPERATION WHEN IT ABUTS ANOTHER SEPERATION OR SMOKE-TIGHT BARRIER IS TO BE MAINTAINED BY A **FIRE STOP** WITH AN **FT RATING** NOT LESS THAN THAT OF THE ABBUTTING FIRE SEPARTATION

(4) **JOINTS** IN A HORIZONTAL PLANE BETWEEN A FLOOR AND AN EXTERIOR WALL IS TO BE SEALED BY A **FIRESTOP** THAT HAS AN **F RATING** NOT LESS THAN THE FIRE-RESISTANCE RATING OF THE HORIZONTAL FIRE SEPERATION WHEN SUBJECTED TO TESTING IN ACCORDANCE WITH **ASTM E2307**

(6) JOINTS BETWEEN CEILINGS AND WALLS, FLOORS AND WALLS, AND WALLS AT CORNERS NEED NOT COMPLY WITH SENTENCES (3) TO (5) WHERE JOINTS CONSIST OF **GYPSUM BOARD** THAT IS **ATTACHED TO FRAMING MEMBERS** AND ARRANGED TO RESTRICT THE PASSAGE OF FLAME AND SMOKE THROUGH THE JOINTS.

FIRE SEPARATIONS AND SMOKE-TIGHT BARRIERS

PENETRATIONS OF FIRE SEPERATIONS

2015 NBC ARTICLE 9.10.9.6. AND 9.10.9.7.

REVISED TO:

NEW 2020 NBC ARTICLES 9.10.9.6 TO 9.10.9.9.

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FIRE SEPARATIONS AND SMOKE-TIGHT BARRIERS

2020 NBC ARTICLE 9.10.9.6.

9.10.9.6. General Requirements for Penetrations of Fire Separations
(See Note A-3.1.9.)

1) Except as required by Sentence (2) and Articles 9.10.9.7. and 9.10.9.8. and as permitted by Article 9.10.9.9., penetrations of a required *fire separation* or a membrane forming part of an assembly required to be a *fire separation* shall be

a) sealed by a *firestop* that, when subjected to the fire test method in CAN/ULC-S115, "Standard Method of Fire Tests of Firestop Systems," has an F rating not less than the required *fire-resistance rating* for the *fire separation*,

b) tightly fitted or cast in place, provided the penetrating item is made of steel, ferrous, copper, concrete or masonry, or

c) sealed to maintain the integrity of the *fire separation*.

(See Note A-9.10.9.6.(1).)

2) Penetrations of a *firewall* shall be sealed at the penetration by a *firestop* that, when subjected to the fire test method in CAN/ULC-S115, "Standard Method of Fire Tests of Firestop Systems," has an FT rating not less than the *fire-resistance rating* for the *fire separation*.

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FIRE SEPARATIONS AND SMOKE-TIGHT BARRIERS

2020 NBC ARTICLE 9.10.9.7.

9.10.9.7. Piping Penetrations
(See Note A-3.1.9.)

1) Except as provided in Sentences (2) and (5), piping for drain, waste, vent and central vacuum systems that is not located in a vertical shaft is permitted to penetrate a *fire separation* required to have a *fire-resistance rating* or a membrane that forms part of an assembly required to have a *fire-resistance rating*, provided the penetration is protected in accordance with Clause 9.10.9.6.(1)(a) or (b).

2) Drain piping leading directly from a water closet through a concrete floor slab is permitted to penetrate a horizontal *fire separation* or a membrane that contributes to the required *fire-resistance rating* of a horizontal *fire separation*, provided

a) the piping is *noncombustible* and the penetration is protected in accordance with Sentence 9.10.9.6.(1), or
b) the piping is *combustible* and the penetration is sealed by a *firestop* conforming to Clause 9.10.9.6.(1)(a).

3) *Combustible* drain, waste and vent piping is permitted on one side of a vertical *fire separation*, provided it is not located in a vertical shaft.

4) In *buildings* containing two *dwelling units* only, *combustible* drain, waste and vent piping is permitted on one side of a horizontal *fire separation*.

5) Water distribution piping is permitted to partly or wholly penetrate a *fire separation* required to have a *fire-resistance rating*, provided

a) the piping is *noncombustible* and the penetration is protected in accordance with Sentence 9.10.9.6.(1), or
b) the piping is *combustible* and is not located in a vertical shaft, and the penetration is sealed by a *firestop* conforming to Clause 9.10.9.6.(1)(a).

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FIRE SEPARATIONS AND SMOKE-TIGHT BARRIERS

2020 NBC ARTICLE 9.10.9.8.

9.10.9.8. Penetrations by Outlet Boxes or Service Equipment in Concealed Spaces

1) Except as provided in Sentences (2) to (5), outlet boxes are permitted to penetrate the membrane of an assembly required to have a *fire-resistance rating*, provided they are sealed at the penetration by a *firestop* that, when subjected to the fire test method in CAN/ULC-S115, "Standard Method of Fire Tests of Firestop Systems," has an FT rating not less than the *fire-resistance rating* of the *fire separation*. (See Note A-9.10.9.8.(1).)

2) Except as provided in Sentence 9.10.9.6.(2), *noncombustible* outlet boxes that penetrate a *fire separation* or a membrane forming part of an assembly required to have a *fire-resistance rating* need not conform to Sentence (1), provided

a) they do not exceed
   i) 0.016 m² in area, and
   ii) an aggregate area of 0.065 m² in any 9.3 m² of surface area, and
b) the annular space between the membrane and the *noncombustible* outlet boxes does not exceed 3 mm.

3) Except as provided in Sentence 9.10.9.6.(2), *combustible* outlet boxes that penetrate a *fire separation* or a membrane forming part of an assembly required to have a *fire-resistance rating* need not conform to Sentence (1), provided

a) the outlet boxes are
   i) separated from the remainder of the space within the assembly by an enclosure of not more than 0.3 m² in area made of *fire block* material conforming to Article 9.10.16.3. (see Note A-9.10.9.8.(3)(a)(i)), or
   ii) located in a space within the assembly that is filled with preformed fibre insulation processed from rock or slag conforming to CAN/ULC-S702.1, "Standard for Mineral Fibre Thermal Insulation for Buildings, Part 1: Material Specification," and having a mass per unit area of not less than 1.22 kg/m² of wall surface such that the exposed sides and back of the outlet box are encapsulated by the *noncombustible* insulation, and
b) the outlet boxes do not exceed an aggregate area of 0.016 m² in any individual enclosure as described in Subclause (a)(i) or any individual insulated space as described in Subclause (a)(ii).

4) *Noncombustible* outlet boxes conforming to Sentence (2) are permitted to be located on opposite sides of a vertical *fire separation* having a *fire-resistance rating* and need not conform to Sentence (1), provided they are

a) separated from each other by a horizontal distance of not less than 600 mm,
b) separated from each other and the remainder of the wall space by an enclosure conforming to Subclause (3)(a)(i), or
c) located in an insulated wall space in accordance with Subclause (3)(a)(ii).

5) *Combustible* outlet boxes conforming to Sentence (3) are permitted to be located on opposite sides of a vertical *fire separation* having a *fire-resistance rating* and need not conform to Sentence (1).

6) Service equipment is permitted to penetrate a horizontal *fire separation* conforming to Sentence 9.10.9.12.(2), provided the penetration is sealed by

a) a *firestop* that, when subjected to the fire test method in CAN/ULC-S115, "Standard Method of Fire Tests of Firestop Systems," has an FT rating not less than the required *fire-resistance rating* for the *fire separation*,
b) a *firestop* conforming to Clause 9.10.9.6.(1)(a), where the service equipment is located entirely within the cavity of a wall assembly above and below the horizontal *fire separation* having a required *fire-resistance rating*, or
c) a *firestop* conforming to Clause 9.10.9.6.(1)(a), where the penetration is
   i) contained within the concealed space of a floor or ceiling assembly having a *fire-resistance rating*,
   ii) located above a ceiling membrane providing a horizontal *fire separation*, or
   iii) contained within a *horizontal service space* conforming to Sentence 9.10.9.12.(2) that is directly above or below a floor or ceiling.

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FIRE SEPARATIONS AND SMOKE-TIGHT BARRIERS

2020 NBC ARTICLE 9.10.9.9.

9.10.9.9. Penetrations by Raceways, Sprinklers and Fire Dampers

1) *Combustible* totally enclosed raceways that are embedded in a concrete floor slab are permitted in an assembly required to have a *fire-resistance rating*, provided the concrete cover between the raceway and the bottom of the slab is not less than 50 mm.

2) Totally enclosed raceways are permitted to penetrate a *fire separation*, provided they are sealed at the penetration by a *firestop* conforming to Clause 9.10.9.6.(1)(a).

3) Sprinkler piping is permitted to penetrate a *fire separation*, provided the *fire compartments* on each side of the *fire separation* are *sprinklered*.

4) Sprinklers are permitted to penetrate a *fire separation* or a membrane forming part of an assembly required to have a *fire-resistance rating* without having to meet the *firestop* requirements of Article 9.10.9.6. and Clause 9.10.9.8.(6)(a), provided the annular space created by the penetration of a fire sprinkler is covered by a metal escutcheon plate in accordance with NFPA 13, "Standard for the Installation of Sprinkler Systems."

5) *Fire dampers* are permitted to penetrate a *fire separation* or a membrane forming part of an assembly required to have a *fire-resistance rating* without having to meet the *firestop* requirements of Sentence 9.10.9.6.(1), provided the *fire damper* is

a) installed in conformance with NFPA 80, "Standard for Fire Doors and Other Opening Protectives,"
b) specifically designed with a *firestop*, or
c) provided in conformance with Sentence 9.10.5.1.(3).

(See also Note A-3.1.9.2.(1).)

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FIRE SEPARATIONS AND SMOKE-TIGHT BARRIERS

SEPARATION OF PUBLIC CORRIDORS

ARTICLE 9.10.9.17.(5)

NO FIRE SEPARATION REQUIRED IN A SPRINKLERED FLOOR AREA BETWEEN A PUBLIC CORRIDOR AND A SPACE CONTAINING PLUMBING FIXTURES, PROVIDED:

A) THE SPACE AND CORRIDOR ARE SEPARATED FROM THE REMAINDER OF THE STOREY BY A FIRE SEPARATION RATING NOT LESS THAN THAT REQUIRED BETWEEN THE CORRIDOR AND THE REMAINDER OF THE STOREY, AND

B) THE PLUMBING FIXTURES ARE NOT LOCATED WITHIN A DWELLING UNIT OR SUITE.

SERVICE FACILITIES

STORAGE OF COMBUSTIBLE REFUSE AND RECYCLING

SENTENCE 9.10.10.6.

A ROOM FOR THE TEMPORARY STORAGE OF COMBUSTIBLE REFUSE AND MATERIALS FOR RECYCLING IN ALL OCCUPANCIES OR FOR PUBLIC STORAGE IN RESIDENTIAL BUILDINGS IS TO BE SEPARATED FROM THE REMAINDER OF THE BUILDING BY A FIRE SEPARATION WITH A 1 H RATING, OR 45 MIN RATING WHERE:

- THE FLOOR ASSEMBLY IS NOT REQUIRED TO EXCEED 45 MIN, OR
- THE ROOM IS SPRINKLERED

SPATIAL SEPARATIONS

UPDATED APPLICATION TO CARPORTS

9.10.14. Spatial Separation Between Buildings

9.10.14.1. Application

1) This Subsection applies to *buildings* other than those to which Subsection 9.10.15. applies.

2) This Subsection does not apply to detached carports conforming to Section 9.35. that serve not more than one *dwelling unit* or a house with a *secondary suite*.

SPATIAL SEPARATIONS

GLAZED OPENINGS IN EXPOSING BUILDING FACE

SENTENCE 9.10.15.4.(7)

MAXIMUM AGGREGATE AREA OF **GLAZED OPENINGS** IN AN EXPOSING BUILDING FACE IS PERMITTED TO BE UP TO **TWICE THE AREA** DETERMINED IN ACCORDANCE WITH SENTENCE 9.10.15.4.(1), WHERE:

(A) THE GLAZED OPENINGS CONSIST OF **GLASS BLOCKS**, OR

(B) THE BUILDING IS SPRINKLERED, PROVIDED ALL ROOMS THAT ARE **ADJACENT** TO THE EXPOSING BUILDING FACE AND THAT HAVE **GLAZED** OPENINGS ARE **SPRINKLERED**,

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SPATIAL SEPARATIONS

PROTECTION AROUND COOKTOPS

SENTENCE 9.10.22.3.(1)

COMBUSTIBLE WALL FRAMING, FINISHES OR CABINETS WITHIN 450 mm OF A COOKTOP AREA IS TO BE PROTECTED ABOVE THE HEATING ELEMENTS OR BURNERS BY:

(A) GYPSUM BOARD NOT LESS THAN 9.5 mm THICK, OR

(B) ANY MATERIAL PROVIDING A FIRE-RESISTANCE RATING OF NOT LESS THAN 10 min AND A FLAME-SPREAD RATING OF NOT MORE THAN 25.

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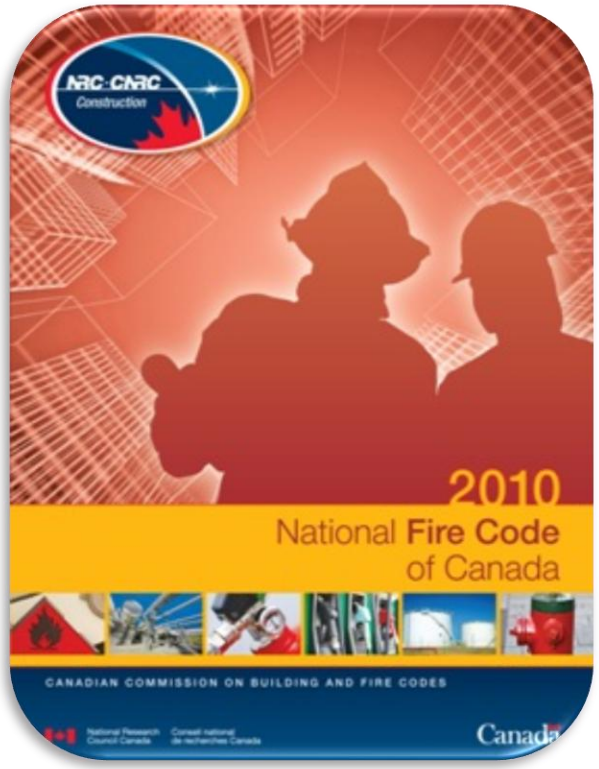
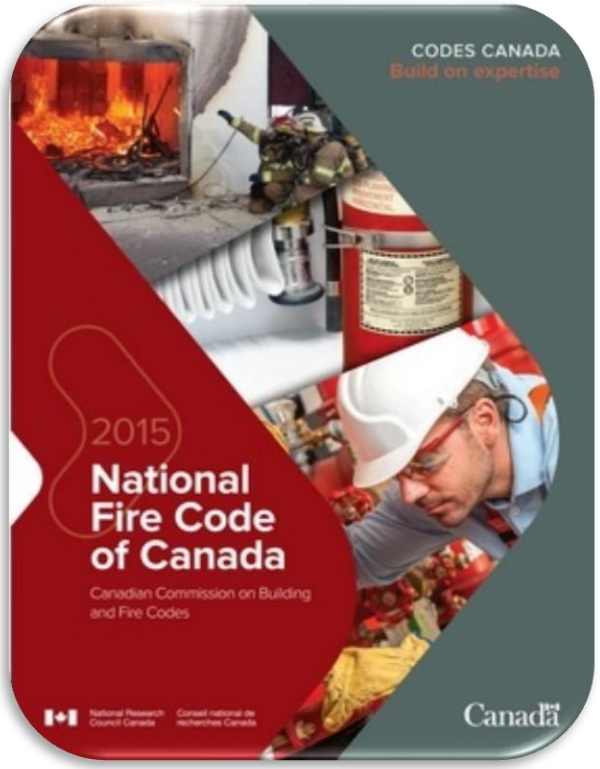
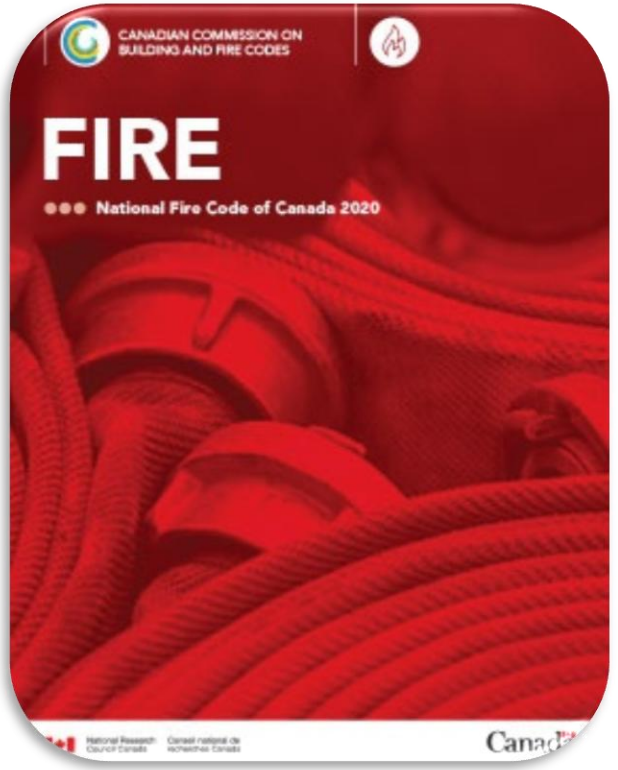
2020 NATIONAL FIRE CODE

THE NFC







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CLASSIFICATION

H A Z A R D O U S A C T I V I T I E S

SENTENCE 2.1.2.2.(2)

NO OCCUPANCY OF **GROUP F, DIVISION 1**, TO BE CONTAINED WITHIN A BUILDING CLASSIFIED AS AN ASSEMBLY, CARE, **HOME-TYPE CARE**, TREATMENT, DETENTION OR RESIDENTIAL OCCUPANCY

SENTENCE 2.1.2.2.(3)

NO OCCUPANCY OF **GROUP A, DIVISION 1 OR 3,** OR **GROUP B** TO BE CONTAINED WITHIN A BUILDING WITH **AGRICULTURAL OCCUPANCY**

SENTENCE 2.1.2.2.(4)

NO OCCUPANCY OF **GROUP A, DIVISION 2 OR 4**, OR **GROUP C** TO BE CONTAINED WITHIN A BUILDING CLASSIFIED AS **GROUP G, DIVISION 1 OR 4**

FIRE SAFETY INSTALLATIONS

S M O K E A L A R M S

SENTENCE 2.1.3.3.(1)

SMOKE ALARMS TO BE INSTALLED:

- IN EACH **HOME-TYPE CARE** OCCUPANCY & DWELLING UNIT, EXCEPT WHERE BUILDING HAS A RESIENTIAL FIRE WARNING SYSTEM
- IN EACH SLEEPING ROOM NOT WITHIN A DWELLING UNIT, EXCEPT FOR CARE, TREATMENT OR DETENTION OCCUPANCIES

SENTENCE 2.1.3.3.(2)

SMOKE ALARMS WITHIN **HOME-TYPE CARE** OCCUPANCIES AND DWELLING UNITS TO BE INSTALLED:

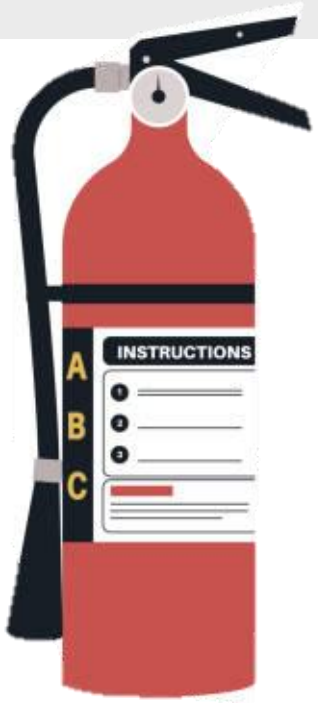
- BETWEEN EACH SLEEPING AREA AND REMAINDER OF BUILDING
- WHERE SLEEPING AREAS ARE SERVED BY HALLWAYS

PORTABLE EXTINGUISHERS

S E L E C T I O N & I N S T A L L A T I O N

ARTICLE 2.1.5.1.

PORTABLE EXTINGUISHERS NEED NOT BE INSTALLED IN DWELLING UNITS, UNLESS THE DWELLING UNIT IS A **HOME-TYPE CARE** OCCUPANCY



ENCAPSULATION MATERIALS

D A M A G E D O R R E M O V E D

ARTICLE 2.2.3.1.

WHERE EMTC ENCAPSULATION MATERIALS ARE **DAMAGED OR REMOVED** SO AS TO AFFECT THEIR INTEGRITY, THEY ARE TO BE REPAIRED OR REPLACED IN CONFORMANCE WITH THE NBC SO THAT THE REQUIRED ENCAPSULATION RATING IS RESTORED

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FLAME RESISTANCE

TEXTILES IN GROUP B, DIV 4

SENTENCE 2.3.2.3.(2)

MATTRESSES AND MATTRESS SETS CONFORM TO **CAN/ULC-S137**

"STANDARD METHOD OF TEST FOR FIRE GROWTH OF MATTRESSES (OPEN FLAME TEST)"

IF USED IN:

- GROUP B, DIVISION 1 DETENTION OCCUPANCIES
- GROUP B, DIVISION 2 TREATMENT OCCUPANCIES
- GROUP B, DIVISION 3 CARE OCCUPANCIES

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OPEN FLAME

O P E N F L A M E S I N P R O C E S S I O N S

ARTICLE 2.4.3.1.

OPEN FLAMES WHOSE QUANTITY AND METHOD OF USE CREATE A FIRE HAZARD ARE NOT PERMITTED IN PROCESSIONS

- IN ASSEMBLY OCCUPANCIES, or
- IN DINING AREAS IN GROUP B, DIVISIONS 2, 3 AND 4 TREATMENT, CARE AND **HOME-TYPE CARE** OCCUPANCIES

HEATING, VENTILATING AND AIR-CONDITIONING

C L E A R A N C E S

ARTICLE 2.6.1.5.

REQUIRED CLEARANCES BETWEEN CHIMNEYS, FLUE PIPES OR APPLIANCES AND COMBUSTIBLE CONSTRUCTION OR ENCAPSULATED MASS TIMBER CONSTRUCTION ARE TO BE MAINTAINED IN CONFORMANCE WITH THE NBC

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HEATING, VENTILATING AND AIR-CONDITIONING

O P E R A T I O N & M A I N T E N A N C E

ARTICLE 2.6.1.6.

DISCONNECT SWITCHES FOR MECHANICAL HEATING, VENTILATING AND AIR-CONDITIONING SYSTEMS ARE TO BE OPERATED AT INTERVALS NOT GREATER THAN **12 MONTHS** TO ESTABLISH THAT THE SYSTEM CAN BE SHUT DOWN IN AN EMERGENCY

DOES NOT APPLY TO SELF-CONTAINED SYSTEMS WITHIN DWELLING UNITS, UNLESS THE DWELLING UNIT IS A HOME-TYPE OCCUPANCY

EMERGENCY PLANNING

A P P L I C A T I O N

ARTICLE 2.8.1.1.

FIRE EMERGENCY PROCEDURES TO BE PROVIDED FOR:

EVERY BUILDING CONTAINING **CARE**, **HOME-TYPE CARE**, **TREATMENT** OR **DETENTION** OCCUPANCY	EVERY BUILDING CONTAINING A **LICENSED BEVERAGE ESTABLISHMENT** OR A LICENSED RESTAURANT	EVERY BUILDING CONTAINING AN AREA WHERE TREATMENT IS PROVIDED IN **GROUP D** OCCUPANCIES
EVERY BUILDING CONTAINING A **SCHOOL, COLLEGE OR UNIVERSITY** OR **DAYCARE** FACILITY	EVERY BUILDING CONTAINING AN ASSEMBLY OCCUPANCY WITH **> 30** OCCUPANTS	EVERY BUILDING REQUIRED BY THE NBC TO HAVE A **FIRE ALARM** SYSTEM

EMERGENCY PLANNING

A P P L I C A T I O N

ARTICLE 2.8.1.1.

FIRE EMERGENCY PROCEDURES TO BE PROVIDED FOR:

DEMOLITION AND CONSTUCTION SITES REGULATED UNDER SECTION 5.6

OUTDOOR AREAS WHERE PRODUCTS DESCRIBED IN ARTICLE 3.3.1.1. ARE STORED

EVERY BUILDING, PART OF A BUILDING, AND OPEN AREA WHERE PROCESSES AND OPERATIONS DESCRIBED IN ARTICLE 5.1.1.1. TAKE PLACE **(EXPLOSION RISK/HIGH FLAMMABILITY)**

STORAGE AREA IN BUILDINGS OR PARTS OF BUILDINGS DESCRIBED IN ARTICLE 3.2.1.1. **(INDOOR STORAGE)**

EVERY BUILDING, PART OF A BUILDING, AND OPEN AREA DESCRIBED IN ARTICLE 4.1.1.1. **(FLAMMABLE/COMBUSTIBLE LIQUIDS)**

EMERGENCY PLANNING

S U P E R V I S O R Y S T A F F

SENTENCE 2.8.1.2.(2)

SUFFICIENT NUMBER OF SUPERVISORY STAFF TO BE ON DUTY IN CARE, HOME-TYPE CARE, TREATMENT AND DETENTION OCCUPANCIES TO CARRY OUT EMERGENCY PROCEDURES OUTLINED IN CLAUSE 2.8.2.1.(3)(a)

SENTENCE 2.8.1.2.(3)

GROUP A, DIVISION 1 INTENDED FOR **> 60** OCCUPANTS, AT LEAST **1** SUPERVISORY STAFF MEMBER TO BE ON DUTY IN THE BUILDING TO CARRY OUT THE EMERGENCY PROCEDURES IN CLAUSE 2.8.2.1.(3)(a) WHENEVER BUILDING IS OPEN TO THE PUBLIC

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FIRE SAFETY PLAN

FIRE SAFETY PLAN REQUIREMENTS

SUBSECTION 2.8.2.

- REQUIREMENTS PREVIOUSLY LOCATED THROUGHOUT PARTS 3, 4, AND 5
- CONSOLIDATES THESE REQUIREMENTS IN SUBSECTION 2.8.2. FOR:
    - HIGH BUILDINGS
    - INDOOR/OUTDOOR STORAGE OF DANGEROUS GOODS
    - INDOOR STORAGE OF COMBUSTIBLE PRODUCTS AND DANGEROUS GOODS
    - OUTDOOR STORAGE
    - ROOMS FOR STORAGE TANKS
    - SPILL CONTROL
    - HAZARDOUS PROCESSES AND OPERATIONS
    - HOT WORKS
    - LABORATORIES
    - CONSTRUCTION AND DEMOLITION SITES

FIRE SAFETY PLAN

E M E R G E N C Y P R O C E D U R E S

ARTICLE 2.8.2.14.

≥ 1 COPY OF FIRE EMERGENCY PROCEDURES BE PROMINENTLY POSTED IN EACH FLOOR AREA

≥ 1 COPY OF FIRE EMERGENCY PROCEDURES FOR OUTDOOR STORAGE SITE BE PROMINENTLY POSTED AT OUTDOOR STORAGE SITE

FARM BUILDINGS

SECTION 2.14.(NEW)

- CSA C22.1 FOR WET/CORROSIVE ENVIRONMENTS
- 1 -3 YEAR INSPECTION OF ELECTRICAL EQUIPMENT
- ANNUAL INSPECTION MECHANICAL EQUIPMENT
- SIGNAGE REQUIREMENTS
- GAS & VAPOUR CONTROL
- BELOW-GRADE MANURE STORAGE VENTILATION

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FLAMMABLE/COMBUSTIBLE LIQUIDS

A P P L I C A T I O N

SENTENCE 4.1.1.1.(3)

DOES NOT APPLY TO:

- WATER MISCIBLE LIQUID MIXTURES CLASSIFIED IN CONFORMANCE WITH ARTICLE 4.1.2.2
- APPLIANCES AND THEIR ANCILLARY EQUIPMENT (EXCEPT FOR ABOVEGROUND STORAGE TANKS **> 2,500 L**)
- STORAGE OF FLAMMABLE OR COMBUSTIBLE LIQUIDS ON FARMS FOR INDIVIDUAL **FARM** USE
- STORAGE OF **AEROSOL** PRODUCTS COVERED UNDER SUBSECTION 3.2.5

SENTENCE 4.1.1.1.(4)

STORAGE OF FLAMMABLE OR COMBUSTIBLE LIQUIDS ON FARMS FOR INDIVIDUAL **FARM** USE TO BE IN CONFORMANCE WITH SECTION 4.12

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CLASSIFICATION

WATER–MISCIBLE LIQUID MIXTURE

NEW ARTICLE 4.1.2.2. FOR CLASSIFICATION OF WATER MISCIBLE LIQUID MIXTURES

PROVIDES CRITERIA FOR:

METHANOL

ETHANOL

2-PROPANOL

ACETONE

ACETIC ACID

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CLASSIFICATION

WATER–MISCIBLE LIQUID MIXTURE

ARTICLE 4.1.2.2.

MIXTURE OF **METHANOL** AND WATER TO BE CLASSIFIED AS:

CLASS IB LIQUID IF CONCENTRATION OF METHANOL **> 90%** BY VOLUME

CLASS IC LIQUID IF CONCENTRATION OF METHANOL **> 30%** BUT **< 90%** BY VOLUME

CLASS II LIQUID IF CONCENTRATION OF METHANOL IS **> 20%** BUT **< 30%** BY VOLUME

ARTICLE 4.1.2.2.

MIXTURE OF **ETHANOL** AND WATER TO BE CLASSIFIED AS:

CLASS IB LIQUID IF CONCENTRATION OF ETHANOL **> 90%** BY VOLUME

CLASS IC LIQUID IF CONCENTRATION OF ETHANOL **> 30%** BUT **< 90%** BY VOLUME

CLASS II LIQUID IF CONCENTRATION OF ETHANOL IS **> 20%** BUT **< 30%** BY VOLUME

CLASSIFICATION

WATER–MISCIBLE LIQUID MIXTURE

ARTICLE 4.1.2.2.

MIXTURE OF **2-PROPANO**L AND WATER BE CLASSIFIED AS CLASS IC LIQUID IF CONCENTRATION IS **> 20%** BY VOLUME

MIXTURE OF **ACETONE** AND WATER BE CLASSIFIED AS CLASS IB LIQUID IF CONCENTRATION IS **> 5%** BY VOLUME

MIXTURE OF **ACETIC ACID** AND WATER BE CLASSIFIED AS CLASS IB LIQUID IF CONCENTRATION IS **> 8%** BY VOLUME

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FARM BUILDINGS

SUBSECTION 4.12 (NEW)

Section 4.12. Farms

4.12.1. Scope

4.12.1.1. Application

1) This Section applies to the storage of *flammable liquids* or *combustible liquids* on farms for individual farm use.

4.12.1.2. Containers and Tanks

1) Except as provided in Sentence (3), storage containers of *flammable liquids* or *combustible liquids* used for fuel in quantities exceeding 100 L shall be
a) stored outdoors or in *buildings* used only for the storage of such containers, and
b) separated from other *occupancies* and property lines by a distance of not less than 12 m.

2) Vehicles, equipment and containers filled directly from a storage container referred to in Sentence (1) shall be located not less than 12 m away from any *building* or property line.

3) Underground *storage tanks* for *flammable liquids* or *combustible liquids* shall be separated from *buildings* and property lines by a distance of not less than 1.5 m.

4) The minimum separation between a *flammable liquid* or *combustible liquid storage tank* and a liquefied petroleum gas cylinder or tank shall be in conformance with Sentence 4.3.2.3.(1).

4.12.1.3. Pesticide Storage Areas

1) Storage areas for pesticides classified as *flammable liquids* or *combustible liquids* shall be
a) accessible only from the outdoors, and
b) secured against unauthorized entry.

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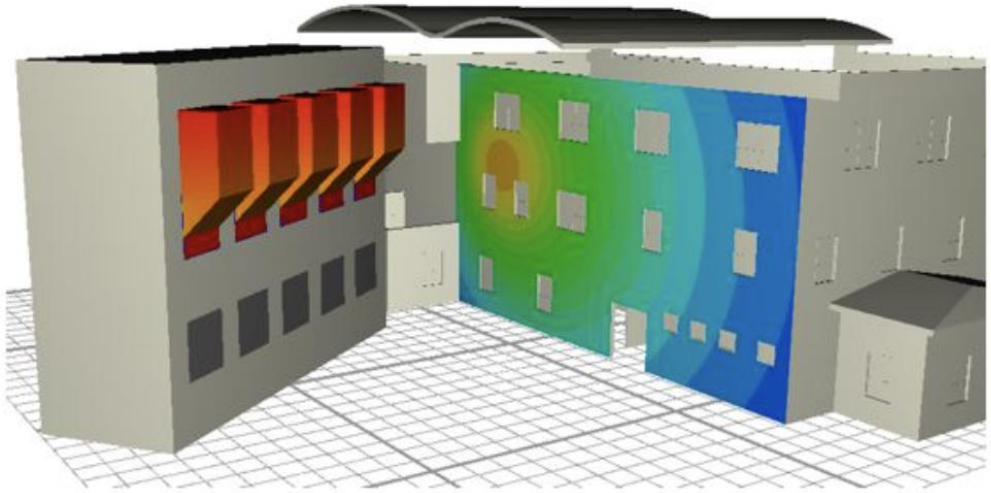
HAZARDOUS PROCESS/OPERATIONS

FIRE SPREAD DURING CONSTRUCTION

ARTICLE 5.6.1.2.

MEASURES TO MITIGATE FIRE SPREAD DURING CONSTRUCTION

(UPDATED WORDING)



HAZARDOUS PROCESS/OPERATIONS

CONSTRUCTION ACCESS (EMTC)

ARTICLE 5.6.3.7.

BUILDINGS CONFORMING TO ARTICLES 3.2.2.48. OR 3.2.2.57 OF DIVISION B OF NBC

DURING CONSTRUCTION AT LEAST **2 STAIRWAYS** TO BE PROVIDED

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HAZARDOUS PROCESS/OPERATIONS

CONSTRUCTION ACCESS

ARTICLE 5.6.3.7.

STAIRWAYS TO:

BE SEPARATED FROM REST OF STOREY BY A WALL ASSEMBLY WITH **30 min** FRR

HAVE **DOORWAY** ON EVERY STOREY THAT IS PROVIDED WITH:

- 45 mm SOLID CORE WOOD DOORS,
- HOLLOW METAL DOORS
- DOORS CONSTRUCTED OF MIN. 12.7 mm THICK GYPSUM, MECHANICALLY FASTENED TO MIN. 12.7 mm THICK PLYWOOD WITH GYPSUM FACING THE FLOOR AREA, OR
- DOOR ASSEMBLIES HAVING A MIN. FIRE-PROTECTION RATING OF 20 min

ARTICLE 5.6.3.7.

DOORS FOR STAIRWAYS:

- SWING ON VERTICAL AXIS
- BE EQUIPPED WITH:

- A MEANS TO CLOSE AUTOMATICALLY
- LATCHES

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HAZARDOUS PROCESS/OPERATIONS

ADDITIONAL REQUIREMENTS FOR **EMTC**

STANDPIPE TO BE OPERABLE AT ALL TIMES EXCEPT WHEN ACTIVELY BEING WORKED ON

SENTENCE 5.6.4.2.(1)

HOSE VALVES ON STANDPIPE SYSTEM:

- PNEUMATIC TEST **275 kPa** FOR **≥ 24 h**, OR
- HYDROSTATIC TEST **1,380 kPa** FOR **≥ 2 h**

SENTENCE 5.6.4.2.(2)

RE-TESTED IF:

- PNEUMATIC TEST EXCESS **21 kPa**, OR
- HYDROSTATIC TEST EXCESS **35 kPa**

HAZARDOUS PROCESS/OPERATIONS

ADDITIONAL REQUIREMENTS FOR **EMTC**

SENTENCE 5.6.4.2.(3)

DRY STANDPIPE MAINTENANCE:

- AUDIBLE WARNING + AIR PRESSURE GAUGE AT FDC
- MANUAL AIR RELEASE
- AIR PRESSURE SIGNAGE AT FDC
- WATER DRAINAGE TRAPPED IN FROZEN SECTIONS

SENTENCE 5.6.4.2.(4)

WET STANDPIPE MAINTENANCE: WATER PRESSURE GAUGE AT EACH FDC

HAZARDOUS PROCESS/OPERATIONS

ADDITIONAL REQUIREMENTS FOR **EMTC**

ARTICLE 5.6.4.3.

DURING CONSTRUCTION, ENCAPSULATION MATERIALS WITH **≥ 25 min** RATING TO BE INSTALLED:

- SUCH THAT **≤ 20%** EXPOSED AREA OF UNDERSIDE OF FLOOR
- INTERIOR SIDE OF **STAIRWAYS** + **VERTICAL** SERVICE SPACES
- ON SOLID LUMBER **≥ 38 mm** THICK
- ON FACE OF PARTITIONS CONTAINING **WOOD FRAMING**
- SUCH THAT **≤ 35%** EXPOSED STRUCTURAL MASS TIMBER WALLS

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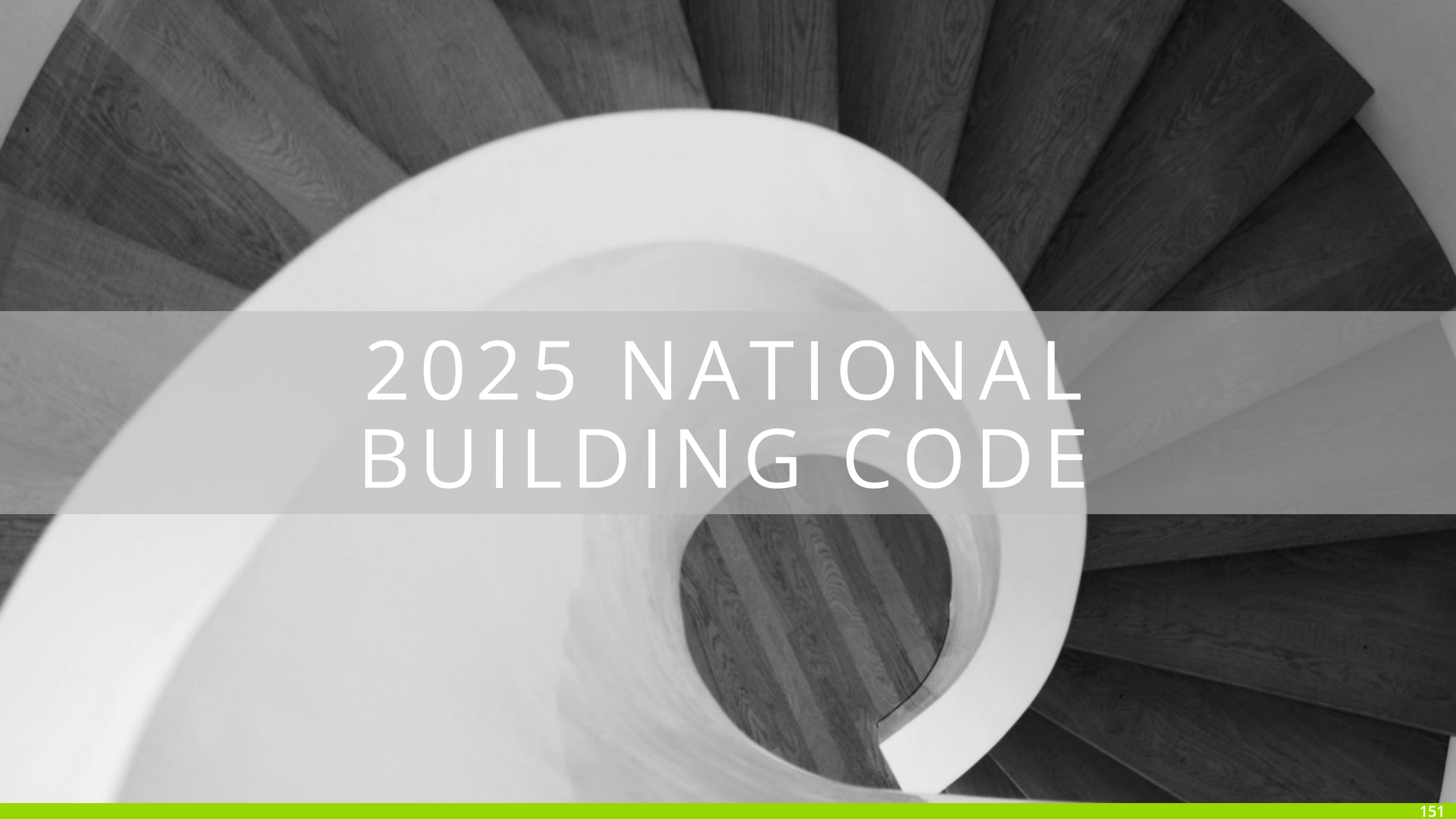
2025 PROPOSED CHANGES


2025 NATIONAL
BUILDING CODE

PART 3

BUILDING FIRE SAFETY

PROTECTION OF FOAMED PLASTICS

FOAMED PLASTIC INSULATION

ELEVATOR CAR DIMENSIONS

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PART 3

EXITS AND STOREYS

MINIMUM WIDTH OF STAIRS OR RAMPS BETWEEN HANDRAILS

SINGLE EXIT FOR 6 STOREY BUILDINGS

ADDITIONAL COMMENTARY ON WHEN A MECHANICAL PENTHOUSE IS TO BE CONSIDERED A STOREY FOR SELECT PROVISIONS

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PART 10

ALTERATION OF EXISTING BUILDINGS

REPLACEMENT OF FENESTATION, DOORS AND SKYLIGHTS

AIRTIGHTNESS OF ALTERED AIR BARRIER SYSTEMS

ALERATION OF HVAC SYSTEMS

THERMAL CHARACTERISTICS OF ABOVE-GROUND OPAQUE BUILDING ASSEMBLIES

THERMAL CHARACTERISTS OF BUILDING ASSEMBLIES BELOW-GRADE OR IN CONTACT WITH THE GROUND

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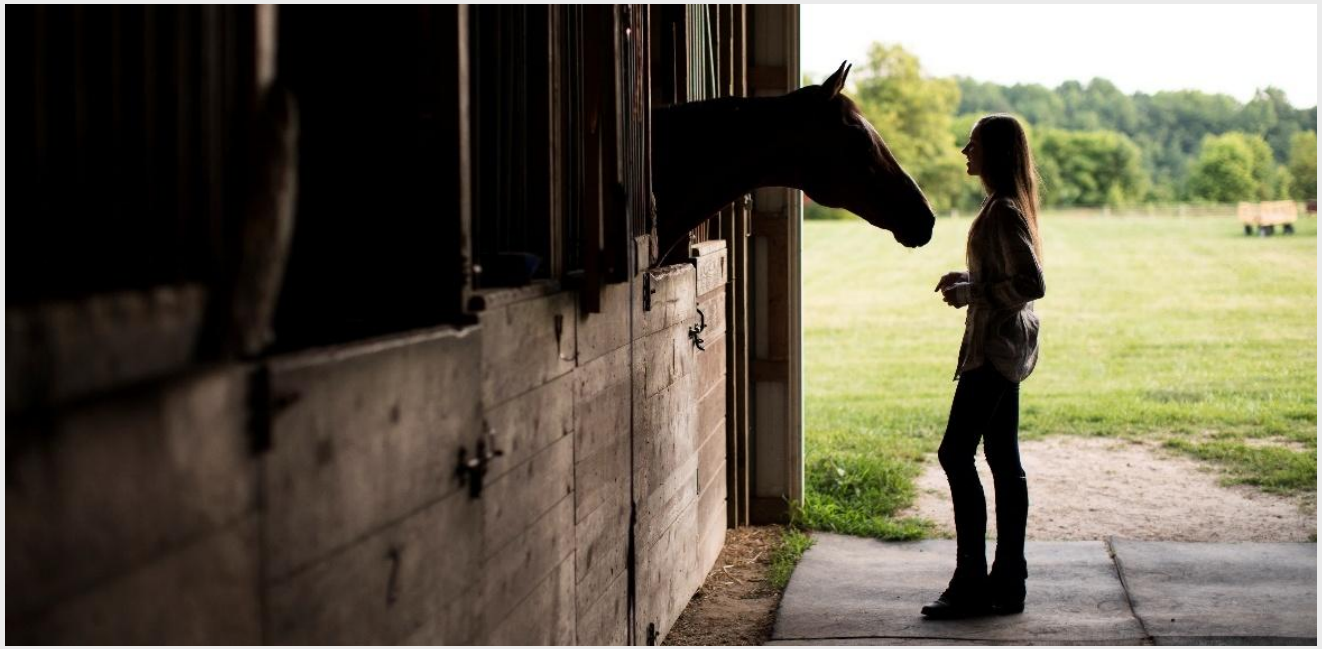
2025 NATIONAL FIRE CODE

PART 2

LARGE FARM BUILDINGS

INTRODUCTION OF REQUIREMENTS FOR SCREENS AND CURTAINS USED IN FARM BUILDINGS



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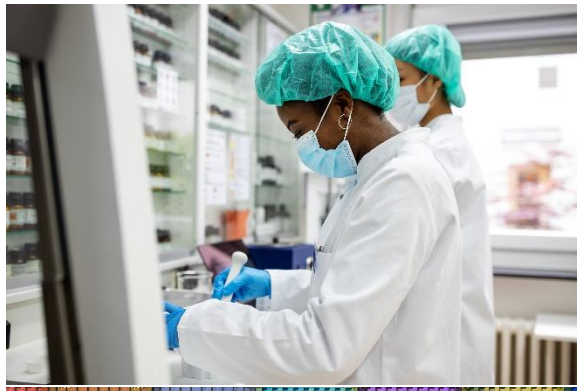
PART 5

LABRATORIES - DANGEROUS GOODS



MAXIMUM QUANTITIES PERMITTED TO BE STORED IN LABRATORIES

- DOES NOT EXCEED THE QUANTITIES NECESSARY FOR NORMAL OPERATIONS, AND
- BE STORED OUTSIDE THE LABORATORY IN CONFORMANCE WITH PART 3 OR 4

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