

Building Knowledge & Community



TABLE OF CONTENTS

TOPIC	PAGE #
HOW TO NAVIGATE THROUGH EACH REFERENCE SLIDE	9-12
AMENDMENTS RELEASED MAY 2019 (Review)	13
FUTURE AMENDMENTS (Not included in this Report)	14
PART 3 AMENDMENTS	15-118
PART 3 - COMBUSTIBLE CONSTRUCTION	16-18
▪ Summary	
▪ Installation of Foamed Plastic Insulation	
PART 3 – NON-COMBUSTIBLE CONSTRUCTION	19-37
▪ Summary	
▪ Combustible Glazing and Skylights	
▪ Combustible Components in Exterior Walls	
▪ Factory Assembled Panels	
▪ Combustible Interior Finish	
▪ Combustible Insulation	

TABLE OF CONTENTS

TOPIC	PAGE #
PART 3 – INSTALLATION OF CLOSURES	38-51
▪ Summary	
▪ Air Leakage Control Smoke Movement	
▪ Fire Damper Provisions	
▪ Hold Open Devices for Closures	
PART 3 – FIRE STOPPING/BLOCKING, COMBUSTIBLE PROJECTIONS, AND UNDERGROUND SERVICES	52-58
▪ Summary	
▪ Firestopping for Outlet Boxes	
▪ Fire Blocks	
▪ Roof Assemblies and Roof Coverings	
▪ Combustible Projections	
▪ Service Lines Under Buildings	



TABLE OF CONTENTS

TOPIC	PAGE #
PART 3 – FIRE ALARM AND LIFE SAFETY	59-92
▪ Summary	
▪ Fire Alarm	
▪ High Buildings	
▪ Electrical	
▪ Commissioning of Life Safety Systems	
▪ Safety Requirements in Floor Areas	
▪ Exits	
PART 3 – SERVICE FACILITIES AND HEALTH	93-97
▪ Summary	
▪ Service Facilities	
▪ Health Requirements	
PART 3 – BARRIER-FREE DESIGN	98-118
▪ Summary	
▪ Controls	
▪ Doorways and Doors	
▪ Water Closet Stalls	
▪ Urinals and Lavatories	
▪ Universal Washrooms	
▪ Showers and Bathtubs	



TABLE OF CONTENTS

TOPIC	PAGE #
PART 6 AMENDMENTS	119-128
PART 6 – HEATING, VENTILATION AND CONDITIONING	120-128
▪ Summary	
▪ Heat Recovery Ventilators	
▪ Asbestos	
▪ Drain Pans	
▪ Intake and Exhaust Openings	
▪ Cooling Towers	
▪ Coverings, Linings and Insulation	
PART 7 AMENDMENTS	129-149
PART 7 – PLUMBING	130-149
▪ Summary	
▪ Grease Interceptors	
▪ Materials and Equipment	
▪ Floor Outlet Fixtures	
▪ Provisions for Future Installations	
▪ Potable Water	



TABLE OF CONTENTS

TOPIC	PAGE #
PART 8 AMENDMENTS	150-152
PART 8 – SEWAGE SYSTEM ABSORPTION TRENCHES	151-152
▪ Summary	
▪ Absorption Trenches	
PART 9 AMENDMENTS	153-241
PART 9 – GLASS	154-162
▪ Summary	
▪ Installation of Glass	
PART 9 – MEANS OF EGRESS	163-166
▪ Summary	
▪ Means of Egress	
PART 9 – FIRE PROTECTION	167-182
▪ Summary	
▪ Fire Protection	

TABLE OF CONTENTS

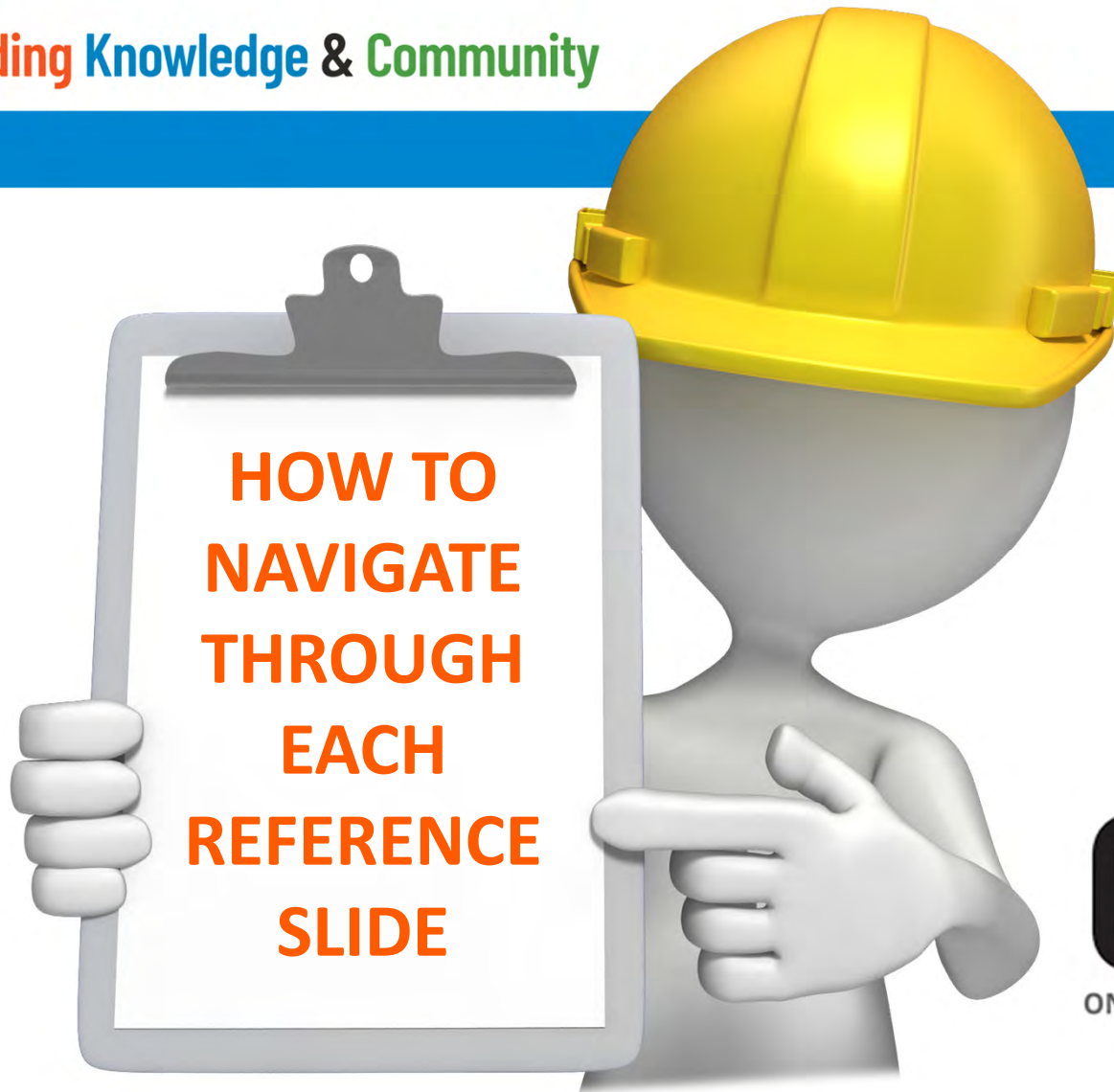
TOPIC	PAGE #
PART 9 – PROTECTION FROM AIRBORNE NOISE	183-189
▪ Summary	
▪ Protection From Airborne Noise (Formerly ‘Sound Control’)	
PART 9 – DAMPPROOFING, WATERPROOFING AND SOIL GAS CONTROL	190-206
▪ Summary	
▪ Dampproofing and Waterproofing	
▪ Drainage	
PART 9 – FOOTINGS & FOUNDATIONS, MASONRY AND FLOORS ON GROUND	207-216
▪ Summary	
▪ Footings and Foundations	
▪ Masonry	
▪ Floors on Ground	



TABLE OF CONTENTS

TOPIC	PAGE #
PART 9 – HEAT TRANSFER, AIR LEAKAGE AND CONDENSATION CONTROL	217-219
▪ Summary	
▪ Heat Transfer, Air Leakage and Condensation Control	
PART 9 – ROOFING, CLADDING AND FLOORING	220-234
▪ Summary	
▪ Roofing	
▪ Cladding	
▪ Flooring	
PART 9 – VENTILATION	235-238
▪ Summary	
▪ Ventilation	
PART 9 – GARAGES AND CARPORTS	239-241
▪ Summary	
▪ Garages and Carports	
PREPARED BY	240







1

PART 3, 6, 7, 8 OR 9.

CODE REFERENCE

1 The relevant **PART OF THE CODE** will be identified and a corresponding symbol will be placed beside each Part.



Part 3



Part 6



Part 7



Part 8



Part 9



2

2 The **TYPE OF CODE CHANGE** will be identified by utilizing a consistent symbol for each type of change.



Modified



Revoked



Addition



Moved

3 The **CODE PROVISION CATEGORY** will be labeled.

CATEGORY OF CHANGE

3



HOW TO NAVIGATE THROUGH EACH REFERENCE SLIDE

PART 7

5 CODE REFERENCE

- 4 The new code change will be in the body of each slide.
[BOLDED GREEN FONT] indicates the **DESCRIPTION AND DISCUSSION** for the modified, revoked, new addition or move occurring in the code.

4

- 5 The **SPECIFIC CODE REFERENCE** for the amendment will be listed specifying where to look for further information.





HOW TO NAVIGATE THROUGH EACH REFERENCE SLIDE

1

SUMMARY OF CATEGORY

3

- 1 The **SUMMARY OF CATEGORY** slide introduces each code provision category. It provides a high-level outline of the code changes for that specific category.
- 2 The **CODE PROVISION CATEGORY** will be labeled.
- 3 **BOLDED BLUE FONT** identifies **TOPICS** within the category that are addressed in the code changes.
- 4 **TYPE OF CODE CHANGE SYMBOLS** appear on the summary slide to highlight specific code changes within that category.
- 5 **GRAPHICS** provide a visual connection to each category.



4

5

EFFECTIVE MAY 2nd, 2019:

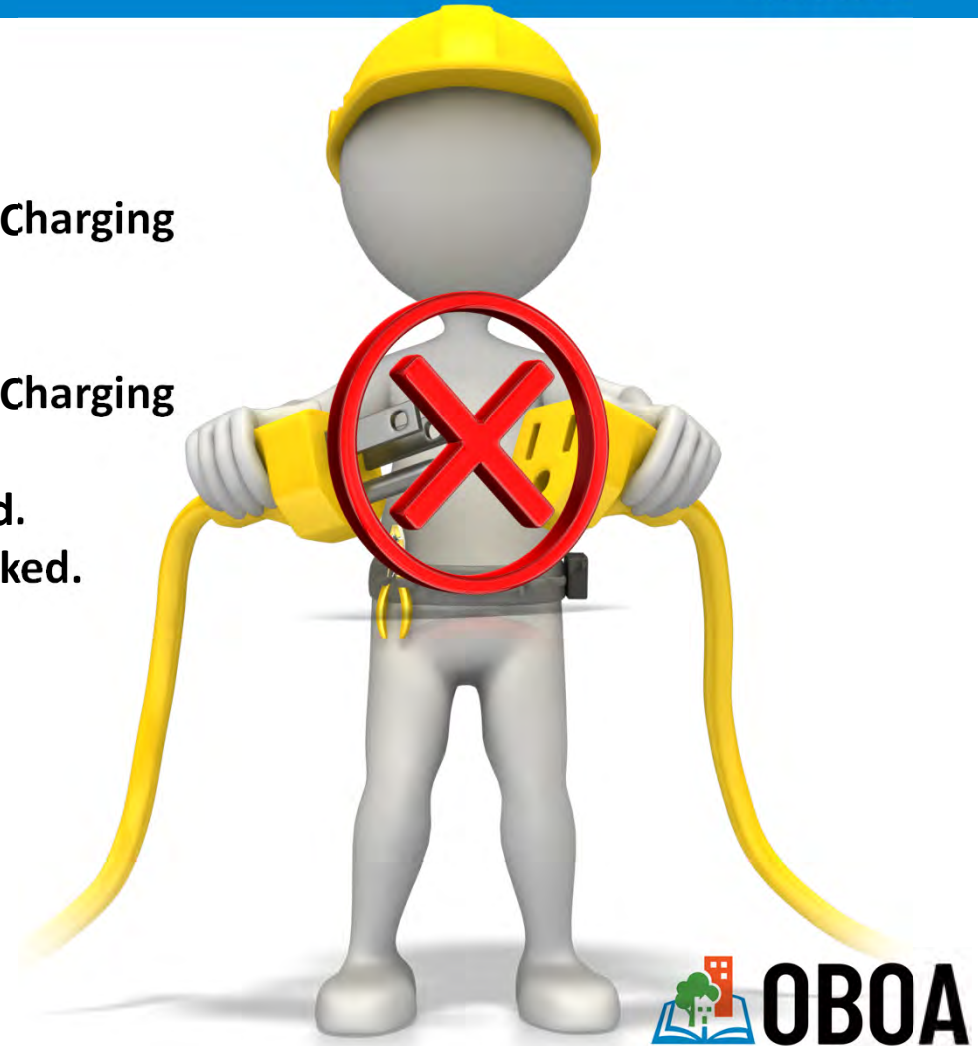
Subsection 3.1.21. Electrical Vehicle Charging was revoked.

Clause 8.7.3.2.(1)(d) was modified.

Subsection 9.34.4. Electrical Vehicle Charging was revoked.

Division A, 1.4.1.2.(1)(c) was revoked.

Division A, 1.4.1.3.(1)(a)(v) was revoked.



EFFECTIVE JANUARY 1st, 2020:
(Amendments not included in this report)

- Part 4 – Structural Requirements
- Part 5 – Environmental Separation
- Part 11 - Renovations
- Division A Part 1 – Administrative Provisions

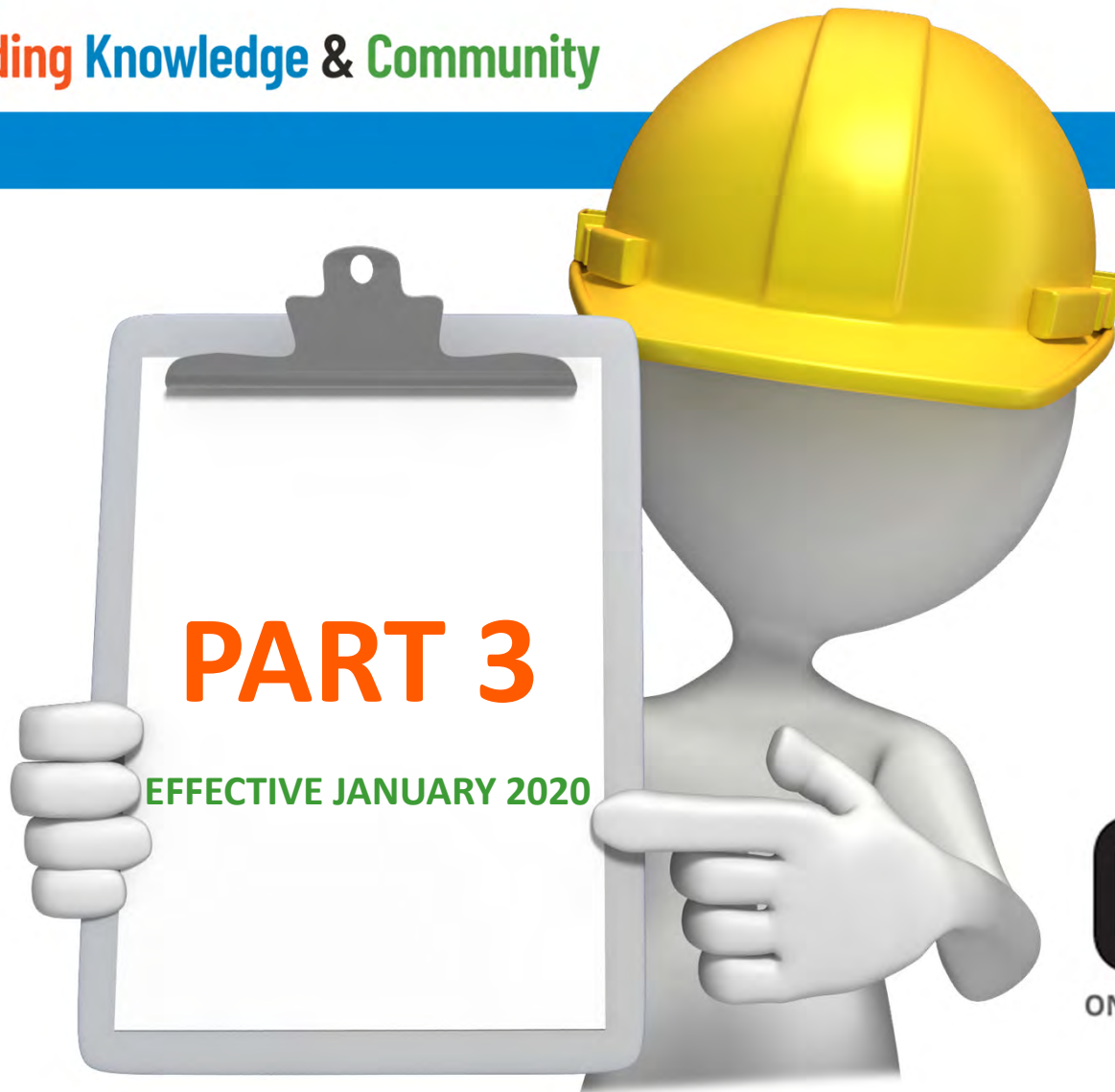


EFFECTIVE JANUARY 1st, 2022:

- Part 3.4.6. and 9.8 – Stairs
- Part 3 in 3.3., 3.4. - Means of Egress
- Changes to 4.1.- Structural Requirements
- Part 11 - Renovations
- Division A Part 1 – Administrative Provisions



Building Knowledge & Community





COMBUSTIBLE CONSTRUCTION

PART 3

SUMMARY OF CATEGORY

INSTALLATION OF FOAMED PLASTIC INSULATION

- Now provides restrictions for the installation of walk-in coolers.
- Added assembly occupancies to the list of occupancies that cannot use the reduced foamed plastic protection provisions.
- Cross reference added to ensure the flame spread provisions are noted for doors containing foamed plastic insulation.





3.1.4.2. Protection of Foamed Plastics

(1) Except as permitted in Sentence (3) [ADDED NEW SENTENCE (3)] , foamed plastics that form part of a wall or ceiling assembly in *combustible construction* shall be protected from adjacent spaces in the *building*, other than adjacent concealed spaces within *attic or roof spaces*, crawl spaces, and wall and ceiling assemblies, by any of the following:

(b) provided the *building* does not contain a Group A [ADDED GROUP A OCCUPANCY TO LIST], Group B or Group C *major occupancy*, sheet metal that,

(i) is mechanically fastened to the supporting assembly independent of the insulation,

(ii) is not less than 0.38 mm thick, and

(iii) has a melting point not less than 650°C, or

(c) any thermal barrier that meets the requirements of Sentence 3.1.5.15.(2).

[REARRANGED - MOVED CLAUSE FROM b TO c]





COMBUSTIBLE CONSTRUCTION

PART 3

3.1.4.2.

3.1.4.2. Protection of Foamed Plastics

(3) [ADDED NEW SENTENCE (3)] A walk-in cooler or freezer consisting of factory-assembled wall, floor or ceiling panels containing foamed plastics is permitted to be used in a *building* permitted to be of *combustible construction*, provided the panels,

(a) are protected on both sides by sheet metal not less than 0.38 mm thick having a melting point not less than 650°C,

(b) do not contain an air space, and

(c) when a sample panel with an assembled joint typical of field installation is subjected to the applicable test described in Subsection 3.1.12., have a *flame-spread rating* not more than that permitted for the space in which they are located, the space that they bound, or the walls of the *building* to which the cooler or freezer is attached, as applicable.

(4) [ADDED NEW SENTENCE (4)] The *flame-spread rating* of doors containing foamed plastics shall comply with Sentences 3.1.13.2.(1) to (3).





COMBUSTIBLE GLAZING AND SKYLIGHTS

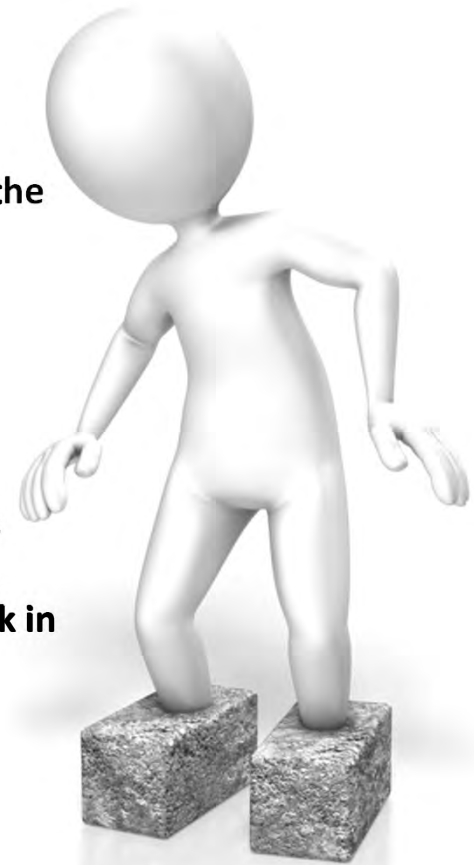
- Separation of Combustible Windows wording changed from “non-combustible wall” to a “wall of non-combustible construction” to ensure provisions of 3.1.5 are being met for the separation wall between windows.

COMBUSTIBLE COMPONENTS IN EXTERIOR WALLS

- Article re-written to provide clarity in provisions.

FACTORY ASSEMBLED PANELS

- Moved provisions of foamed plastic factory assembled panels from combustible insulation article and created a new article.
- Added provisions for Factory-Assembled Foam Panels for Walk in Coolers or Freezers.





NON-COMBUSTIBLE CONSTRUCTION

PART 3

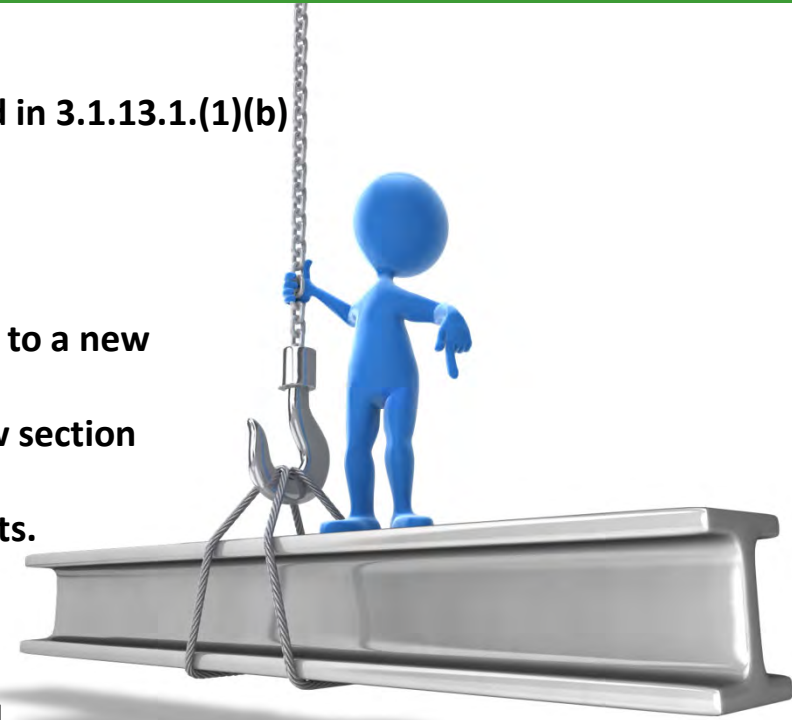
SUMMARY OF CATEGORY

COMBUSTIBLE INTERIOR FINISH

- Added reference to permitted interior finishes listed in 3.1.13.1.(1)(b) to be more specific and expand material types.
- Article re-written to provide clarity in provisions.

COMBUSTIBLE INSULATION

- Moved factory-assembled foamed plastic sentences to a new section (3.1.5.5A).
- Moved foamed plastic insulation sentences to a new section (3.1.5.12A.).
- Rewording and reorganization to clarify requirements.
- Separated requirements for buildings not more than 18 m from buildings more than 18 m.
- Added more material options for protection of insulation in buildings more than 18 m and specified specific standard requirements for these materials.





NON-COMBUSTIBLE CONSTRUCTION

PART 3

3.1.5.4.

3.1.5.4. Combustible Glazing and Skylights

- (5) *Combustible* window sashes and frames are permitted in a *building* required to be of *non-combustible construction* provided,
- (a) each window in an exterior wall face is an individual unit separated by a wall of *non-combustible construction* from every other opening in the exterior wall, **[MODIFIED FOR CLARITY]**





3.1.5.5. Combustible Components for Exterior Walls

(1) Except as provided in Sentences (2) and (4), *combustible* components are permitted to be used for an exterior *non-loadbearing* wall assembly in a *building* required to be of *non-combustible construction*, provided that,

(a) the *building* is,

- (i) not more than 3 *storeys* in *building height*, or
- (ii) not more than 6 *storeys* in *building height* if *sprinklered*,

(b) when tested in accordance with CAN/ULC-S134, "Fire Test of Exterior Wall Assemblies", the wall assembly satisfies the following criteria for testing and conditions of acceptance:

- (i) flaming on or in the wall assembly does not spread more than 5 m above the opening, and
- (ii) the heat flux during the flame exposure on the wall assembly is not more than 35 kW/m² measured at 3.5 m above the opening, and **[MODIFIED FROM A REFERENCED SENTENCE TO SUBCLAUSE]**

(c) the interior surfaces of the wall assembly are protected by a thermal barrier conforming to Sentence 3.1.5.12.(5). **[MODIFIED REFERENCE SENTENCE DUE TO REORGANIZATION]**





NON-COMBUSTIBLE CONSTRUCTION

PART 3

3.1.5.5.

3.1.5.5. Combustible Components for Exterior Walls [SECTION REORGANIZED]

(2) Except as permitted by Articles 3.2.3.10. and 3.2.3.11., where the *limiting distance* in Tables 3.2.3.1.B. to 3.2.3.1.E. permits an area of *unprotected openings* of not more than 10% of the *exposing building face*, the construction requirements of Table 3.2.3.7. shall be met. [MODIFIED FOR CLARITY]

(3) A wall assembly permitted by Sentence (1) that includes *combustible* cladding of *fire-retardant treated wood* shall be tested for fire exposure after the cladding has been subjected to an accelerated weathering test as specified in ASTM D2898, "Accelerated Weathering of Fire-Retardant-Treated Wood for Fire Testing". [PREVIOUSLY SENTENCE 5]

(4) The requirements of this Article do not apply where foamed plastic insulation is used in an exterior wall assembly of a *building* and the insulation is protected in conformance with Sentences 3.2.3.8.(1) and (2). [PREVIOUSLY SENTENCE 6]





NON-COMBUSTIBLE CONSTRUCTION

PART 3

3.1.5.5.A.

3.1.5.5.A. Factory-Assembled Panels [MOVED TO CREATE OWN SECTION]

- (1) [PREVIOUSLY FROM 3.1.5.12.(7)] Except as permitted in Sentence (2), factory-assembled wall and ceiling panels containing foamed plastic insulation with a *flame-spread rating* not more than 500 are permitted to be used in a *building* required to be of *non-combustible construction*, provided that,
- (a) the *building*,
 - (i) is *sprinklered*,
 - (ii) is not more than 18 m high, measured from *grade* to the underside of the roof,
 - and
 - (iii) does not contain a Group A, Group B or Group C *major occupancy*, and
 - (b) the panels,
 - (i) do not contain an air space,
 - (ii) when tested in accordance with CAN/ULC-S138, “Test for Fire Growth of Insulated Building Panels in a Full-Scale Room Configuration”, meet the criteria set out in that document, and
 - (iii) when a sample panel with an assembled joint typical of field installation is subjected to the applicable test described in Subsection 3.1.12., have a *flame-spread rating* not more than that permitted for the room or space that they bound.





3.1.5.5.A. Factory-Assembled Panels

- (2) **[PREVIOUSLY FROM 3.1.5.12.(6)]** Factory-assembled exterior wall panels containing thermosetting foamed plastic insulation are permitted to be used in a *building* required to be of *non-combustible construction*, provided that,
- (a) the *building*,
 - (i) is not more than 18 m high, measured from *grade* to the underside of the roof,
 - and
 - (ii) does not contain a Group B or Group C *major occupancy*, and
 - (b) the wall panels,
 - (i) do not contain an air space,
 - (ii) are protected on both sides by sheet steel not less than 0.38 mm thick,
 - (iii) remain in place for not less than 10 min when tested in accordance with CAN/ULC-S101, “Fire Endurance Tests of Building Construction and Materials”, where the exposed surface includes typical vertical and horizontal joints, and
 - (iv) when a sample panel with an assembled joint typical of field installation is subjected to the applicable test described in Subsection 3.1.12., have a *flame-spread rating* not more than that permitted for the room or space that they bound.





3.1.5.5.A. Factory-Assembled Panels

- (3) **[NEW SENTENCE]** A walk-in cooler or freezer consisting of factory-assembled wall, floor or ceiling panels containing foamed plastic insulation with a *flame-spread rating* not more than 500 is permitted to be used in a *building* required to be of *non-combustible construction*, provided that,
- (a) the *building* is *sprinklered*,
 - (b) the panels,
 - (i) are protected on both sides by sheet metal not less than 0.38 mm thick with a melting point not less than 650°C,
 - (ii) do not contain an air space,
 - (iii) when tested in accordance with CAN/ULC-S138, “Test for Fire Growth of Insulated Building Panels in a Full-Scale Room Configuration”, meet the criteria set out in that document, and
 - (iv) when a sample panel with an assembled joint typical of field installation is subjected to the applicable test described in Subsection 3.1.12., have a *flame-spread rating* not more than that permitted for the space in which they are located, the space that they bound, or the walls of the *building* to which the cooler or freezer is attached, as applicable.





NON-COMBUSTIBLE CONSTRUCTION

PART 3

3.1.5.10.

3.1.5.10. Combustible Interior Finish

(1) Except as provided in Sentences (2) and (3), *combustible* interior wall and ceiling finishes described in Clause 3.1.13.1.(1)(b) that are not more than 1 mm thick are permitted in a *building* required to be of *non-combustible construction*. **[MODIFIED FOR CLARITY – PREVIOUSLY LISTED PAINT, WALLPAPER AND OTHER FINISHES – NOW REFERS TO ANOTHER SECTION THAT PROVIDES A MORE SPECIFIC MATERIALS AND SEVERAL MORE OPTIONS]**



(2) *Combustible* interior wall finishes, other than foamed plastics, that are not more than 25 mm thick are permitted in a *building* required to be of *non-combustible construction*, provided they have a *flame-spread rating* not more than 150 on any exposed surface or any surface that would be exposed by cutting through the material in any direction. **[MODIFIED FOR CLARITY]**





NON-COMBUSTIBLE CONSTRUCTION

PART 3

3.1.5.10.

3.1.5.10. Combustible Interior Finish

(3) Except as provided in Sentence (4), *combustible* interior ceiling finishes, other than foamed plastics, that are not more than 25 mm thick are permitted in a *building* required to be of *non-combustible construction*, provided that,

(a) they have a *flame-spread rating* not more than 25 on any exposed surface or on any surface that would be exposed by cutting through the material in any direction, and

(b) not more than 10% of the ceiling area within each *fire compartment* where such finishes are installed has a *flame-spread rating* not more than 150. **[MODIFIED FOR CLARITY]**

(4) *Combustible* interior ceiling finishes made of *fire-retardant treated wood* are permitted in a *building* required to be of *non-combustible construction*, provided they are not more than 25 mm thick or are exposed *fire-retardant treated wood* battens. **[PREVIOUSLY A CLAUSE IN SENTENCE (3), MODIFIED FOR CLARITY]**





3.1.5.12. Combustible Insulation [SECTION REORGANIZED]

(1) Foamed plastic insulation shall conform to Article 3.1.5.12A. **[MOVED TO NEW ARTICLE 3.1.5.5.A]**

(2) *Combustible* insulation with a *flame-spread rating* not more than 25 on any exposed surface, or any surface that would be exposed by cutting through the material in any direction, is permitted in a *building* required to be of *non-combustible construction*. **[PREVIOUSLY SENTENCE 1, MODIFIED FOR CLARITY]**

(3) *Combustible* insulation is permitted to be installed above roof decks, outside of *foundation* walls below ground level and beneath concrete slabs-on-ground of *buildings* required to be of *non-combustible construction*. **[PREVIOUSLY SENTENCE 5]**





NON-COMBUSTIBLE CONSTRUCTION

PART 3

3.1.5.12.

3.1.5.12. Combustible Insulation

(4) Except as provided in Sentences (5) and (6), *combustible* insulation with a *flame-spread rating* more than 25 but not more than 500 on any exposed surface, or any surface that would be exposed by cutting through the material in any direction, is permitted in a *building* required to be of *non-combustible construction*, provided the insulation is protected from adjacent space in the *building*, other than adjacent concealed spaces within wall assemblies, by a thermal barrier consisting of,

- (a) not less than 12.7 mm thick gypsum board mechanically fastened to a supporting assembly independent of the insulation,
- (b) lath and plaster, mechanically fastened to a supporting assembly independent of the insulation,
- (c) masonry, or
- (d) concrete.

[PREVIOUSLY SENTENCE (3) – FOAMED PLASTIC REFERENCE MOVED TO NEW SECTION 3.1.5.5.A]





NON-COMBUSTIBLE CONSTRUCTION

PART 3

3.1.5.12.

3.1.5.12. Combustible Insulation

(5) *Combustible* insulation with a *flame-spread rating* more than 25 but not more than 500 on any exposed surface, or any surface that would be exposed by cutting through the material in any direction, is permitted in the exterior walls of a *building* required to be of *non-combustible construction*, that is not *sprinklered* and is more than 18 m high, measured from *grade* to the underside of the roof, provided the insulation is protected from adjacent space in the *building*, other than adjacent concealed spaces within wall assemblies, by a thermal barrier that,

- (a) consists of gypsum board not less than 12.7 mm thick, mechanically fastened to a supporting assembly independent of the insulation and with all joints either backed or taped and filled,
- (b) consists of lath and plaster, mechanically fastened to a supporting assembly independent of the insulation,
- (c) consists of masonry or concrete not less than 25 mm thick, or
- (d) when tested in conformance with CAN/ULC-S101, “Fire Endurance Tests of Building Construction and Materials”, does not develop an average temperature rise more than 140°C or a maximum temperature rise more than 180°C at any point on its unexposed face within 10 min.

[PREVIOUSLY SENTENCE (3) – MODIFIED FOR CLARITY]





3.1.5.12. Combustible Insulation [TWO SLIDES]

(6) *Combustible* insulation with a *flame-spread rating* more than 25 but not more than 500 on any exposed surface, or any surface that would be exposed by cutting through the material in any direction, is permitted in the interior walls, within ceilings and within roof assemblies of a *building* required to be of *non-combustible construction*, that is not *sprinklered* and is more than 18 m high, measured from *grade* to the underside of the roof, provided the insulation is protected from adjacent space in the *building*, other than adjacent concealed spaces within wall assemblies, by a thermal barrier that,

(a) consists of Type X gypsum board not less than 15.9 mm thick, mechanically fastened to a supporting assembly independent of the insulation and with all joints either backed or taped and filled, conforming to,

(i) ASTM C1177 / C1177M, “Glass Mat Gypsum Substrate for Use as Sheathing”,

(ii) ASTM C1178 / C1178M, “Coated Glass Mat Water-Resistant Gypsum Backing

Panel”,

(iii) ASTM C1396 / C1396M, “Gypsum Board”,

(iv) ASTM C1658 / C1658M, “Glass Mat Gypsum Panels”, or

(iiv) CAN/CSA-A82.27-M, “Gypsum Board”,



NON-COMBUSTIBLE CONSTRUCTION

PART 3

3.1.5.12.

3.1.5.12. Combustible Insulation [CON'T]

(b) consists of non-*loadbearing* masonry or concrete not less than 50 mm thick,
(c) consists of *loadbearing* masonry or concrete not less than 75 mm thick, or
(d) when tested in conformance with CAN/ULC-S101, “Fire Endurance Tests of Building Construction and Materials”,

(i) does not develop an average temperature rise more than 140°C or a maximum temperature rise more than 180°C at any point on its unexposed face within 20 min, and

(ii) remains in place for not less than 40 min.

[MODIFIED FOR CLARITY – CREATED NEW SENTENCE FOR BUILDINGS MORE THAN 18 M IN BUILDING HEIGHT INSTEAD OF AN EXCEPTION – PROVIDED MORE MATERIAL OPTIONS AND SPECIFIED STANDARDS]





NON-COMBUSTIBLE CONSTRUCTION

PART 3

3.1.5.12.A.

3.1.5.12.A. Foamed Plastic Insulation

(1) Foamed plastic insulation is permitted to be installed above roof decks, outside of *foundation* walls below ground level and beneath concrete slabs-on-ground of a *building* required to be of *non-combustible construction*. **[MOVED FROM COMBUSTIBLE INSULATION ARTICLE]**



(2) Except as provided in Sentences (3) and (4), foamed plastic insulation with a *flame-spread rating* not more than 500 on any exposed surface, or any surface that would be exposed by cutting through the material in any direction, is permitted in a *building* required to be of *non-combustible construction*, provided the insulation is protected from adjacent space in the *building*, other than adjacent concealed spaces within wall assemblies, by a thermal barrier that,

- (a) consists of not less than 12.7 mm thick gypsum board mechanically fastened to a supporting assembly independent of the insulation,
- (b) consists of lath and plaster, mechanically fastened to a supporting assembly independent of the insulation,
- (c) consists of masonry,
- (d) consists of concrete, or
- (e) meets the requirements of classification B when tested in conformance with CAN/ULC-S124, "Test for the Evaluation of Protective Coverings for Foamed Plastic".

[MOVED FROM COMBUSTIBLE INSULATION ARTICLE]





NON-COMBUSTIBLE CONSTRUCTION

PART 3

3.1.5.12.A.

3.1.5.12.A. Foamed Plastic Insulation

(3) Foamed plastic insulation with a *flame-spread rating* more than 25 but not more than 500 on any exposed surface, or any surface that would be exposed by cutting through the material in any direction, is permitted in the exterior walls of a *building* required to be of *non-combustible construction*, that is not *sprinklered* and is more than 18 m high, measured from *grade* to the underside of the roof, provided the insulation is protected from adjacent space in the *building*, other than adjacent concealed spaces within wall assemblies, by a thermal barrier that,

(a) consists of gypsum board not less than 12.7 mm thick, mechanically fastened to a supporting assembly independent of the insulation and with all joints either backed or taped and filled,

(b) consists of lath and plaster, mechanically fastened to a supporting assembly independent of the insulation,

(c) consists of masonry or concrete not less than 25 mm thick, or

(d) when tested in conformance with CAN/ULC-S101, "Fire Endurance Tests of Building Construction and Materials", does not develop an average temperature rise more than 140°C or a maximum temperature rise more than 180°C at any point on its unexposed face within 10 min.

[MOVED FROM COMBUSTIBLE INSULATION ARTICLE]





3.1.5.12.A. Foamed Plastic Insulation [TWO SLIDES]

- (4) Foamed plastic insulation with a *flame-spread rating* more than 25 but not more than 500 on any exposed surface, or any surface that would be exposed by cutting through the material in any direction, is permitted in the interior walls, within ceilings and within roof assemblies of a *building* required to be of *non-combustible construction*, that is not *sprinklered* and is more than 18 m high, measured from *grade* to the underside of the roof, provided the insulation is protected from adjacent space in the *building*, other than adjacent concealed spaces within wall assemblies, by a thermal barrier that,
- (a) consists of Type X gypsum board not less than 15.9 mm thick, mechanically fastened to a supporting assembly independent of the insulation and with all joints either backed or taped and filled, conforming to,
 - (i) ASTM C1177 / C1177M, “Glass Mat Gypsum Substrate for Use as Sheathing”,
 - (ii) ASTM C1178 / C1178M, “Coated Glass Mat Water-Resistant Gypsum Backing Panel”,
 - (iii) ASTM C1396 / C1396M, “Gypsum Board”, or
 - (iv) CAN/CSA-A82.27-M, “Gypsum Board”,
 - (b) consists of non-*loadbearing* masonry or concrete not less than 50 mm thick,



3.1.5.12.A. Foamed Plastic Insulation [CON'T]

(c) consists of *loadbearing* masonry or concrete not less than 75 mm thick, or
(d) when tested in conformance with CAN/ULC-S101, “Fire Endurance Tests of Building Construction and Materials”,

(i) does not develop an average temperature rise more than 140°C or a maximum temperature rise more than 180°C at any point on its unexposed face within 20 min, and

(ii) remains in place for not less than 40 min.

[MODIFIED FOR CLARITY – CREATED NEW SENTENCE FOR BUILDINGS MORE THAN 18 M IN BUILDING HEIGHT INSTEAD OF AN EXCEPTION – PROVIDED MORE MATERIAL OPTIONS AND SPECIFIED STANDARDS]





INSTALLATION OF CLOSURES

PART 3

SUMMARY OF CATEGORY

NEW PROVISIONS FOR AIR LEAKAGE CONTROL SMOKE MOVEMENT

- Added provisions where air leakage rates are required for doors and dampers to prevent smoke movement.
- Added new section to provide exemptions to air leakage rate requirements.
- Added referenced standards to determine air leakage rates for smoke dampers, combination smoke and fire dampers and doors.
- Added installation standard provisions for doors with a required air leakage rate (NFPA 105).
- Added new article to specify installation standards for smoke dampers.

MODIFIED FIRE DAMPER PROVISIONS

- Reorganized section related to exemptions of fire damper provisions.
- Fire Damper exemption clarified for ducts installed in accordance with NFPA96 related to commercial kitchen facilities.

MODIFIED HOLD OPEN DEVICES FOR CLOSURES

- Reorganized hold open requirements section to provide clarity.





3.1.8.4. Determination of Ratings

- (1) Except as permitted by Sentences (2) and 3.1.8.14.(1), the *fire-protection rating* for a *closure* shall be determined in accordance with,
- (a) CAN/ULC-S104, “Fire Tests of Door Assemblies”,
 - (b) CAN/ULC-S106, “Fire Tests of Window and Glass Block Assemblies”, or
 - (c) CAN/ULC-S112, “Fire Test of Fire Damper Assemblies”.

[MODIFIED CAN4/ULC-S106M TO CAN/ULC-S106]

- (3) The leakage rate of smoke dampers and combination smoke and *fire dampers* shall,
- (a) be determined in accordance with the applicable provisions in CAN/ULC-S112.1, “Leakage Rated Dampers for Use in Smoke Control Systems”, and
 - (b) conform to Class I, II or III of that standard.

[NEW SENTENCE SPECIFYING A NEW REFERENCE STANDARD FOR LEAKAGE RATE OF SMOKE DAMPERS]

- (4) The leakage rate of a door assembly shall be determined in accordance with ANSI/UL-1784, “Air Leakage Tests of Door Assemblies and Other Opening Protectives”.

[NEW SENTENCE SPECIFYING A NEW REFERENCE STANDARD FOR LEAKAGE RATE OF DOORS]





INSTALLATION OF CLOSURES

PART 3

3.1.8.5.

3.1.8.5. Installation of Closures

(3) Except as otherwise specified in this Part, every smoke damper used as a *closure* in a required *fire separation* shall be installed in conformance with NFPA 105, “Smoke Door Assemblies and Other Opening Protectives”.

[NEW SENTENCE FOR SMOKE DAMPERS INSTALLATION REQUIREMENTS]

(4) If a door is installed so that it could damage the integrity of a *fire separation* if its swing is unrestricted, door stops shall be installed to prevent the damage.

[PREVIOUSLY SENTENCE (3)]

(5) A leakage-rated door assembly rated in accordance with Sentence 3.1.8.4.(4) shall,
(a) be installed in *fire separations* in protected *floor areas* described in Clause 3.3.1.7.(1)(b),
(b) be installed in *fire separations* in *care or care and treatment occupancies* referred to in Sentence 3.3.3.5.(4) and installed in *fire separations* in *retirement homes* referred to in Sentence 3.3.4.11.(4),

(c) except as provided in Sentence (7), be installed in *fire separations* of *public corridors* serving *dwelling units* in *storeys* that are not *sprinklered*, and

(d) be installed in *firewalls* that are a *horizontal exit* referred to in Sentence 3.3.3.5.(3).

[NEW SENTENCE SPECIFYING WHERE AIR LEAKAGE RATE PROVISIONS ARE REQUIRED FOR DOORS]





INSTALLATION OF CLOSURES

PART 3

3.1.8.5.

3.1.8.5. Installation of Closures

(6) Leakage-rated door assemblies required by Sentence (5) shall conform to NFPA 105, “Smoke Door Assemblies and Other Opening Protectives”.

[NEW SENTENCE SPECIFYING INSTALATION STANDARD FOR DOORS]

(7) A leakage-rated door assembly need not be installed where a *dwelling unit* served by a *public corridor* has,

(a) a second and separate *means of egress*, or

(b) an open-air balcony that is sized to accommodate the number of occupants for which the *dwelling unit* is intended. **[NEW SENTENCE ADDED – EXCEPTIONS]**





3.1.8.7. Location of Fire Dampers and Smoke Dampers

(1) Except as provided in Article 3.1.8.8., a *fire damper* having a *fire-protection rating* conforming to Sentence 3.1.8.4.(2) shall be installed in conformance with Article 3.1.8.9. in ducts or air-transfer openings that penetrate an assembly required to be a *fire separation*.

[MODIFIED FOR CLARITY]

(2) Except as provided in Article 3.1.8.8A., a smoke damper or a combination smoke and *fire damper* shall be installed in conformance with Article 3.1.8.9A. in ducts or air-transfer openings that penetrate an assembly required to be a *fire separation*, where the *fire separation*,

(a) separates a *public corridor*,

(b) contains an egress door referred to in Sentence 3.4.2.4.(2),

(c) serves an *assembly, care, care and treatment, detention or residential occupancy*, or

(d) is installed to meet the requirements of Clause 3.3.1.7.(1)(b) or Sentence 3.3.3.5.(4) or

3.3.4.11.(4). [NEW SENTENCE SPECIFYING WHERE AIR LEAKAGE RATES ARE REQUIRED FOR DUCTS]





3.1.8.8. Fire Dampers Waived

(1) Except as permitted in Sentences (2) to (4), the requirement for *fire dampers* described in Sentence 3.1.8.7.(1) is permitted to be waived for,

(a) ducts that serve commercial cooking equipment, **[MODIFIED TO REMOVE REQUIREMENT FOR FIRE DAMPER TO PROVIDE CONSISTANCY WITH NFPA96 REQUIREMENTS]**

(b) continuous *non-combustible* ducts having a melting point above 760°C that penetrate a vertical *fire separation* required by Sentence 3.3.1.1.(1) between *suites of assembly, mercantile, low hazard industrial, medium hazard industrial or high hazard industrial occupancy*, **[PREVIOUSLY SENTENCE (5)]**

(c) ducts or air-transfer openings that penetrate a vertical *fire separation* not required to have a *fire-resistance rating*, and **[PREVIOUSLY SENTENCE (2)]**

(d) *non-combustible* ducts or air-transfer openings that penetrate a horizontal *fire separation* not required to have a *fire-resistance rating*.

[PREVIOUSLY SENTENCE (3)]





3.1.8.8. Fire Dampers Waived

(2) The requirement for *fire dampers* described in Sentence 3.1.8.7.(1) is permitted to be waived for *non-combustible* branch ducts having a melting point above 760°C that penetrate a *fire separation*,

(a) provided the ducts,

(i) have a cross-sectional area not more than 130 cm² and serve only *air-conditioning* units or combined *air-conditioning* and heating units discharging air not more than 1.2 m above the floor, or

(ii) extend not less than 500 mm inside *exhaust duct* risers that are under negative pressure and in which the airflow is upward as required by Article 3.6.3.4., or

[PREVIOUSLY SENTENCE (1)]

(b) provided the *fire separation* separates a *vertical service space* from the remainder of the *building* and provided each individual duct exhausts directly to the outdoors at the top of the *vertical service space*.

[PREVIOUSLY CLAUSE (4)(b)]





3.1.8.8. Fire Dampers Waived

(3) In elementary and secondary schools, a continuous *non-combustible* duct having a melting point above 760°C that pierces a *fire separation* having a *fire-resistance rating* of 30 min need not be equipped with a *fire damper* at the *fire separation*. [PREVIOUSLY

SENTENCE (7)]

(4) In a Group B, Division 3 *occupancy* which contains sleeping accommodation for not more than 10 persons, which has not more than six occupants who require assistance in evacuation in case of an emergency and which is equipped with a fire alarm system, a duct need not be equipped with a *fire damper* at a *fire separation*, provided duct-type *smoke detectors* have been installed to control smoke circulation as described in Article 3.2.4.13.

[PREVIOUSLY SENTENCE (8)]





3.1.8.8.A. Smoke Dampers Waived [NEW ARTICLE TO PROVIDE EXEMPTIONS TO NEW SMOKE DAMPER PROVISIONS]



- (1) Except as permitted in Sentence (2), the requirement for smoke dampers or combination smoke and *fire dampers* described in Sentence 3.1.8.7.(2) is permitted to be waived for ducts,
- (a) that serve commercial cooking equipment,
 - (b) in which all inlet and outlet openings serve not more than one *fire compartment*, or
 - (c) that penetrate a vertical *fire separation* referred to in Clause 3.3.1.7.(1)(b) or in Sentence 3.3.3.5.(4), provided,
 - (i) the movement of air is continuous, and
 - (ii) the configuration of the air-handling system prevents the recirculation of exhaust or return air under fire emergency conditions.



3.1.8.8.A. Smoke Dampers Waived [NEW ARTICLE TO PROVIDE NEW REQUIREMENTS FOR SMOKE DAMPERS]



(2) The requirement for smoke dampers or combination smoke and *fire dampers* described in Sentence 3.1.8.7.(2) is permitted to be waived for *non-combustible* branch ducts having a melting point above 760°C that penetrate a *fire separation*,

(a) provided the ducts,

(i) have a cross-sectional area not more than 130 cm² and serve only *air-conditioning* units or combined *air-conditioning* and heating units discharging air not more than 1.2 m above the floor,

(ii) extend not less than 500 mm inside *exhaust duct* risers that are under negative pressure and in which the airflow is upward as required by Article 3.6.3.4., or

(iii) are required to function as part of a smoke control system, or

(b) provided the *fire separation* separates a *vertical service space* from the remainder of the *building* and provided each individual duct exhausts directly to the outdoors at the top of the *vertical service space*.



3.1.8.9.A. Installation of Smoke Dampers [NEW ARTICLE TO PROVIDE NEW REQUIREMENTS FOR SMOKE DAMPERS]



- (1) Where smoke dampers are used as a *closure* in an air-transfer opening, they shall be installed in the plane of the *fire separation*.
- (2) Where combination smoke and *fire dampers* are used as a *closure* in a duct, they shall be installed within 610 mm of the plane of the *fire separation*, provided there is no inlet or outlet opening between the *fire separation* and the damper.
- (3) Except as required by a smoke control system, smoke dampers and combination smoke and *fire dampers* shall be configured so as to close automatically upon a signal from an adjacent *smoke detector* located as described in CAN/ULC-S524, "Installation of Fire Alarm Systems", within 1.5 m horizontally of the duct or air-transfer opening in the *fire separation*,
 - (a) on both sides of the air-transfer opening, or
 - (b) in the duct downstream of the smoke damper or combination smoke and *fire damper*.
- (4) Smoke dampers or combination smoke and *fire dampers* shall be installed in the vertical or horizontal position in which they were tested.
- (5) A tightly fitted access door shall be installed for each smoke damper and combination smoke and *fire damper* to provide access for their inspection and the resetting of the release device.



3.1.8.12. Hold-Open Devices [MODIFIED AND REORGANIZED TO PROVIDE CLARITY]



(1) Except as provided in Sentences 3.1.8.9.(1) and 3.1.8.9A.(3), a hold-open device is permitted to be used on a *closure* in a required *fire separation*, other than on an *exit* stair door in a *building* more than 3 *storeys* in *building height* and on a door for a vestibule required by Article 3.3.5.7., provided the device is designed to release the *closure* in conformance with this Article.

(2) Except as provided in Sentences (5) and (6), where the *building* is provided with a fire alarm system, a hold-open device permitted by Sentence (1) shall release,
(a) in a single-stage system, upon any signal from the fire alarm system, and
(b) in a two-stage system,
(i) upon any *alert signal* from the fire alarm system, or
(ii) upon actuation of any adjacent *smoke detectors*.



3.1.8.12. Hold-Open Devices

(3) Where the *building* is provided with a fire alarm system, a hold-open device permitted by Sentence (1) shall release upon a signal from a *smoke detector* connected to the fire alarm system and located as described in CAN/ULC-S524, “Installation of Fire Alarm Systems”, where the hold-open device is used on,

- (a) an *exit door*,
- (b) a door opening into a *public corridor*,
- (c) an egress door referred to in Sentence 3.4.2.4.(2),
- (d) a door serving an *assembly, care, care and treatment, detention, or residential occupancy*,
- (e) a door in a *fire separation* referred to in Clause 3.3.1.7.(1)(b) or in Sentence 3.3.3.5.(4) or 3.3.4.11.(4), or **[NEW CLAUSE ADDED TO INCLUDE FIRE COMPARTMENT REQUIREMENTS IN PROTECTION OF BARRIER-FREE PATH OF TRAVEL, PATIENTS AND RESIDENT SLEEPING ROOMS IN HOSPITALS/LONG-TERM CARE FACILITIES AND RETIREMENT HOMES]**
- (f) a door required to function as part of a smoke control system.

(4) Where the *building* is not provided with a fire alarm system, a hold-open device permitted by Sentence (1) shall release upon a signal from a *smoke alarm* located on either side of the *fire separation* at ceiling level within 1.5 m horizontally of the *closure* opening in the *fire separation*, where the hold-open device is used on *closures* described in Clauses (3)(a) to (e). **[MODIFIED AND REORGANIZED TO PROVIDE CLARITY]**





3.1.8.12. Hold-Open Devices

(5) Where a hold-open device is used on *closures* other than those described in Sentences (3) and (4), it is permitted to be released upon actuation of a heat-actuated device.

[MODIFIED AND REORGANIZED TO PROVIDE CLARITY]

(6) A hold-open device used on a door located between a corridor used by the public and an adjacent sleeping room in a *care and treatment occupancy* need not release automatically as described in Sentence (2).

[MODIFIED AND REORGANIZED TO PROVIDE CLARITY]





PART 3

SUMMARY OF CATEGORY

FIRESTOPPING FOR OUTLET BOXES

- Separated into new section and modified to provide clarity.

FIRE BLOCKS

- Added use of structural composite lumber for fire blocking materials.

ROOF ASSEMBLIES AND ROOF COVERINGS

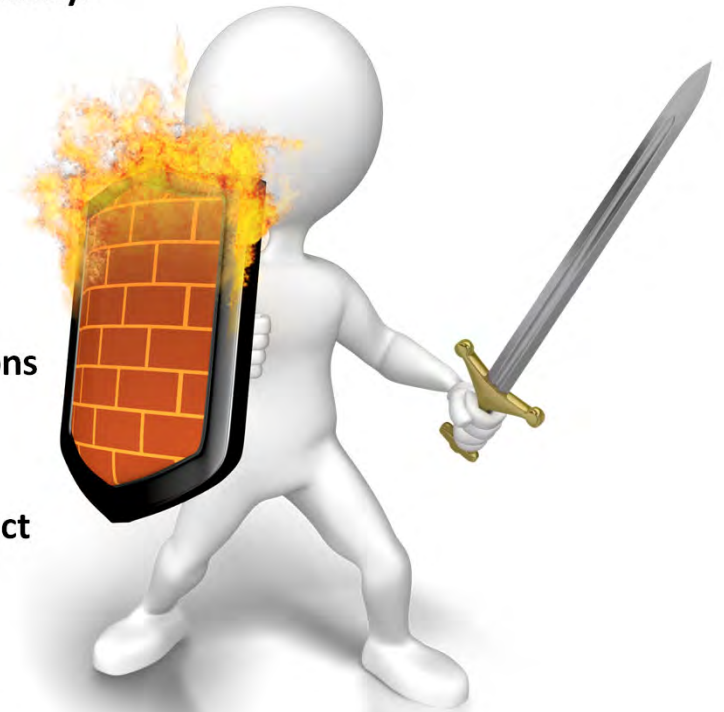
- Correcting reference to thermal barrier requirements due to reorganization of referenced article.
- Provisions to exempt class A, B and C roof classifications for steel buildings.

COMBUSTIBLE PROJECTIONS

- Provisions added to allow combustible soffits to project to the property line in certain circumstances.

SERVICE LINES UNDER BUILDINGS

- Modified to reflect changes to referenced standard.





3.1.9.3A. Penetration by Outlet Boxes [PREVIOUSLY SENTENCES (5)(6)(7) IN 3.1.9.3. – NEW SECTION CREATED]

(1) Except as provided in Sentences (2) and (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 *fire stop* 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, “Fire Tests of Firestop Systems”. **[NEW SENTENCE REQUIRING FT RATING FOR MEMBRANE PENETRATIONS]**

(2) Except as provided in Sentences 3.1.9.1.(2) and (3), *non-combustible* 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) 160 cm² in area, and

(ii) an aggregate area of 650 cm² in any 9.3 m² of surface area, and

(b) the annular space between the membrane and *non-combustible* electrical outlet boxes does not exceed 3 mm. **[PREVIOUSLY SENTENCE 3.1.9.3.(6) – ADDED MAXIMUM AGGREGATE AREAS]**

(3) In addition to the requirements of Sentence (2), 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, or

(b) a *fire block* conforming to Article 3.1.11.7. **[ADDED PROVISION TO ALLOW FIREBLOCKS]**





FIRESTOPPING AND FIRE BLOCKS

PART 3

3.1.11.7.(4)

Sentence 3.1.11.7.(4) Fire Block Materials [MODIFIED EXISTING SENTENCE TO INCLUDE PROVISIONS FOR USE OF SCL LUMBER IN FIRE BLOCKS]

(4) In a *building* permitted to be of *combustible construction*, in a *combustible* roof system permitted by Sentence 3.1.5.3.(2), and in a raised platform permitted by Sentence 3.1.5.8.(2), *fire blocks* are permitted to be,

- (a) solid lumber or a structural composite lumber product conforming to ASTM D5456, “Evaluation of Structural Composite Lumber Products”, not less than 38 mm thick,
- (b) phenolic bonded plywood, OSB or waferboard not less than 12.5 mm thick with joints supported, or
- (c) two thicknesses of lumber or a structural composite lumber product conforming to ASTM D5456, “Evaluation of Structural Composite Lumber Products”, each not less than 19 mm thick with joints staggered, where the width or height of the concealed space requires more than one piece of lumber or structural composite lumber product not less than 38 mm thick to block off the space.





3.1.14.2.(2)(a)(ii) Metal Roof Deck Assemblies

(ii) by a thermal barrier conforming to Clause 3.1.5.12.(4)(c) or (d) that is located on the underside of the *combustible* material or beneath the roof deck, **[MODIFIED DUE TO LOCATION CHANGE IN REFERENCED CLAUSES]**





ROOF ASSEMBLIES & ROOF COVERINGS

PART 3

3.1.15.2(2)(d).

3.1.15.2.(2)(d) Roof Coverings

[NEW CLAUSE PERMITTING STEEL BUILDINGS TO NOT REQUIRE CLASS A, B OR C CLASSIFICATIONS]



(d) a steel *building* system described in Article 4.3.4.3., provided the roof covering consists of metal sheets, metal shingles or other *non-combustible* roofing materials.



COMBUSTIBLE PROJECTIONS

PART 3

3.2.3.6.(3.1)

3.2.3.6.(3.1) Combustible Projections [NEW SENTENCE TO PERMIT FACE OF A ROOF SOFFIT TO PROJECT TO PROPERTY LINE WHERE FACES A STREET]



(3.1) Subject to Sentence (4), the face of a roof soffit is permitted to project to the property line, where it faces a *street*, lane or public thoroughfare.



3.2.3.21.(1) Service Lines Under Buildings

[MODIFIED SENTENCE TO REFLECT CHANGE IN REFERENCE STANDARD]

(1) A *building* shall not be constructed over an existing buried flammable gas main unless the gas main is encased in a gas-tight conduit in conformance with CAN/CSA-Z662, “Oil and Gas Pipeline Systems”.





FIRE ALARM

- **Modified wording for requirements of a fire alarm system for F2 and F3 occupancies.**
- **New provisions added for the installation of one-way and two-way voice communication systems.**
- **Added new provision for residential fire systems and the referenced standard for which it must comply.**

HIGH BUILDINGS

- **Added clarification to ensure pressurization of public corridors during fire alarm operation.**
- **Identifying the specific auxiliary equipment that need to be controlled within the central alarm and control facility.**





ELECTRICAL

- Requiring emergency lighting within public bathrooms.
- Requiring distribution panels for emergency lighting to be in fire rated rooms.
- Clarifying that emergency lighting conductors from distribution panels to other storeys need to be protected.

COMMISSIONING OF LIFE SAFETY SYSTEMS

- Moved to new subsection and now references CAN/ULC-S1001.





PART 3

SUMMARY OF CATEGORY

SAFETY REQUIREMENTS IN FLOOR AREAS

- **Confirming that duct enclosures for commercial kitchens need to comply with NFPA96.**
- **Specifying a new standard for which fire rating of duct enclosures must comply with.**
- **Allowing sliding doors to be used for egress in self-service storage buildings.**
- **New requirements for door threshold height.**
- **New requirements for exit width in dance halls and licensed beverage establishments.**
- **Specifying that certain doors and vision panels must comply with barrier-free provisions.**
- **New requirements for exhaust ventilation and explosion venting waiving fire dampers and requiring rated enclosures.**
- **Changed name of storage of explosives to storage of dangerous goods and added provisions to be enclosed in fire rated rooms.**





PART 3

SUMMARY OF CATEGORY

EXITS

- Requiring specific minimum distances between exit stair discharge points.
- New provision requiring half the exit width in principal entrances for dance halls and licensed beverage establishments.
- New provision requiring a maximum threshold height for exit doors.
- New provision requiring signs where exit doors may be blocked by vehicles.
- Allowing exit doors to not swing on a vertical axis or in the direction of travel under certain conditions.
- Added “cross over” to Emergency Access to Floor Areas and modified for clarity.





3.2.4.1.(2)(h) Fire Alarm and Detection Systems [ADDED CLAUSE TO SEPARATE OUT LOW HAZARD AND MEDIUM HAZARD OCCUPANCIES]



(h) a *low hazard industrial occupancy* with an *occupant load* more than 75 above or below the *first storey*,

(h.1) a *medium hazard industrial occupancy* with an *occupant load* more than 75 above or below the *first storey*,



3.2.4.6. Commissioning of Life Safety and Fire Protection Systems

[MOVED ARTICLE TO 3.2.4.10]





3.2.4.20.(13)(d) Audibility of Alarm Systems

[MODIFIED CLAUSE TO ADD REFERENCE TO NEW ARTICLE 3.2.4.24. (COVERING BOTH ONE-WAY AND TWO-WAY VOICE COMMUNICATION SYSTEMS)]



(d) the voice communication system referred to in Article 3.2.4.23. or 3.2.4.24. has a provision to override the automatic signal silence to allow the transmission of voice messages through silenced audible signal device circuits that serve the *dwelling units*.



Article 3.2.4.22.(0.1) [ADDED SENTENCE TO REFERENCE EXEMPTION IN NEW ARTICLE 3.2.4.22A. (RESIDENTIAL WARNING SYSTEM)]

(0.1) Except as provided in Article 3.2.4.22A., *smoke alarms* shall be installed in accordance with this Article.

3.2.4.22A. Residential Fire Warning Systems [NEW ARTICLE FOR RESIDENTIAL FIRE WARNING SYSTEMS AND NEW REFERENCE STANDARD]

- (1) Except where a fire alarm system is installed or required in a *building*, *smoke detectors* forming part of a residential fire warning system installed in conformance with CAN/ULC-S540, “Residential Fire and Life Safety Warning Systems: Installation, Inspection, Testing and Maintenance”, are permitted to be installed in lieu of all *smoke alarms* required by Article 3.2.4.22., provided that the system is,
- (a) capable of sounding audible signals in accordance with Sentences 3.2.4.22.(8) and (12),
 - (b) provided with a visual signalling component in accordance with Sentences 3.2.4.22.(13) to (15),
 - (c) powered in accordance with Sentences 3.2.4.22.(5), and
 - (d) provided with a silencing device in accordance with Sentences 3.2.4.22.(10) and (11).





3.2.4.23. Two-Way Voice Communication Systems [MODIFIED ARTICLE TO MOVE ONE-WAY VOICE COMMUNICATION SYSTEM TO A NEW ARTICLE]

(1) A voice communication system required by Subsection 3.2.6., Clause 3.3.2.4.(14)(f) or Sentence 3.3.4.11.(12) shall,

(a) consist of a two-way means of communication with the central alarm and control facility and with the mechanical control centre from each *floor area*, and

(b) be capable of broadcasting pre-recorded, synthesized or live messages from the central alarm and control facility that are audible and intelligible in all parts of the *building*, except in elevator cars. **[MODIFIED TO PROVIDE CLARITY]**

~~(2) The voice communication system referred to in Clause (1)(b) shall be capable of broadcasting pre-recorded, synthesized or live messages with voice intelligibility meeting or exceeding the equivalent of a common intelligibility scale score of 0.70. **[REVOKED THE REQUIREMENT TO MEET THE COMMON INTELLIGIBILITY SCALE]**~~

(2) The voice communication system referred to in Sentence (1) shall include a means to silence the *alarm signal* in a single-stage fire alarm system while voice messages are being transmitted, but only after the *alarm signal* has initially sounded for not less than 30 s.

[PREVIOUSLY SENTENCE (3)]





3.2.4.23. Two-Way Voice Communication Systems

(3) The voice communication system referred to in Sentence (1) shall include a means to silence the *alert signal* and the *alarm signal* in a two-stage fire alarm system while voice messages are being transmitted, but only after the *alert signal* has initially sounded for not less than,

- (a) 10 s in hospitals that have supervisory personnel on duty for twenty-four hours each day, or
- (b) 30 s for all other *occupancies*.

[PREVIOUSLY SENTENCE (4)]

(4) The voice communication system referred to in Sentence (1) shall be designed so that the *alarm signal* in a two-stage fire alarm system can be selectively transmitted to any zone or zones while maintaining an *alert signal* or selectively transmitting voice instructions to any other zone or zones in the *building*. [PREVIOUSLY SENTENCE (4)]

(5) The voice communication system referred to in Sentence (1) shall be designed so that visual signal devices are not interrupted while voice instructions are being transmitted.

[NEW SENTENCE REQUIRING NO INTERRUPTIONS IN VISUAL SIGNALS]





3.2.4.23. Two-Way Voice Communication Systems

(6) The voice communication system referred to in Sentence (1)-~~(b)~~ shall be installed so that emergency communication devices are located in each *floor area* near *exit* stair shafts.

[MODIFIED DUE TO REORGANIZATION]

(7) A voice communication system referred to in Sentence (1) that is installed in a *building* that is not intended to be staffed, at times when the *building* will be occupied, with persons trained to provide instructions over the system shall include a pre-recorded message.

[PREVIOUSLY SENTENCE (9)]





3.2.4.24. One-Way Voice Communication Systems [PREVIOUSLY REQUIREMENTS WERE IN ARTICLE 3.2.4.23.]



- (1) Except for Group B, Division 1 and Group F, Division 1 *major occupancies*, a one-way voice communication system shall be installed in a *building* where,
 - (a) a fire alarm system is required under Subsection 3.2.4.,
 - (b) a two-stage fire alarm system is installed, and
 - (c) the *occupant load* of the *building* exceeds 1 000.
- (2) The voice communication system required by Sentence (1) shall consist of loudspeakers that are,
 - (a) operated from the central alarm and control facility or, in the absence of a central alarm and control facility, from a designated area, and
 - (b) designed and located so that transmitted messages are audible and intelligible in all parts of the *building*, except in elevator cars.
- (3) A voice communication system required by Sentence (1) that is installed in a *building* that is not intended to be staffed, at times when the *building* will be occupied, with persons trained to provide instructions over loudspeakers described in Sentence (2) shall include a pre-recorded message.
- (4) The voice communication system required by Sentence (1) shall meet the silencing transmission requirements of Sentences 3.2.4.23.(2) to (5).



3.2.6.2.(5.1) Limits to Smoke Movement [NEW SENTENCE TO PROVIDE REQUIREMENT FOR CORRIDOR PRESSURIZATION TO LIMIT SMOKE MOVEMENT]



(5.1) Except as provided in Article 3.2.4.13. or as otherwise provided in this Part, air handling systems used to provide make-up air to *public corridors* serving *suites* in a Group C *major occupancy* shall not shut down automatically upon actuation of the fire alarm so as to maintain corridor pressurization.



3.2.6.7.(2)(i) Central Alarm and Control Facility [MODIFIED CLAUSE TO SPECIFY WHICH AUXILIARY EQUIPMENT REFERENCED TO PROVIDE MEANS OF OPERATION]

(i) actuate auxiliary equipment identified in Articles 3.2.6.2., 3.2.6.3. and 3.2.6.6., or





3.2.7.3.(1) Emergency Lighting

(1) Emergency lighting shall be provided to an average level of illumination not less than 10 lx at floor or tread level in,

(m) washrooms with *fixtures* for *public use*. **[ADDED NEW CLAUSE TO PROVIDE EMERGENCY LIGHTING IN PUBLIC WASHROOMS]**





3.2.7.10. Protection of Electrical Conductors

(10) Distribution panels serving emergency lighting units located on other *storeys* shall be installed in a *service room* separated from the *floor area* by a *fire separation* having a *fire-resistance rating* of at least 1 h. **[NEW SENTENCE REQUIRING DISTRIBUTION PANELS TO BE IN FIRE RATED ROOMS]**

(11) Conductors leading from a distribution panel referred to in Sentence (10) to emergency lighting units located on other *storeys* shall be protected in accordance with Sentence (2) between the distribution panel and the *floor area* where the emergency lighting units are located. **[MODIFIED TO PROVIDE CLARITY THAT THESE CONDUCTORS ARE REQUIRED TO BE PROTECTED FROM STOREY TO STOREY]**





3.2.10. Testing of Integrated Fire Protection and Life Safety Systems

[SUBSECTION, MOVED FROM FIRE ALARM SUBSECTION 3.2.4.6., REQUIRING TESTING OF INTEGRATED LIFE SAFETY SYSTEMS]



3.2.10.1. Testing

(1) Where fire protection and life safety systems, and systems with fire protection and life safety functions, are integrated with each other, the systems shall be tested as a whole in accordance with CAN/ULC-S1001, “Integrated Systems Testing of Fire Protection and Life Safety Systems”, to verify that the systems have been properly integrated. [SPECIFYING A STANDARD FOR THE TESTING OF INTEGRATED LIFE SAFETY SYSTEMS]





3.3.1.2.(2) Hazardous Substances, Equipment and Processes

(2) Systems for the ventilation of cooking equipment that is not within a *dwelling unit* and is used in processes producing grease-laden vapours shall be designed and installed in conformance with Articles 3.6.3.5 and 6.2.2.6.

[MODIFIED TO CLARIFY THAT DUCT ENCLOSURES MUST MEET NFPA96, IN ADDITION TO THE HOODS SPECIFIED IN PART 6. ALSO REFERENCES A STANDARD TO WHICH THE FIRE RESISTANCE RATINGS MUST BE TESTED]





3.3.1.7.(6) Doors between area of refuge zones

[MOVED DUE TO NEW AIR LEAKAGE REQUIREMENTS FOR DOOR CLOSURES IN 3.1.8.5.]





3.3.1.10. Door Swing

(5) Doors that serve individual storage spaces not more than 28 m² in area in *self-service storage buildings* need not conform to Sentence (1). **[NEW SENTENCE ALLOWING FOR SLIDING/OVERHEAD EGRESS DOORS IN SELF STORAGE AREAS (NO NEED TO SWING ON VERTICAL AXIS)]**





3.3.1.12.(1) Doors and Door Hardware

- (1) Except as required by Article 3.3.3.4. and Sentences 3.3.4.11.(11), 3.8.3.3.(1) and (2), a door that opens into or is located within a *public corridor* or other facility that provides *access to exit* from a *suite*,
- (a) shall provide a clear opening of not less than 800 mm, if there is only one door leaf,
 - (b) shall, in a doorway with multiple leaves, have the active leaf providing a clear opening of not less than 800 mm,
 - (c) shall not open onto a step, and
 - (d) shall not have a threshold more than 13 mm higher than the floor surface except where,
 - (i) the threshold is used to contain spillage, or
 - (ii) the doorway provides access to an exterior balcony, other than a balcony required by Sentence 3.3.1.7.(2). **[NEW CLAUSE PROVIDING REQUIREMENTS FOR DOOR THRESHOLD HEIGHT]**





3.3.1.16. Capacity of Access to Exits

(6) In a *building* that is not *sprinklered* in accordance with Sentence 3.2.5.13.(1), an *access to exit* that is part of the principal entrance serving a dance hall or a licensed beverage establishment with an *occupant load* more than 250 shall be at least one-half of the required *exit* width. **[NEW SENTENCE PROVIDING REQUIREMENT FOR EXIT WIDTH IN DANCE HALLS AND LICENSED BEVERAGE ESTABLISHMENTS]**





3.3.1.18. Transparent Doors and Panels

(1.1) Fully glazed transparent doors, and fully glazed transparent sidelights and panels with widths greater than 300 mm, shall be marked in conformance with Sentence 3.8.3.3.(15).

[ADDED SENTENCE (1.1) TO PROVIDE REQUIREMENT FOR GLASS MARKINGS TO COMPLY WITH BARRIER-FREE PROVISIONS]

(4.1) Glass in a vision panel in a door or in a transparent sidelight shall conform to Sentence 3.8.3.3.(14).

[ADDED SENTENCE (4.1) TO PROVIDE REQUIREMENT FOR GLASS TO COMPLY WITH BARRIER-FREE PROVISIONS]





3.3.1.19. Exhaust Ventilation and Explosion Venting

(1) Except as provided in Sentence (2), an exhaust ventilation system designed in conformance with the appropriate requirements of Part 6 shall be provided in a *building* or part of a *building* in which dust, fumes, gases, vapour or other impurities or contaminants have the potential to create a fire or explosion hazard.

(2) Where a *fire separation* required to have a *fire-resistance rating* is penetrated by a ventilation system required by Sentence (1) for power-ventilated enclosures in laboratories, the ducts shall be continuously enclosed from the first penetrated *fire separation* to any subsequent *fire separations* or concealed spaces and to the outdoors so that the highest *fire-resistance rating* of all the penetrated *fire separations* is maintained. **[ADDED NEW SENTENCE TO PROVIDE REQUIREMENT FOR ENCLOSING DUCTS WITH A FIRE RATED ASSEMBLY]**

(3) Ducts described in Sentence (2) need not be equipped with a *fire damper*, a smoke damper or a combination smoke and *fire damper*. **[ADDED NEW SENTENCE TO NOT REQUIRE DAMPERS FOR DUCTS ENCLOSED IN A FIRE RATED ASSEMBLY]**

(4) Explosion relief devices, vents or other protective measures conforming to Subsection 6.2.2. shall be provided for a space in which substances or conditions that have the potential to create an explosion hazard are present as a result of the principal use of a *building*.





3.3.3.5.(6) Doors Between Compartments in Patients or Residents Sleeping Rooms

[MOVED TO NEW AIR LEAKAGE REQUIREMENTS FOR DOOR CLOSURES IN 3.1.8.5.]





3.3.4.6.(1) Sound Transmission

(1) *Buildings containing dwelling units* shall be constructed so that airborne noise is controlled in conformance with Section 5.8. **[SENTENCE MODIFIED TO REFERENCE NEW SECTION 5.8 INSTEAD OF 5.9.]**





3.3.4.9. Stud Wall Reinforcement in Dwelling Units

- (1) If wood wall studs or sheet steel wall studs enclose the main bathroom in a *dwelling unit*, reinforcement shall be installed to permit the future installation of the following:
 - (b) for a shower, grab bars described in Clause 3.8.3.13.(2)(g), and
 - (c) for a bathtub, grab bars described in Clause 3.8.3.13.(4)(e).

[MODIFIED TO REFERENCE CHANGES WITHIN BARRIER-FREE (3.8)]





3.3.6.2. Storage of Dangerous Goods

[MODIFIED NAME OF ARTICLE FROM 'STORAGE OF EXPLOSIVES' TO 'STORAGE OF DANGEROUS GOODS']

(1) A room intended for the storage of solid and liquid *dangerous goods* classified as oxidizers or organic peroxides shall be separated from the remainder of the *building* by a *fire separation* having a *fire-resistance rating* of not less than 2 h. [NEW SENTENCE SEPARATING THESE ROOMS FROM THE REMAINDER OF THE FLOOR AREA]

(2) A room intended for the storage of reactive materials shall be separated from the remainder of the *building* by a *fire separation* having a *fire-resistance rating* of not less than 2 h. [NEW SENTENCE SEPARATING THESE ROOMS FROM THE REMAINDER OF THE FLOOR AREA]

(3) The design and *construction* of a *building* or part of a *building* intended for the storage of *dangerous goods* classified as explosives shall conform to the *Explosives Act* (Canada) and the regulations made under that Act. [PREVIOUSLY SENTENCE 1]





3.4.2.3. Distance Between Exits

- (4) The distance between exterior doors leading from two or more *exit* stairs serving the same *floor area* shall be,
- (a) not less than 9 m, or
 - (b) not less than 6 m, where,
 - (i) the *building* is *sprinklered*, and
 - (ii) the exterior doors are located within 15 m of a *street*.

[NEW SENTENCE PROVIDING FOR PRESCRIPTIVE REQUIREMENTS FOR DISTANCE BETWEEN STAIR EXIT POINTS IN A FLOOR AREA]





3.4.2.6. Principal Entrance

(2) In a *building* that is not *sprinklered* in accordance with Sentence 3.2.5.13.(1), the principal entrance serving a dance hall or a licensed beverage establishment with an *occupant load* more than 250 shall provide at least one-half of the required *exit* width.

[NEW SENTENCE PROVIDING FOR REQUIREMENTS OF MINIMUM EXIT WIDTH OF THE PRINCIPAL ENTRANCE FOR DANCE HALLS AND LICENSED BEVERAGE ESTABLISHMENTS]





3.4.6.11. Doors

(1.1) Except as provided in Sentence (2) and where a threshold is used to contain spillage, a threshold for a doorway in an *exit* shall be not more than 13 mm higher than the surrounding finished floor surface. **[NEW SENTENCE PROVIDING FOR REQUIREMENT OF MAXIMUM DOOR THRESHOLD HEIGHTS IN EXIT DOORS]**



(5) Where an *exit* door leading directly to the outside is subject to being obstructed by a parked vehicle or storage because of its location, a visible sign prohibiting such obstructions shall be permanently mounted on the exterior side of the door. **[NEW SENTENCE PROVIDING FOR REQUIREMENT OF A SIGN TO PREVENT VEHICLES BLOCKING AN EXIT DOOR]**





3.4.6.12. Direction of Door Swing

- (4) *Exit* doors need not conform to Sentence (1) where they serve,
- (a) *storage garages* serving not more than one *dwelling unit*,
 - (b) accessory *buildings* serving not more than one *dwelling unit*, or
 - (c) *storage suites* not more than 28 m² in area that are on the *first storey* of a warehouse and open directly outdoors at ground level.

[NEW SENTENCE PROVIDING EXIT DOORS TO NOT OPEN IN DIRECTION OF EXIT TRAVEL AND SWING ON A VERTICAL AXIS, UNDER CERTAIN SITUATIONS]





3.4.6.18. Emergency Crossover Access to Floor Areas [MODIFIED NAME OF ARTICLE FROM 'EMERGENCY ACCESS TO FLOOR AREAS' TO 'EMERGENCY CROSSOVER ACCESS TO FLOOR AREAS']

(1) Except as permitted in Sentence (2), doors providing access to *floor areas* from *exit stairs* shall not have locking devices to prevent entry into any *floor area* from which the travel distance up or down to an unlocked door is more than 2 *storeys*. **[MODIFIED FOR CLARITY]**

(2) Doors referred to in Sentence (1) are permitted to be equipped with electromagnetic locks provided they comply with Sentences 3.4.6.16.(4) and (5). **[MODIFIED FOR CLARITY]**

(3) Doors referred to in Sentence (1) shall be identified by a permanently mounted sign on the stair side to indicate that they are openable from that side. **[MODIFIED FOR CLARITY]**





3.4.6.18. Emergency Crossover Access to Floor Areas

(4) Locked doors intended to prevent entry into a *floor area* from an *exit* stair shall,
(a) be identified by a permanently mounted sign on the stair side to indicate the location of the nearest unlocked door in each direction of travel, and
(b) be openable with a master key that fits all locking devices and is kept in a designated location accessible to firefighters or be provided with a wired glass panel not less than 0.0645 m² in area and located not more than 300 mm from the door opening hardware.

[PREVIOUSLY SENTENCE(1) MODIFIED FOR CLARITY]

(5) Where access to a *floor area* is required by Sentence (1), access through unlocked doors to the *floor area* from at least one other *exit* shall also be provided.

[PREVIOUSLY SENTENCE(2) MODIFIED FOR CLARITY]

(6) In a *building* not more than 6 *storeys* in *building height*, doors providing access from *exit* stairs to a *floor area* containing a *hotel* are permitted to have locking devices to prevent entry into the *floor area* provided the requirements in Clause (4)(b) are complied with.

[PREVIOUSLY SENTENCE (4)]





SERVICE FACILITIES

- Confirming that duct enclosures for commercial kitchens need to comply with NFPA96.
- Specifying a standard to which duct enclosures fire-resistance ratings must comply to.
- Additional requirements specified for firestop flaps within a return air plenum.

HEALTH REQUIREMENTS

- More requirements added to lever controls for lavatories.
- Requiring medical gas piping to comply with a specific standard.





3.6.3.5. Grease Duct Enclosures [NEW ARTICLE FOR REQUIREMENTS REGARDING GREASE DUCT ENCLOSURES]



- (1) Except as provided in Sentence (2), *fire separations* enclosing grease ducts for commercial cooking operations shall conform to NFPA 96, “Ventilation Control and Fire Protection of Commercial Cooking Operations”.
- (2) The *fire-resistance rating* of field-applied and factory-built grease duct enclosure assemblies shall be determined in conformance with CAN/ULC-S144, “Fire Resistance Test - Grease Duct Assemblies”.



3.6.4.3. Plenum Requirements

(2) If a concealed space referred to in Sentence (1) is used as a return-air *plenum* and incorporates a ceiling membrane that forms part of the required *fire-resistance rating* of the assembly, every opening through the membrane shall be protected by a *fire stop flap* that shall,

(d) activate at a temperature approximately 30°C above the normal maximum temperature that occurs in the return-air *plenum*, whether the air duct system is operating or shut down.

[NEW CLAUSE PROVIDING ADDITIONAL REQUIREMENTS FOR ACTIVATION OF FIRE STOP FLAPS]

3.6.4.3.(3) Asbestos Paper

[SENTENCE REVOKED DUE TO PART 6 REQUIREMENT TO PROHIBIT ITS USE AS A MATERIAL]





3.7.4.2. Plumbing Fixtures, General

(11) Except for dwelling units, lavatories required by Sentence (5) shall be equipped with faucets that,

(a) operate automatically, or

~~(b) have lever type handles that do not close under spring action.~~

(b) have a manual control that,

(i) has a lever type handle or is otherwise operable with a closed fist,

(ii) does not require the application of continuous force to maintain water flow,
and

(iii) where metered, provides at least 10 s of water flow.

[MODIFIED CLAUSE TO PROVIDE ADDITIONAL REQUIREMENTS FOR LEVER CONTROLS OF LAVATORY FAUCETS, REVOKED PROVISION PROHIBITING CLOSING UNDER SPRING ACTION AS THIS IS NOW REQUIRED UNDER PART 7 AND SPECIFIED MINIMUM FLOW]





3.7.5.2.(1) Medical Gas Piping

- (1) All medical gas piping systems shall be designed, constructed, installed and tested in conformance with,
- (a) CSA Z7396.1, “Medical Gas Piping Systems - Part 1: Pipelines for Medical Gases, Medical Vacuum, Medical Support Gases, and Anaesthetic Gas Scavenging Systems”, and
 - (b) the provisions of the Fire Code made under the *Fire Protection and Prevention Act, 1997* or, in the absence of such provisions, Part 3 of Division B of the CCBFC NRCC 56192, “National Fire Code of Canada”.

[MODIFIED SENTENCE TO INCLUDE REQUIREMENT OF MEDICAL GAS PIPING TO COMPLY WITH THE NATIONAL FIRE CODE OF CANADA]





CONTROLS

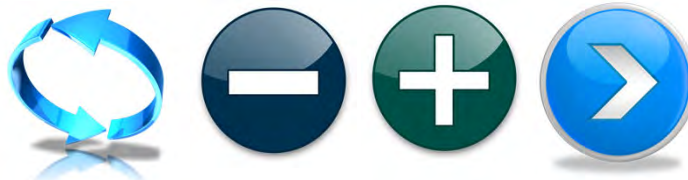
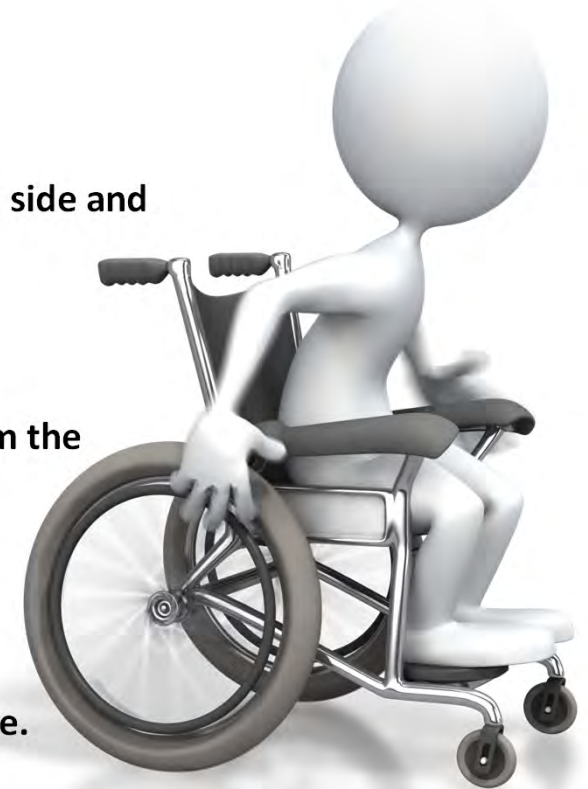
- Providing prescriptive requirements for “side approach”.

DOORWAYS AND DOORS

- Power door operator controls now permitted on the non-latch side and requiring it to be in an unobstructed path of travel.

WATER CLOSET STALLS

- Requirements for a clear space in front of a water closet stall.
- Specifying that the self closing door can stop up to 50 mm from the close position.
- Providing more prescriptive requirements for the door pull.
- Confirmed that a toilet paper dispenser is required and changed dimensional requirements.
- Reducing the minimum diameter of grab bars to 30 mm.
- Specifying the position required for the water closet flush valve.





URINALS AND LAVATORIES

- Requiring a clear space in front of urinals and modifying the location and size of grab bars.
- Changing the required height and clear space requirements for lavatories.
- Modifying the required location for soap dispensers.

UNIVERSAL WASHROOMS

- Requiring power door operators regardless if a self closing device is installed.





SHOWERS AND BATHTUBS

- Added requirements to ensure the shower door does not obstruct the controls.
- Modifying the location of the seat in a shower.
- Requiring two grab bars in the shower.
- Specifying the operation of the shower mixing valve and its location.
- Changing the required length of the shower hose.
- Specifying the location of the shower head and ensuring it does not interfere with controls.
- Requiring a clear space in front of the bathtub and indicating minimum size.
- Providing requirements for the rim of the bathtub and specifying requirements for the facets.
- Requiring the installation of three grab bars in bathtubs.
- Specifying a slip resistant surface to the bottom of bathtubs.
- Identifying the location of the spray head for bathtubs.
- Requiring a clear space in front of the bathtub if barrier-free.





3.8.1.5.(1)(a) to (c) Barrier-Free Controls

(a) be mounted,

(i) 1 200 mm above the finished floor, in the case of a thermostat or a manual pull station, and

(ii) not less than 900 mm and not more than 1 100 mm above the finished floor, in the case of all other controls, and

[PREVIOUSLY CLAUSE (C) NO CHANGE TO EXISTING REQUIREMENT]

(b) be located so as to be adjacent to and centred on either the length or the width of a clear floor space of 810 mm by 1 370 mm, and

[REPLACING CLAUSE (A), PROVIDING PRESCRIPTIVE REQUIREMENTS FOR A 'SIDE APPROACH']

(c) be operable,

(i) using one hand, without requiring tight grasping, pinching with fingers or twisting of the wrist, and with a force of not more than 22.2 N, in the case of a manual pull station, and

(ii) using a closed fist and with a force of not more than 22.2 N, in the case of all other controls.

[PREVIOUSLY CLAUSE (B) NO CHANGE TO EXISTING REQUIREMENT]





3.8.3.3. Barrier-Free Doorways and Doors

~~(16) Where a power door operator is provided, it shall be installed on the latch side so as to allow persons to activate the opening of the door from either side.~~

[SENTENCE REVOKED; POWER DOOR OPERATORS NOT RESTRICTED TO LATCH SIDE]

(17) Except where a proximity scanning device is installed in conformance with Sentence (18), the control for a power door operator required by Sentence (4), (5) or (6) shall,

(e) be located to allow persons to activate the opening of the door from either direction of travel, **[PREVIOUSLY SENTENCE 3.8.3.3.(16) NO CHANGE TO EXISTING REQUIREMENT]**

(f) be located so that the path of travel is not obstructed, **[PREVIOUSLY SENTENCE 3.8.3.3.(16), ADDING REQUIREMENT TO BE LOCATED IN AN UNOBSTRUCTED PATH OF TRAVEL]**

(g) be located in a clearly visible position, and

[PREVIOUSLY SENTENCE CLAUSE (E) NO CHANGE TO EXISTING REQUIREMENT]

(h) contain a sign incorporating the International Symbol of Access.

[PREVIOUSLY SENTENCE CLAUSE (F) NO CHANGE TO EXISTING REQUIREMENT]





3.8.3.8.(1) Water Closet Stalls

- (1) Every *barrier-free* water closet stall or enclosure in a washroom described in Sentence 3.8.2.3.(3) or (4) shall,
- (a) have a clear turning space within the stall or enclosure of at least 1 500 mm in diameter,
 - (b) have a clear floor space in front of the stall or enclosure of at least 1 500 mm in diameter, **[NEW CLAUSE REQUIRING A CLEAR SPACE IN FRONT OF A WATER CLOSET STALL]**
 - (c) be equipped with a door that,
 - (i) is capable of being latched from the inside with a mechanism conforming to Subclause 3.8.1.5.(1)(b)(ii),
 - (ii) in an open position, has a clear opening of at least 860 mm wide,
 - (iii) swings outward, unless 820 mm by 1 440 mm clear floor area is provided within the stall to permit the door to be closed without interfering with the wheelchair,
 - (iv) is self-closing so that, when at rest, the door remains open not more than 50 mm beyond the jamb, **[NEW CLAUSE FOR NEW SELF CLOSING REQUIREMENT]**





3.8.3.8.(1) Water Closet Stalls

(v) is provided with a horizontal, D-shaped, visually contrasting door pull on both sides of the door, mounted on the vertical centre line of the door, located at a height not less than 800 mm and not more than 1 000 mm above the finished floor,

[MODIFIED CLAUSE TO CHANGE DIMENSION REQUIREMENT AND CLARIFY NATURE OF DOOR PULL REQUIRED]

(vi) is aligned with a clear transfer space required by Subclause (2)(a)(ii) or Clause (2)(b), and

(vii) is capable of having the latch required by Subclause (i) released from the outside in case of an emergency,

(d) be equipped with a water closet conforming to Article 3.8.3.9. that is located in accordance with Clause (2)(a) or (b),

(e) be equipped with a coat hook mounted not more than 1 200 mm above the finished floor on a side wall and projecting not more than 50 mm from the wall,

(f) have a clearance of at least 1 700 mm between the outside of the stall face and the face of an in-swinging washroom door and 1 400 mm between the outside of the stall face and any wall-mounted fixture or other obstruction, and





3.8.3.8.(1) Water Closet Stalls

(g) be equipped with a toilet paper dispenser mounted on the side wall closest to the water closet so that, **[MODIFIED CLAUSE TO CLARIFY A TOILET PAPER DISPENSER IS REQUIRED]**

(i) the dispenser is located below the grab bar,

(ii) the closest edge of the dispenser is 300 mm from the front of the water closet seat, and

(iii) the bottom of the dispenser is 600 mm to 800 mm above the finished floor.

[MODIFIED CLAUSE (ii) AND (iii) TO CHANGE DIMENSION REQUIREMENTS]

3.8.3.8.(7)(b) Grab Bars

[MODIFIED CLAUSE TO ALLOW A MINIMUM GRAB BAR DIAMETER FROM 30mm (PREVIOUSLY 35mm)]

3.8.3.8.(8)(e) Fold Down Grab Bars

[MODIFIED CLAUSE TO ALLOW A MINIMUM GRAB BAR DIAMETER FROM 30mm (PREVIOUSLY 35mm)]





3.8.3.9.(1) Water Closets

- (1) A water closet described in Clause 3.8.3.8.(1)(d) or (10)(c) or 3.8.3.12.(1)(d) shall,
- (a) be equipped with a seat located at not less than 430 mm and not more than 485 mm above the finished floor,
 - (b) flush automatically or be equipped with a flushing control that,
 - (i) is located between 500 mm and 900 mm above the finished floor,
 - (ii) is operable from the transfer side, and
 - (iii) is operable using a closed fist and with a force of not more than 22.2 N,
- and **[MODIFIED CLAUSE TO PROVIDE SPECIFIC REQUIREMENTS FOR THE LOCATION OF THE FLUSHING CONTROL VALVE]**
- (c) be equipped with a back support where there is no seat lid or tank.





3.8.3.10.(1) Urinals

- (1) Where more than one urinal is provided in a washroom described in Sentence 3.8.2.3.(3) or (4), at least one urinal shall,
- (a) be mounted with the rim located not more than 430 mm above the finished floor,
 - (b) have a clear floor space at least 800 mm wide that is perpendicular to, and centred on, the urinal and is unobstructed by privacy screens, **[NEW CLAUSE REQUIRING CLEAR SPACE IN FRONT OF URINALS]**
- and
- (c) have no step in front of it. **[PREVIOUSLY EXISTING CLAUSE 2(A) NO CHANGE TO EXISTING REQUIREMENT]**
- (2) A urinal described in Sentence (1) shall,
- (a) flush automatically or be equipped with a flushing control that is,
 - (i) located between 900 mm and 1 100 mm above the finished floor, and
 - (ii) operable using a closed fist and with a force of not more than 22.2 N,
- and
- (b) have installed on each side, a vertically mounted grab bar that,
 - (i) complies with Article 3.8.3.8.(7),
 - (ii) is not less than 600 mm long, with its centre line 1 000 mm above the finished floor,
- [MODIFIED SUBCLAUSE TO SPECIFY LENGTH OF GRAB BARS]**





3.8.3.10.(1) Urinals

and

(iii) is located not more than 380 mm from the centre line of the urinal.

[MODIFIED SUBCLAUSE TO SPECIFY LOCATION OF GRAB BARS]

~~(c) a minimum depth of 345 mm measured from the outer face of the urinal rim to the back of the fixture.~~ **[REVOKED SENTENCE FOR THE REQUIREMENT FOR A MINIMUM DEPTH OF 345mm MEASURED FROM THE OUTER FACE OF THE URINAL TO THE BACK OF THE FIXTURE]**

(3) Where privacy screens are installed for a urinal described in Sentence (1), they shall,
(a) be mounted a minimum of 460 mm from the centre line of the urinal, and
(b) have a clearance of at least 50 mm from the grab bars required by Clause (2)(b).

[PREVIOUSLY EXISTING SENTENCE (4) NO CHANGE TO EXISTING REQUIREMENT]

(4) Where more than one urinal is provided in a washroom described in Sentence 3.8.2.3.(6), at least one urinal conforming to Sentences (1) to (3) shall be provided in the washroom.

[PREVIOUSLY EXISTING SENTENCE (5) NO CHANGE TO EXISTING REQUIREMENT]





3.8.3.11. Lavatories

- (1) A washroom described in Sentence 3.8.2.3.(2), (3) or (4) shall be provided with a lavatory that shall,
- (a) be located so that the distance between the centre line of the lavatory and the side wall is not less than 460 mm,
 - (b) have a rim height not more than 865 mm above the finished floor, **[MODIFIED EXISTING CLAUSE TO CHANGE HEIGHT OF LAVATORY]**
 - (c) have a clearance beneath the lavatory not less than,
 - (i) 920 mm wide,
 - (ii) 735 mm high at the front edge,
 - (iii) 685 mm high at a point 200 mm back from the front edge,
- and
- (iv) 350 mm high over the distance from a point 280 mm to a point 430 mm back from the front edge, **[MODIFIED EXISTING SUBCLAUSE TO CHANGE CLEARANCE REQUIREMENTS FOR LAVATORY]**
 - (d) have insulated pipes where they would otherwise present a burn hazard or have water supply temperature limited to a maximum of 43°C,





3.8.3.11. Lavatories

- (e) be equipped with faucets that,
 - (i) operate automatically or comply with 3.7.4.2.(11)(b)(i) and (ii), and
 - (ii) are located so that the distance from the centre line of the faucet to the edge of the basin or, where the basin is mounted in a vanity, to the front edge of the vanity, is not more than 485 mm,
- (f) have a minimum 1 370 mm deep floor space to allow for a forward approach, of which a maximum of 500 mm can be located under the lavatory,
- (g) have a soap dispenser that,
 - (i) operates automatically or is operable using a closed fist and with a force of not more than 22.2 N, and
 - (ii) is located not more than 1 100 mm above the finished floor, within 500 mm from the front of the lavatory, and, **[MODIFIED EXISTING CLAUSE TO CHANGE LOCATION REQUIREMENTS FOR SOAP DISPENSER]**
- (h) have a towel dispenser or other hand drying equipment that is,
 - (i) located to be accessible to persons in wheelchairs,
 - (ii) located so that the dispensing height is not more than 1 200 mm above the finished floor,
 - (iii) operable with one hand, and
 - (iv) located not more than 610 mm, measured horizontally, from the edge of lavatory.





3.8.3.12.(1)(b) Universal Washrooms

- (b) have a door that,
 - (i) complies with Article 3.8.3.3.,
 - (ii) has a graspable latch-operating mechanism that is,
 - (A) operable using a closed fist and with a force of not more than 22.2N,and
 - (B) located between 900 mm and 1 000 mm above the finished floor,and
 - (iii) is capable of being locked from the inside and released from the outside in case of emergency, **[MODIFIED EXISTING CLAUSE TO REFERENCE NEW REQUIREMENTS FOR DOORS IN 3.8.3.3, PROVIDE CLARIFICATION ON FORCE AND LOCKING PROVISIONS]**



3.8.3.12.(1)(i)

- (i) be provided with a door equipped with a power door operator, **[MODIFIED EXISTING CLAUSE TO REMOVE REFERENCE TO ... IF THE DOOR IS EQUIPPED WITH A SELF-CLOSING DEVICE]**





3.8.3.13.(2) Showers and Bathtubs

- (2) A *barrier-free* shower required by Sentence (1) shall,
- (a) be not less than 1 500 mm wide and 900 mm deep,
 - (b) have a clear floor space at the entrance to the shower not less than 900 mm deep and the same width as the shower, except that fixtures are permitted to project into that space provided they do not restrict access to the shower,
 - (c) have no doors that obstruct the shower controls or the clear floor space described in Clause (b), **[ADDED CLAUSE TO PROVIDE REQUIREMENT FOR THE DOORS TO NOT OBSTRUCT THE CONTROLS OR FLOOR SPACE]**
 - (d) have a slip-resistant floor surface,
 - (e) have a threshold that is level with the adjacent finished floor or a bevelled threshold not more than 13 mm higher than the adjacent finished floor,
 - (f) have a hinged seat, other than a spring-loaded hinged seat, or a fixed seat that shall,
 - (i) be not less than 450 mm wide and 400 mm deep,
 - (ii) be mounted on the same side wall as the vertical grab bar between 460 mm and 480 mm above the finished floor, **[ADDED SUBCLAUSE MODIFYING THE REQUIREMENTS FOR THE LOCATION OF THE SEAT]**
 - (iii) be designed to carry a minimum load of 1.3 kN,





3.8.3.13.(2) Showers and Bathtubs

(iv) be located so that the edge of the seat is within 500 mm of the shower controls, and

(v) have a smooth and slip-resistant surface and no rough edges,

(g) have two grab bars, **[MODIFIED CLAUSE TO PROVIDE REQUIREMENT FOR 2 GRAB BARS]**

(i) that conform to Sentence 3.8.3.8.(7) and do not obstruct the use of the shower controls,

(ii) one of which is 1 000 mm long vertically located on the side wall between 50 mm and 80 mm from the adjacent clear floor area, and with the lower end between 600 mm and 650 mm above the finished floor, **[ADDED SUBCLAUSE DESCRIBING REQUIREMENTS FOR THE 1ST GRAB BAR]**

and

(iii) one of which is L-shaped, located on the wall opposite the entrance to the shower, with a 1 000 mm long horizontal component mounted between 750 mm and 870 mm above the finished floor and a 750 mm long vertical component mounted between 400 mm and 500 mm from the side wall on which the vertical grab bar described in Subclause (ii) is mounted, **[ADDED SUBCLAUSE DESCRIBING REQUIREMENTS FOR THE 2ND GRAB BAR]**





3.8.3.13.(2) Showers and Bathtubs

- (h) have a pressure-equalizing or thermostatic mixing valve that,
 - (i) is operable using a closed fist and with a force of not more than 22.2 N,
 - (ii) is mounted on the wall opposite the entrance to the shower no more than 1 200 mm above the finished floor,

[ADDED SUBCLAUSES PROVIDING A REQUIREMENT FOR THE OPERATION AND THE MOUNTING LOCATION OF THE MIXING VALVE]

and

- (iii) is located within reach of the seat,

- (i) have a hand-held shower head with not less than 1 800 mm of flexible hose located so that it, **[MODIFIED CLAUSE TO INCREASE LENGTH OF FLEXIBLE HOSE REQUIRED]**

- (i) can be reached from a seated position,

- (ii) can be used in a fixed position at a height of 1 200 mm and 2 030 mm from the finished floor, **[ADDED SUBCLAUSE PROVIDING A REQUIREMENT FOR THE MOUNTING LOCATION OF THE SHOWER HEAD]**

and

- (iii) does not obstruct the use of the grab bars, **[ADDED SUBCLAUSE SPECIFYING THAT THE HAND-HELD SHOWERHEAD SHALL NOT OBSTRUCT THE GRAB BARS]**

and

- (j) have fully recessed soap holders that can be reached from the seated position.





3.8.3.13.(2) Showers and Bathtubs

(2.1) All other controls installed in a shower described in Sentence (2) shall comply with Subclauses (2)(h)(i) to (iii). **[ADDED NEW SENTENCE PROVIDING REQUIREMENTS FOR THE INSTALLATION OF OTHER CONTROLS]**





3.8.3.13.(4) Showers and Bathtubs

(4) Individual bathtubs that are provided for the use of patients or residents in *buildings* of Group B, Division 2 or 3 *occupancy* shall,

(a) be located in a room with a clear floor space not less than 1 500 mm in diameter,

[ADDED CLAUSE TO REQUIRE A CLEAR FLOOR SPACE IN FRONT OF THE BATHTUB]

(b) be not less than 1 500 mm long, **[ADDED CLAUSE TO REQUIRE A MINIMUM LENGTH OF THE BATHTUB]**

(c) be capable of being accessed along the full length of the bathtub with no tracks mounted on the bathtub rim, **[ADDED CLAUSE TO PROHIBIT TRACKS MOUNTED ALONG THE RIM]**

(d) have faucets that,

(i) are operable using a closed fist and with a force of not more than 22.2 N, and

(ii) are located on the centre line of the bathtub or between the centre line of the bathtub and the exterior edge of the bathtub rim, at a maximum height of 450 mm above the rim, **[ADDED CLAUSES PROVIDING REQUIREMENTS FOR THE INSTALLATION OF THE FAUCETS]**





3.8.3.13.(4) Showers and Bathtubs

(e) unless the bathtub is free-standing, have three grab bars, **[ADDED CLAUSE PROVIDING A REQUIREMENT FOR THE INSTALLATION OF THREE GRAB BARS]**

(i) conforming to Sentence 3.8.3.8.(7),

(ii) that are not less than 1 200 mm long,

(iii) two of which are located vertically at each end of the bathtub, mounted between 80 mm and 280 mm above the bathtub rim, and

(iv) one of which is located horizontally along the full length of the bathtub, mounted between 80 mm and 280 mm above the bathtub rim,

(f) have a slip-resistant bottom surface,

and

(g) be equipped with a hand-held shower head with not less than 1 800 mm of flexible hose that can be used in a fixed position at a height of 1 200 mm and 2 030 mm and does not obstruct the use of the grab bars.

[ABOVE CLAUSES ADDED PROVIDING REQUIREMENTS FOR THE INSTALLATION AND SIZE OF THE GRAB BARS, THE INSTALLATION OF A SLIP-RESISTANT BOTTOM SURFACE AND FOR THE INSTALLATION OF A SHOWER HEAD]





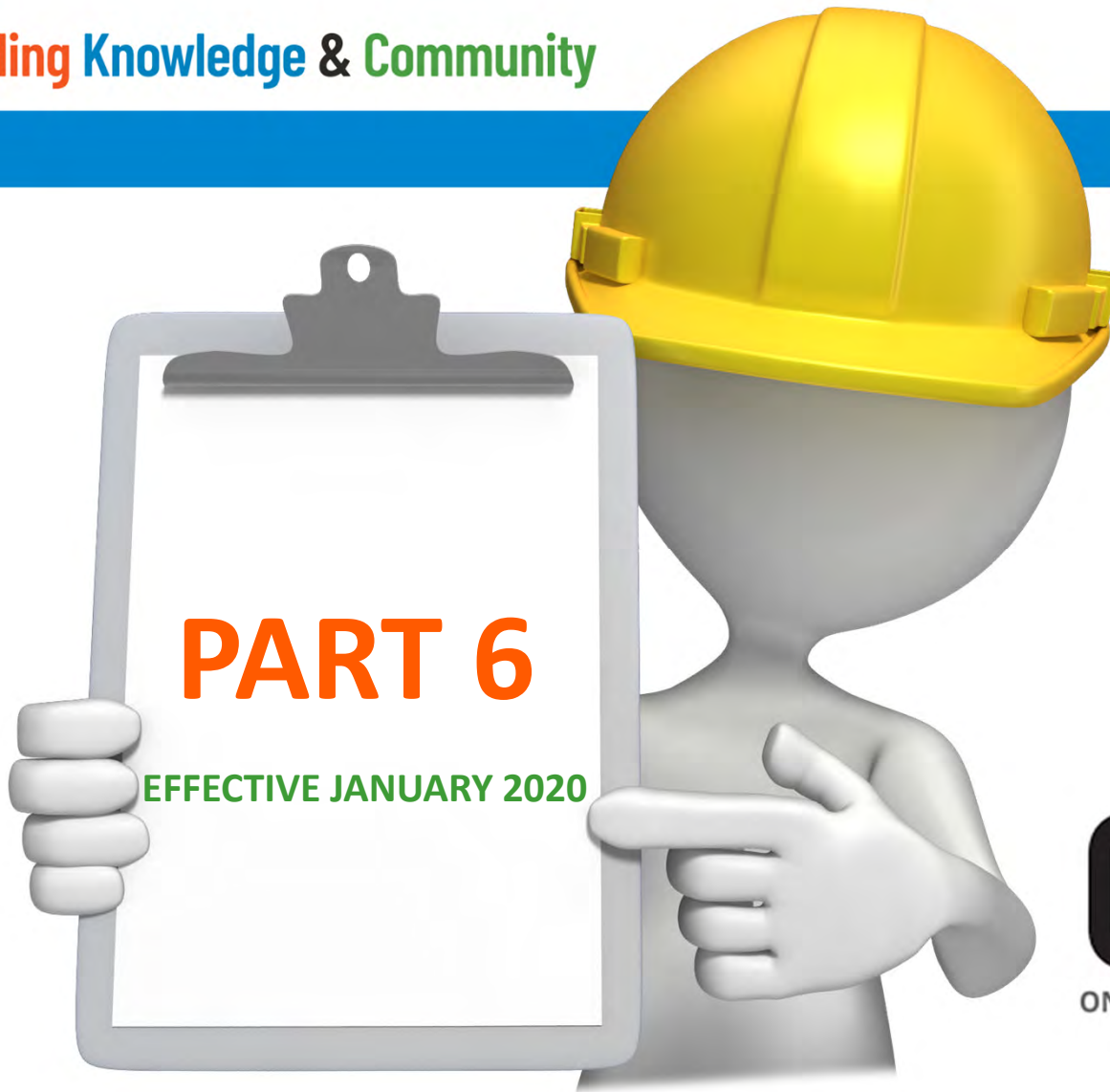
3.8.3.13.(5) Showers and Bathtubs

(5) Where a barrier free bathtub is provided, a clear floor space at least 900mm wide and 1500mm long shall be provided along the full length of the bathtub. **[MODIFIED SENTENCE TO REQUIRE A CLEAR TRANSFER SPACE IF A BARRIER FREE BATHTUB IS PROVIDED]**





Building Knowledge & Community





HEAT RECOVERY VENTILATORS

- Removed the Green Energy Act as a compliance method for measuring efficiency ratings.

ASBESTOS

- Instead of prohibiting asbestos in certain areas it has been prohibited altogether.

DRAIN PANS

- New requirement to provide drain pans for HVAC equipment.





INTAKE AND EXHAUST OPENINGS

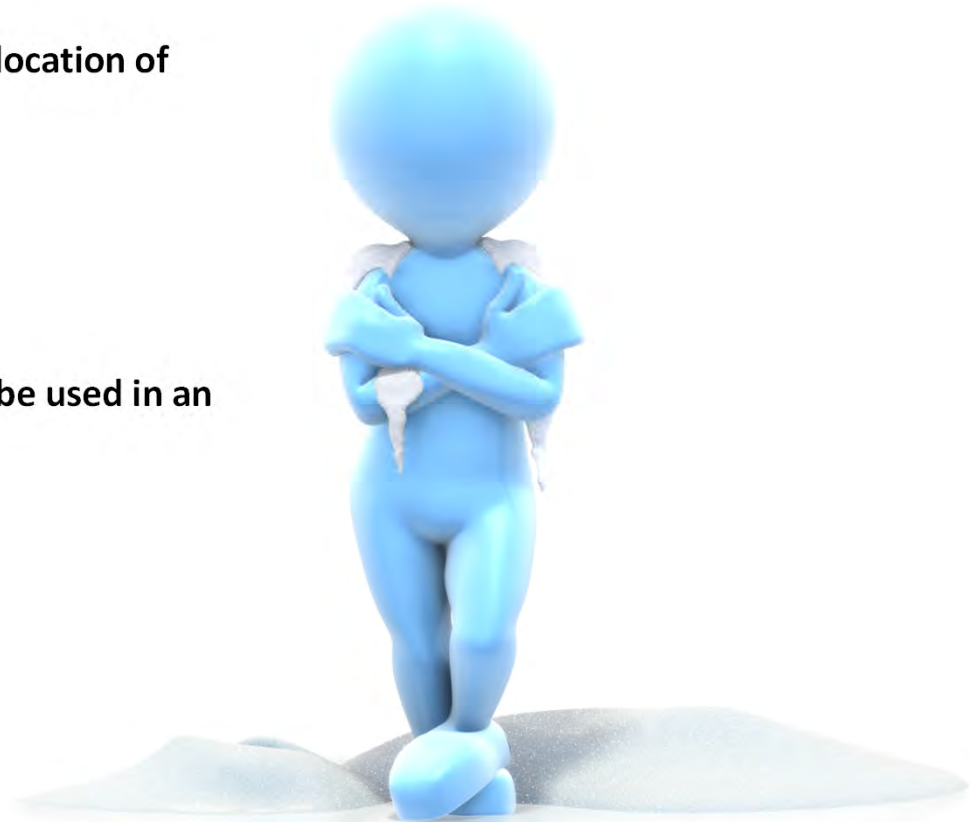
- New table that provides direction on the location of exhaust and intake openings.

COOLING TOWERS

- New requirements for cooling towers.

COVERINGS, LININGS AND INSULATION

- Clarification that foamed plastic is not to be used in an air duct with exceptions.





6.2.1.6.(2)

(2) Where *electric space heating*, other than forced-air electric heating system, is provided in *buildings of residential occupancy* within the scope of Part 9, the mechanical ventilation system shall include heat recovery ventilators designed to provide a minimum 55% sensible heat recovery efficiency when tested to the low temperature thermal and ventilation performance test method set out in CAN/CSA-C439, "Rating the Performance of Heat/Energy-Recovery Ventilators", at a Station 1 test temperature of -25°C at an air flow not less than 30 L/s.

[MODIFIED THE SENTENCE TO REMOVE THE OPTION OF USING EFFICIENCY RATINGS THROUGH THE GREEN ENERGY ACT, 2009. NOW ONLY THE CSA STANDARD CAN BE USED AS THE PERFORMANCE TEST METHOD]





6.2.1.10 Asbestos

(1) Asbestos shall not be used in heating, ventilating or *air-conditioning* systems or equipment. **[MODIFIED SENTENCE AS IT PREVIOUSLY ELIMINATED THE USE IN CERTAIN AREAS. NOW ITS ELIMINATED ENTIRELY]**





6.2.3.1A. Drain Pans

- (1) Dehumidifying cooling coil assemblies and condensate-producing heat exchangers shall be equipped with drain pans beneath them that are,
- (a) designed in accordance with Section 5.11, Drain Pans, of ANSI/ASHRAE 62.1, “Ventilation for Acceptable Indoor Air Quality”,
 - (b) provided with an outlet that is piped to the outside of the airstream in a location where condensate can be eliminated,
 - (c) installed so that water drains freely from the pan, and
 - (d) provided with a drain line that is *indirectly connected* to a *drainage system* in accordance with Article 7.4.2.1.

[NEW ARTICLE PROVIDING A REQUIREMENT FOR THE INSTALLATION OF DRAIN PANS]





6.2.3.12. Supply, Return, Intake and Exhaust Openings

(6) Outdoor air intakes shall be located so that they are separated a minimum distance from sources of contaminants in accordance with Table 6.2.3.12.



**Table 6.2.3.12.
Minimum Separation Distances between Exhaust and Air Intake Openings**

Forming Part of Sentence 6.2.3.12.(6)

Item	Column 1 Location	Column 2 Minimum Separation Distance, m
1.	Garage entry of a garage for 5 or more motor vehicles, automobile loading area and drive-in queue	4.5
2.	Truck loading area or dock, and bus parking	7.6
3.	Driveway, parking space, lane, road and similar locations that carry a low volume of traffic	1.5
4.	Thoroughfare, arterial road, freeway, highway and similar locations that carry a high volume of traffic	7.6
5.	Garbage storage/pick-up area and dumpsters	4.5
6.	Discharge from evaporative cooling tower, evaporative fluid cooler and evaporative condenser	7.6
7.	Sanitary vent	3.5
8.	Kitchen exhaust outlet	3.0
9.	Vent for combustion products from solid fuel-burning <i>appliances</i>	3.0

[NEW SENTENCE AND TABLE PROVIDING A REQUIREMENT FOR THE LOCATION OF EXHAUST AND AIR INTAKE OPENINGS]



6.2.3.14. Evaporative Cooling Towers, Evaporative Fluid Coolers and Evaporative Condensers

- (1) Discharge from evaporative cooling towers to ventilation air intakes shall comply with CAN/CSA-Z317.2, “Special Requirements for Heating, Ventilation, and Air Conditioning (HVAC) Systems in Health Care Facilities”.
- (2) The distance between the air intakes of evaporative cooling towers, evaporative fluid coolers and evaporative condensers in relation to kitchen exhaust outlets, vegetation or other sources of organic matter shall be not less than 4.6 m.
- (3) Evaporative cooling towers, evaporative fluid coolers and evaporative condensers shall be provided with water treatment equipment for biological growth control in accordance with Subsection 7.6.2. of ASHRAE Guideline 12, “Minimizing the Risk of Legionellosis Associated with Building Water Systems”.
- (4) Evaporative cooling towers, evaporative fluid coolers and evaporative condensers shall be provided with access ports, service platforms, fixed ladders and restraint connections to allow visual inspection, maintenance and testing.
- (5) Evaporative cooling towers shall comply with the requirements of NFPA 214, “Water-Cooling Towers”.



[MODIFIED ARTICLE PROVIDING NEW REQUIREMENTS FOR EVAPORATIVE COOLING TOWERS, ETC.]



6.2.3.14A. Evaporative Cooling Sections, Evaporative Air Coolers, Misters, Atomizers, Air Washers and Humidifiers

- (1) The filter and water evaporation medium of every air washer and evaporative cooling section enclosed within a *building* shall be made of *non-combustible* material.
- (2) Sumps for air washer and evaporative cooling sections shall be constructed and installed so that they can be flushed and drained.
- (3) Evaporative air coolers, misters, atomizers, air washers and humidifiers shall be designed in accordance with Sections 8 and 9 of ASHRAE Guideline 12, “Minimizing the Risk of Legionellosis Associated with Building Water Systems”.
- (4) Evaporative cooling sections shall comply with the requirements of NFPA 214, “Water-Cooling Towers”.

[MODIFIED ARTICLE PROVIDING NEW REQUIREMENTS FOR EVAPORATIVE COOLING SECTIONS, EVAPORATIVE AIR COOLERS, MISTERS, ATOMIZERS, AIR WASHERS AND HUMIDIFIERS]





6.2.4.8. Coverings, linings and insulation

(0.1) Except as permitted in Sentences (1) and (1.1), foamed plastic insulation shall not be used as part of an air duct or for insulating an air duct.

[ADDED SENTENCE PROVIDING CLARIFICATION THAT FOAMED PLASTIC INSULATION IS NOT TO BE USED AS PART OF AN AIR DUCT, UNLESS PERMITTED BY SENTENCES 1 AND 1.1.]

(1.1) Foamed plastic insulation conforming to Article 9.25.2.2. is permitted to be used to insulate a galvanized steel, stainless steel or aluminum air duct provided,

(a) the foamed plastic insulation applied to the supply ductwork is not less than 3 m from the furnace bonnet,

(b) the temperature within the ductwork where the insulation is installed is not greater than 50°C,

(c) duct joints are taped with a product conforming to Sentence 6.2.4.9.(1),

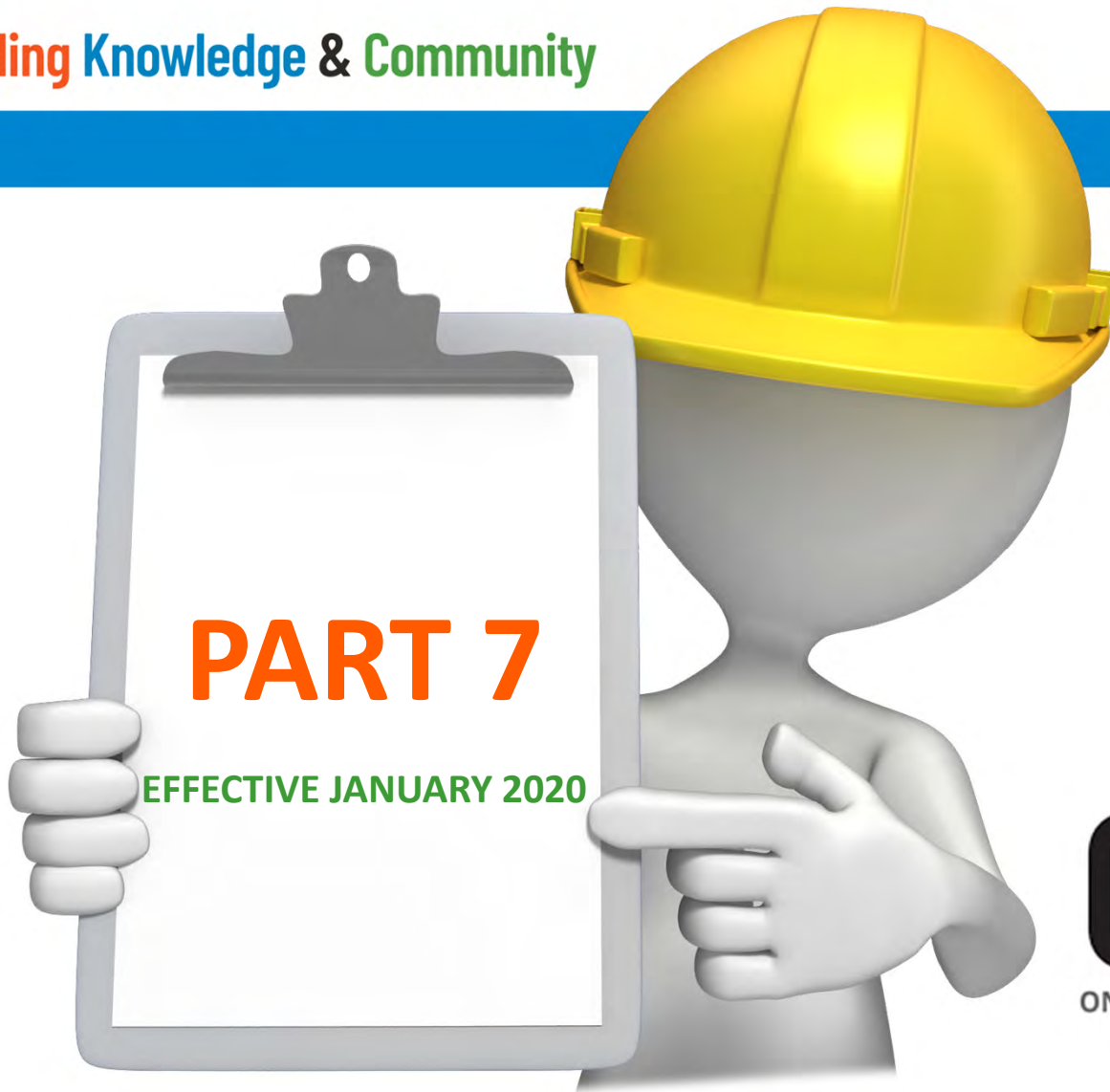
(d) return air *plenums* are separated from the foamed plastic insulation, and

(e) the foamed plastic insulation is protected in accordance with Article 9.10.17.10.

[ADDED SENTENCE PROVIDING FOR FOAM PLASTIC INSULATION TO INSULATE METAL DUCTS UNDER CERTAIN SITUATIONS]



Building Knowledge & Community





GREASE INTERCEPTORS

- New requirement that grease interceptors must meet specific CSA Standards.

MATERIALS AND EQUIPMENT

- Asbestos-cement drainage pipe and fittings / cast iron fittings for asbestos-cement drainage pipe removed as an approved material.
- CPVC pipe, fittings and solvents has a new table provided to require specific design and pressure criteria.
- Cast iron pipe drainage and vent pipe and fittings now has a new standard referenced for iron frames and covers for manholes.
- Stainless steel pipe is now permitted with reference to the conforming standards.
- Restrictions provided on the use of copper tube with urinals.

FLOOR OUTLET FIXTURES

- New provisions ensuring the sealing of these devices to the floor.





PART 7

SUMMARY OF CATEGORY

PROVISIONS FOR FUTURE INSTALLATIONS

- Now requires future vents for all buildings not just houses.

POTABLE WATER

- New requirements for flow rates on plumbing fixtures.
- Public use lavatories and showers now require automatic shut off valves.
- Flow rates for shower valves must match the flow rates for the shower head.
- Urinals require devices to prevent automatic flush cycles when not in use.
- Wording changed for thermostatic mixing valves to automatic compensating valves.
- Automatic compensating valves (Thermostatic mixing valves) must also provide protection to limit thermal shock.





7.2.3.2. Interceptors

- (4) Grease *interceptors* shall be selected and installed in conformance with,
(a) CSA B481.0, “Material, Design, and Construction Requirements for Grease Interceptors”,
and
(b) CSA B481.3, “Sizing, Selection, Location, and Installation of Grease Interceptors”.
**[ADDED SENTENCE PROVIDING FOR THE REQUIREMENT OF GREASE INTERCEPTORS TO
COMPLY WITH CERTAIN STANDARDS]**





PLUMBING

PART 7

7.2.5.1.

7.2.5.1. Asbestos-Cement Drainage Pipe and Fittings

[ARTICLE REVOKED DUE TO REMOVAL OF ASBESTOS PRODUCTS]





7.2.5.9.(2) CPVC Pipe, Fittings and Solvent Cements

(2) The design temperature and design pressure of a CPVC piping system shall conform to Table 7.2.5.9.



**Table 7.2.5.9.
Maximum Permitted Pressure for CPVC Piping at Various Temperatures**

Forming part of Sentence 7.2.5.9.(2)

Item	Column 1 Maximum Temperature of Water, °C	Column 2 Maximum Permitted Pressures, kPa
1.	10	3150
2.	20	2900
3.	30	2500
4.	40	2100
5.	50	1700
6.	60	1300
7.	70	1000
8.	82	690

[MODIFIED SENTENCE AND PROVIDED A NEW TABLE FOR THE DESIGN OF CPVC PIPING]



7.2.6.1. Cast Iron Drainage and Vent Pipe and Fittings

(3) Cast iron frames and covers for maintenance holes and catch basins shall conform to CAN/CSA-B70.1, "Frames and Covers for Maintenance Holes and Catchbasins".

[NEW SENTENCE TO PROVIDE A REQUIREMENT FOR IRON FRAMES AND COVERS TO COMPLY WITH A SPECIFIC STANDARD]





PLUMBING

PART 7

7.2.6.2.

7.2.6.2. Cast Iron Fittings for Asbestos-Cement Drainage Pipe

[ARTICLE REVOKED DUE TO REMOVAL OF ASBESTOS PRODUCTS]





7.2.6. Ferrous Pipe and Fittings

[NEW ARTICLES ADDED PERMITTING THE USE OF STAINLESS STEEL PIPE AND FITTINGS – 3 SLIDES IN TOTAL – 7.2.6.10. TO 7.2.6.15]



7.2.6.10. Stainless Steel Pipe

- (1) Stainless steel pipe shall conform to,
 - (a) ASME B36.19M, “Stainless Steel Pipe”, and
 - (b) ASTM A312 / A312M, “Seamless, Welded, and Heavily Cold Worked Stainless Steel Pipes”.



- (2) Only grade 304/304L or 316/316L stainless steel pipe shall be used.

7.2.6.11. Stainless Steel Butt Weld Pipe Fittings

- (1) Stainless steel butt weld pipe fittings shall conform to,
 - (a) ASME B16.9, “Factory-Made Wrought Buttwelding Fittings”, and
 - (b) ASTM A403 / A403M, “Wrought Austenitic Stainless Steel Piping Fittings”.



- (2) Stainless steel butt weld pipe fittings shall be made of a material that matches the grade of the pipe material used.



7.2.6.12. Stainless Steel Pipe Flanges

- (1) Stainless steel pipe flanges shall,
 - (a) conform to ASME B16.5, "Pipe Flanges and Flanged Fittings: NPS ½ through NPS 24 Metric/Inch Standard", and
 - (b) conform to ASTM A182 / A182M, "Forged or Rolled Alloy and Stainless Steel Pipe Flanges, Forged Fittings, and Valves and Parts for High-Temperature Service", or AWWA C228, "Stainless-Steel Pipe Flanges For Water Service – Sizes 2 in. through 72 in. (50 mm through 1 800 mm)".
- (2) Stainless steel pipe flanges shall be made of a material that matches the grade of the pipe material used.



7.2.6.13. Stainless Steel Threaded Fittings

- (1) Stainless steel threaded fittings shall be Schedule 40 or greater and shall conform to,
 - (a) ASTM A182 / A182M, "Forged or Rolled Alloy and Stainless Steel Pipe Flanges, Forged Fittings, and Valves and Parts for High-Temperature Service", or
 - (b) ASTM A351 / A351M, "Castings, Austenitic, for Pressure-Containing Parts".
- (2) Stainless steel threaded fittings shall be made of a material that matches the grade of the pipe material used.





7.2.6.14. Stainless Steel Tube

- (1) Stainless steel tube shall conform to,
 - (a) ASME B16.9, "Factory-Made Wrought Butt welding Fittings", and
 - (b) ASTM A269, "Seamless and Welded Austenitic Stainless Steel Tubing for General Service".
- (2) Only grade 304/304L or 316/316L stainless steel tubes shall be used.



7.2.6.15. Stainless Steel Pipe and Tube

- (1) The use of stainless steel pipe and tube shall conform to Table 7.2.6.15.

**Table 7.2.6.15.
Permitted Use of Stainless Steel Tube and Pipe**

Forming Part of Sentence 7.2.6.15.(1)

Item	Column 1 Stainless Steel Tube or Pipe	Column 2 Underground <i>Water Distribution System</i>	Column 3 Above-ground <i>Water Distribution System</i>	Column 4 <i>Building Sewer</i>	Column 5 Underground <i>Drainage System</i>	Column 6 Above- ground <i>Drainage System</i>	Column 7 Underground <i>Venting System</i>	Column 8 Above- ground <i>Venting System</i>
1.	Stainless steel pipe	P	P	P	P	P	P	P
2.	Stainless steel tube	P	P	N	N	N	N	N



[NEW TABLE]



PART 7

7.2.7.4.(5).

7.2.7.4.(5) Copper Tube

(5) Copper tube shall not be used for the *fixture drain* or the portion of the *vent pipe* below the *flood level rim* of manually flushing or waterless urinals.

[NEW SENTENCE PROVIDING A REQUIREMENT FOR COPPER TUBE USE WITH URINALS]





7.3.2.8. Stainless Steel Welded Joints

- (1) Stainless steel welded joints shall conform to ASME B31.9, "Building Services Piping".
- (2) Butt weld pipe fittings shall be at least as thick as the wall of the pipe used.

[NEW ARTICLE PROVIDING A REQUIREMENT FOR STAINLESS STEEL WELDED JOINTS]





7.3.3.8.(4) Connection of Floor Outlet Fixtures

(4) Every floor flange and *fixture* shall be securely set on a firm base and fastened to the floor or *trap* flange of the *fixture*.

(4.1) Every joint in a floor flange or between a *fixture* and the *drainage system* shall be sealed with a resilient, watertight and gas-tight seal.

[MODIFIED SENTENCE TO PROVIDE GENERAL REQUIREMENT TO SEAL FLOOR FLANGES]





7.3.4.3. Insulation of Support

(2) Where a hanger or support for stainless steel pipe or tube is of a material other than stainless steel, it shall be suitably separated and electrically insulated from the pipe or tube
[ADDED SENTENCE TO PROVIDE FOR A REQUIREMENT TO INSULATE STAINLESS STEEL PIPING FROM ITS SUPPORTS]





7.3.4.5. Support for Horizontal Piping

- (2) *Nominally horizontal* piping shall be supported so that,
- ~~(d) asbestos cement pipe is supported,~~
 - ~~(i) at intervals not exceeding 2 000 mm or have two supports for every 4 m length of pipe, and~~
 - ~~(ii) at intervals not exceeding 1 000 mm where the length of pipe between adjacent fittings is 300 mm or less,~~

[CLAUSE REVOKED DUE TO REMOVAL OF ASBESTOS PRODUCTS]

- (m) stainless steel pipe or tube is supported at intervals not exceeding,
 - (i) 3 000 mm if the pipe or tube *size* is 1 in. or more, and
 - (ii) 2 500 mm if the pipe or tube *size* is less than 1 in.

[ADDED CLAUSE TO PROVIDE REQUIREMENTS FOR SUPPORT OF STAINLESS STEEL PIPING]





7.5.5.5.(2) Provisions for Future Installations

(2) Except as required in Sentence 7.5.7.7.(2), where a *plumbing system* is installed in a *building*, every *storey* in which *plumbing* is or may be installed, including the *basement* of the *building*, shall have extended into it or passing through it a *vent pipe* that is at least 1 ½ in. in *size* for the provision of future connections.

[MODIFIED SENTENCE TO PROVIDE FUTURE VENT IN EVERY BUILDING NOT ONLY IN A HOUSE]





7.6.4.1. Water Supply Fittings

(1) The flow rates of fittings that supply water to a *fixture* shall not exceed the maximum flow rates at the test pressures listed for that fitting in Table 7.6.4.1.



**Table 7.6.4.1.
Maximum Flow Rates for Water Supply Fittings**

Forming Part of Sentence 7.6.4.1.(1)

Item	Column 1 Fitting	Column 2 Maximum Flow, L/min	Column 3 Test Pressure, kPa
1.	Lavatory Faucets in <i>Residential Occupancy</i>	5.7	413
2.	Lavatory Faucets in <i>Other Occupancies</i>	1.9	413
3.	Kitchen Faucet	8.35	413
4.	Shower Heads in <i>Residential Occupancy</i>	7.6	550
5.	Shower Heads in <i>Other Occupancies</i>	9.5	550

[MODIFIED TABLE TO PROVIDE NEW REQUIREMENTS FOR MAXIMUM FLOW RATES FOR WATER SUPPLY FIXTURES]

(3) Each lavatory in a washroom with *fixtures* for *public use* shall be equipped with a device capable of automatically shutting off the flow of water when the lavatory is not in use.

[NEW SENTENCE TO PROVIDE AUTOMATIC SHUT OFF VALVES FOR LAVATORIES]





7.6.4.1. Water Supply Fittings

(4) An automatic compensating valve serving an individual shower head shall have a manufacturer's minimum-rated water flow rate equal to or less than the shower head it serves. **[NEW SENTENCE TO ENSURE THAT FLOW RATE OF THE SHOWER VALVE MATCHES THE FLOW RATE OF THE SHOWER HEAD]**



(5) Where multiple shower heads installed in a public showering facility are served by one temperature control, each shower head shall be equipped with a device capable of automatically shutting off the flow of water when the shower head is not in use. **[NEW SENTENCE TO PROVIDE AUTOMATIC SHUT OFF VALVES FOR SHOWERS]**



**7.6.4.2.(5) Plumbing Fixtures**

(5) Urinals shall be equipped with a device capable of preventing automatic flush cycles when not in use. **[NEW SENTENCE ELIMINATING AUTOMATIC FLUSH CYCLES FOR URINALS WHEN NOT IN USE]**





7.6.5.2. Showers

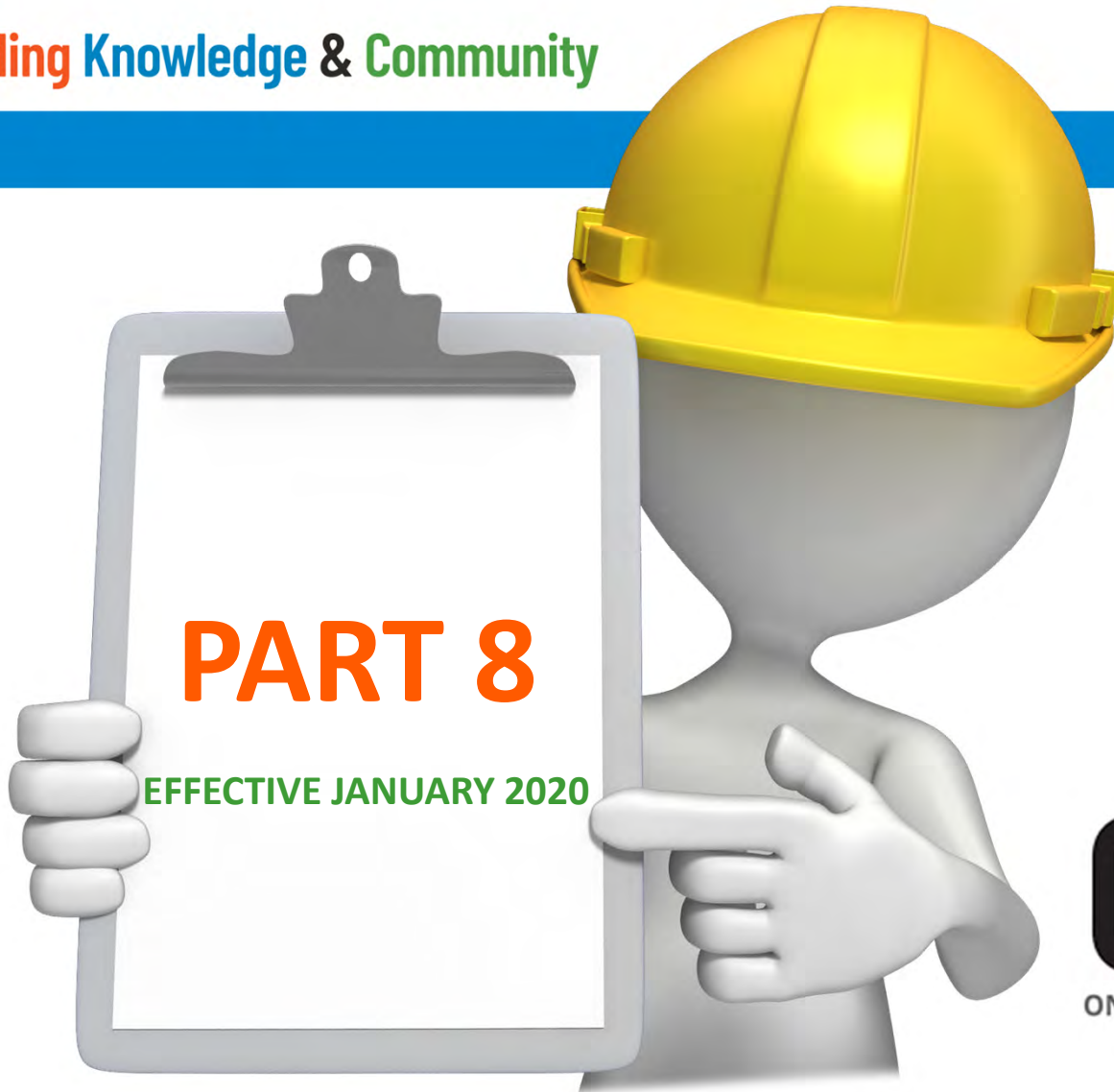
(2) An individually pressure-balanced or thermostatic-mixing valve is not required for shower heads having a single tempered water supply that is controlled by an automatic compensating valve conforming to CSA B125.3, "Plumbing Fittings". **[MODIFY SENTENCE TO CHANGE WORDING FROM MASTER THERMOSTATIC-MIXING VALVE TO AUTOMATIC COMPENSATING VALVE]**



(4) Pressure-balanced, thermostatic-mixing or combination pressure-balanced and thermostatic-mixing type valves shall be,
(a) capable of limiting thermal shock, and
(b) designed so that the outlet temperature does not exceed 49°C or equipped with high-limit stops which shall be adjusted to a maximum hot water setting of 49°C. **[MODIFIED SENTENCE TO PROVIDE ADDITIONAL REQUIREMENTS FOR MIXING VALVES]**



Building Knowledge & Community



**SEWAGE SYSTEM ABSORPTION TRENCHES**

- Clarifying spacing for Type II absorption trench spacing when in leaching bed fill.





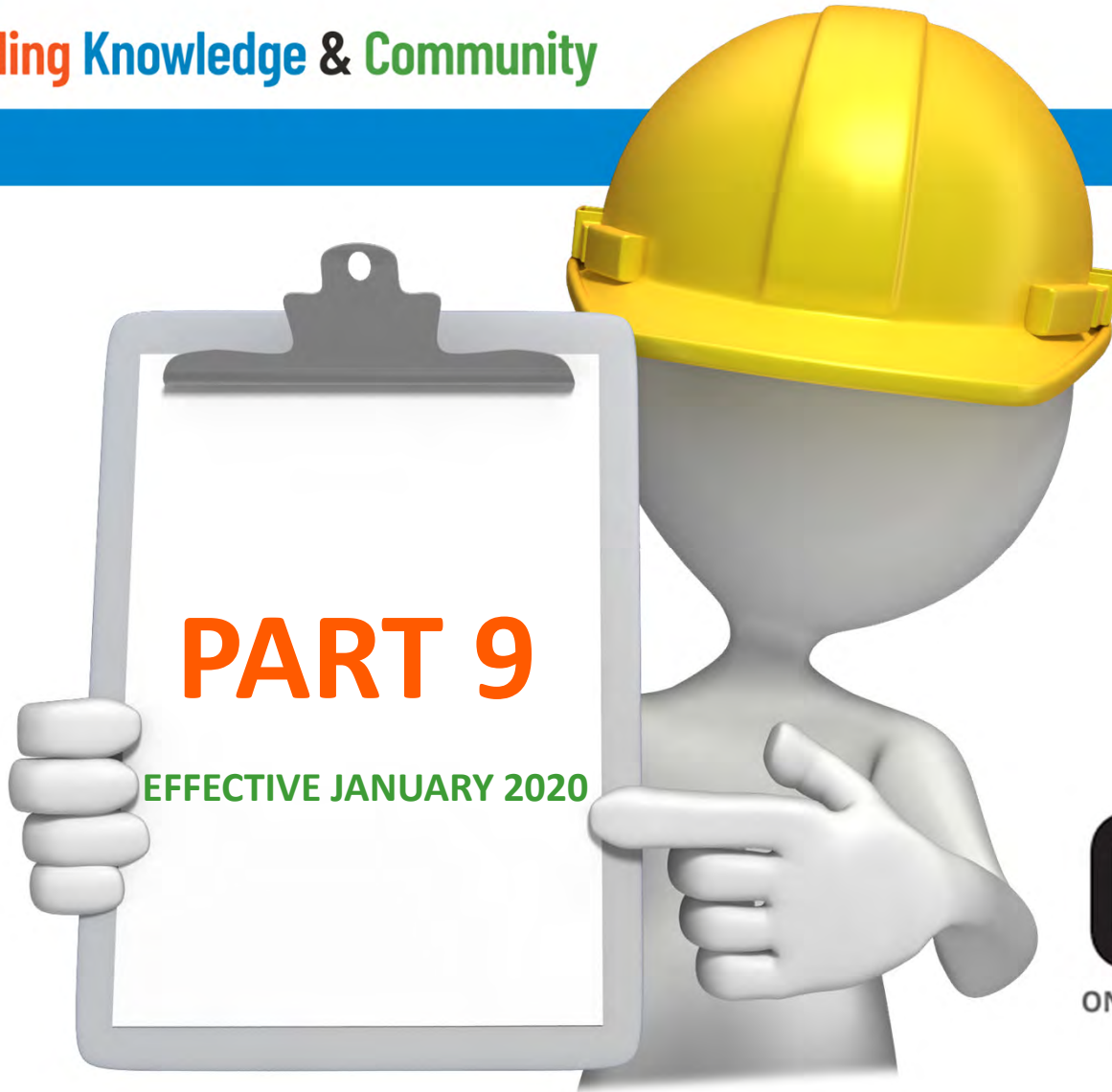
8.7.3.2. Absorption Trenches



- (1) Except as provided in Sentence (2), *absorption trenches* shall be,
- (a) approximately the same length and not more than 30 m in length,
 - (b) not less than 500 mm and not more than 1 000 mm in width,
 - (c) not less than 600 mm and not more than 900 mm in depth,
 - (d) centred not less than,
 - (i) 1 600 mm apart where used in conjunction with,
 - (A) a *distribution pipe*,
 - (B) a Type I *leaching chamber*, or
 - (C) a Type II *leaching chamber* constructed in *leaching bed fill*, or
 - (ii) 2 400 mm apart where used in conjunction with a Type II *leaching chamber*, other than a Type II *leaching chamber* constructed in *leaching bed fill*,
- [MODIFIED SUBCLAUSE TO REQUIRE TYPE II LEACHING BEDS IN LEACHING BED FILL TO BE SPACED AT 1600 MM. ONLY TYPE II LEACHING BEDS NOT IN LEACHING BED FILL CAN BE SPACED AT 2400 MM]**



Building Knowledge & Community





GLASS

PART 9

SUMMARY OF CATEGORY

INSTALLATION OF GLASS

- A maximum area of individual panes of glass for use in windows and doors.
- New structural requirements for the use of glass in buildings, including windows and doors.
- Introducing a factor that engineers must use when designing glazing units in Part 4.





GLASS

PART 9

9.6.1.3.

9.6.1.3. Structural Sufficiency of Glass

(1) Except as provided in Sentence (2), glass shall be designed in conformance with Article 4.3.6.1. [MODIFY SENTENCE TO REFERENCE PART 4 REGARDING THE DESIGN STANDARDS FOR GLASS. THE EXISTING STANDARD IS CAN/CGSB-12.20-M, "STRUCTURAL DESIGN FOR BUILDINGS". THE REVISED REQUIREMENT IS TO USE AN ADJUSTMENT FACTOR ON THE WIND LOAD OF 0.75 OR IF UTILIZING ASTM E1300, "DETERMINING LOAD RESISTANCE OF GLASS IN BUILDINGS", USE AN ADJUSTMENT FACTOR ON THE WIND LOAD OF 1.0]



(2) Where the *building* has an essentially uniform distribution of paths for air leakage, including operable openings, but no large openings that would permit wind gusts to rapidly enter the *building* and the *building* is not in an exceptionally exposed location such as a hilltop, the maximum area of individual panes of glass for windows is permitted to conform to,

- (a) Tables 9.6.1.3.A. to 9.6.1.3.C., where the *building* has a height from *grade* to the uppermost roof of 12 m or less and is located in a built-up area, no less than 120 m away from the boundary between this area and open terrain, or
- (b) Tables 9.6.1.3.D. to 9.6.1.3.F.

[NEW SENTENCE TO PROVIDE A NEW REQUIREMENT FOR INDIVIDUAL PANES OF GLASS IN WINDOWS TO HAVE A MAXIMUM AREA, DEPENDING ON THE BUILDING TYPE AND LOCATION IN ORDER TO BETTER WITHSTAND WIND LOADS (TABLES A-F TO FOLLOW)]



OBOA



9.6.1.3. Structural Sufficiency of Glass



Table 9.6.1.3.A.
Maximum Glass Area for Areas for which the 1-in-50 Hourly Wind Pressure (HWP) is less than 0.55 kPa⁽¹⁾

Forming Part of Clause 9.6.1.3.(2)(a)

Item	Column 1 Glass Thickness, mm	Column 2 Maximum Glass Area, m ² , for Annealed Glass	Column 3 Maximum Glass Area, m ² , for Factory-Sealed Insulated Glass (IG) Units ⁽²⁾	Column 4 Maximum Glass Area, m ² , for Heat-Strengthened or Tempered Glass	Column 5 Maximum Glass Area, m ² , for Wired Glass
1.	2.5	0.58	1.02	1.24	0.27
2.	3	0.96	1.71	1.93	0.45
3.	4	1.47	2.68	2.60	0.68
4.	5	2.04	3.74	3.18	0.93
5.	6	2.84	5.24	3.99	1.31
6.	8	4.74	7.93	5.55	2.15
7.	10	6.65	9.92	6.99	3.07
8.	12	9.74	13.92	9.74	5.03

Notes to Table 9.6.1.3.A.:

⁽¹⁾ The maximum hourly wind pressure with one chance in fifty of being exceeded in any one year, as provided in MMAH Supplementary Standard SB-1, "Climatic and Seismic Data".

⁽²⁾ Maximum glass area values apply to IG units of two identical lites (annealed, heat-strengthened or tempered) spaced at 12.7 mm.



9.6.1.3. Structural Sufficiency of Glass



Table 9.6.1.3.B. Maximum Glass Area for Areas for which the 1-in-50 Hourly Wind Pressure (HWP) is less than 0.75 kPa⁽¹⁾

Forming Part of Clause 9.6.1.3.(2)(a)

Item	Column 1 Glass Thickness, mm	Column 2 Maximum Glass Area, m ² , for Annealed Glass	Column 3 Maximum Glass Area, m ² , for Factory-Sealed Insulated Glass (IG) Units ⁽²⁾	Column 4 Maximum Glass Area, m ² , for Heat- Strengthened Glass	Column 5 Maximum Glass Area, m ² , for Tempered Glass	Column 6 Maximum Glass Area, m ² , for Wired Glass
1.	2.5	0.42	0.72	0.88	1.18	0.20
2.	3	0.68	1.19	1.46	1.64	0.32
3.	4	1.02	1.85	2.21	2.21	0.50
4.	5	1.42	2.56	2.71	2.71	0.68
5.	6	2.04	3.64	3.39	3.39	0.94
6.	8	3.34	6.01	4.73	4.73	1.55
7.	10	4.70	8.35	5.92	5.92	2.19
8.	12	7.65	11.83	8.29	8.29	3.60

Notes to Table 9.6.1.3.B.:

(1) The maximum hourly wind pressure with one chance in fifty of being exceeded in any one year, as provided in MMAH Supplementary Standard SB-1, "Climatic and Seismic Data".

(2) Maximum glass area values apply to IG units of two identical lites (annealed, heat-strengthened or tempered) spaced at 12.7 mm.



9.6.1.3. Structural Sufficiency of Glass

Table 9.6.1.3.C. Maximum Glass Area for Areas for which the 1-in-50 Hourly Wind Pressure (HWP) is less than 1.00 kPa⁽¹⁾

Forming Part of Clause 9.6.1.3.(2)(a)

Item	Column 1 Glass Thickness, mm	Column 2 Maximum Glass Area, m ² , for Annealed Glass	Column 3 Maximum Glass Area, m ² , for Factory-Sealed Insulated Glass (IG) Units ⁽²⁾	Column 4 Maximum Glass Area, m ² , for Heat- Strengthened Glass	Column 5 Maximum Glass Area, m ² , for Tempered Glass	Column 6 Maximum Glass Area, m ² , for Wired Glass
1.	2.5	0.30	0.52	0.65	1.01	0.16
2.	3	0.50	0.86	1.04	1.42	0.26
3.	4	0.77	1.31	1.63	1.90	0.38
4.	5	1.05	1.86	2.26	2.33	0.52
5.	6	1.45	2.57	2.92	2.92	0.71
6.	8	2.40	4.30	4.07	4.07	1.15
7.	10	3.40	6.10	5.10	5.10	1.63
8.	12	5.62	9.89	7.14	7.14	2.69

Notes to Table 9.6.1.3.C.:

⁽¹⁾ The maximum hourly wind pressure with one chance in fifty of being exceeded in any one year, as provided in MMAH Supplementary Standard SB-1, "Climatic and Seismic Data".

⁽²⁾ Maximum glass area values apply to IG units of two identical lites (annealed, heat-strengthened or tempered) spaced at 12.7 mm.





Structural Sufficiency of Glass



Table 9.6.1.3.D. Maximum Glass Area for Areas for which the 1-in-50 Hourly Wind Pressure (HWP) is less than 0.55 kPa – Open Terrain⁽¹⁾

Forming Part of Clause 9.6.1.3.(2)(b)

Item	Column 1 Glass Thickness, mm	Column 2 Maximum Glass Area, m ² , for Annealed Glass	Column 3 Maximum Glass Area, m ² , for Factory-Sealed Insulated Glass (IG) Units ⁽²⁾	Column 4 Maximum Glass Area, m ² , for Heat- Strengthened Glass	Column 5 Maximum Glass Area, m ² , for Tempered Glass	Column 6 Maximum Glass Area, m ² , for Wired Glass
1.	2.5	0.46	0.80	0.98	1.25	0.22
2.	3	0.75	1.34	1.74	1.74	0.36
3.	4	1.16	2.11	2.33	2.33	0.55
4.	5	1.60	2.93	2.86	2.86	0.76
5.	6	2.25	4.10	3.59	3.59	1.05
6.	8	3.76	6.90	5.00	5.00	1.75
7.	10	5.32	9.66	6.26	6.26	2.47
8.	12	8.70	12.53	8.78	8.78	4.09

Notes to Table 9.6.1.3.D.:

(1) The maximum hourly wind pressure with one chance in fifty of being exceeded in any one year, as provided in MMAH Supplementary Standard SB-1, "Climatic and Seismic Data".

(2) Maximum glass area values apply to IG units of two identical lites (annealed, heat-strengthened or tempered) spaced at 12.7 mm.



9.6.1.3. Structural Sufficiency of Glass



Table 9.6.1.3.E. Maximum Glass Area for Areas for which the 1-in-50 Hourly Wind Pressure (HWP) is less than 0.75 kPa – Open Terrain⁽¹⁾

Forming Part of Clause 9.6.1.3.(2)(b)

Item	Column 1 Glass Thickness, mm	Column 2 Maximum Glass Area, m ² , for Annealed Glass	Column 3 Maximum Glass Area, m ² , for Factory-Sealed Insulated Glass (IG) Units ⁽²⁾	Column 4 Maximum Glass Area, m ² , for Heat- Strengthened Glass	Column 5 Maximum Glass Area, m ² , for Tempered Glass	Column 6 Maximum Glass Area, m ² , for Wired Glass
1.	2.5	0.33	0.57	0.70	1.06	0.16
2.	3	0.54	0.94	1.15	1.48	0.26
3.	4	0.83	1.47	1.79	1.99	0.40
4.	5	1.14	2.04	2.44	2.44	0.55
5.	6	1.61	2.85	3.06	3.06	0.76
6.	8	2.67	4.75	4.36	4.36	1.24
7.	10	3.75	6.72	5.34	5.34	1.77
8.	12	6.14	10.97	7.47	7.47	2.93

Notes to Table 9.6.1.3.E.:

(1) The maximum hourly wind pressure with one chance in fifty of being exceeded in any one year, as provided in MMAH Supplementary Standard SB-1, "Climatic and Seismic Data".

(2) Maximum glass area values apply to IG units of two identical lites (annealed, heat-strengthened or tempered) spaced at 12.7 mm.



9.6.1.3. Structural Sufficiency of Glass



Table 9.6.1.3.F. Maximum Glass Area for Areas for which the 1-in-50 Hourly Wind Pressure (HWP) is less than 1.00 kPa – Open Terrain⁽¹⁾

Forming Part of Clause 9.6.1.3.(2)(b)

Item	Column 1 Glass Thickness, mm	Column 2 Maximum Glass Area, m ² , for Annealed Glass	Column 3 Maximum Glass Area, m ² , for Factory-Sealed Insulated Glass (IG) Units ⁽²⁾	Column 4 Maximum Glass Area, m ² , for Heat- Strengthened Glass	Column 5 Maximum Glass Area, m ² , for Tempered Glass	Column 6 Maximum Glass Area, m ² , for Wired Glass
1.	2.5	0.25	0.42	0.51	0.92	0.12
2.	3	0.40	0.68	0.84	1.28	0.20
3.	4	0.62	1.04	1.30	1.72	0.30
4.	5	0.84	1.46	1.79	2.10	0.41
5.	6	1.17	2.05	2.52	2.63	0.57
6.	8	1.94	3.41	3.69	3.69	0.94
7.	10	2.75	4.87	4.60	4.60	1.31
8.	12	4.50	7.92	6.44	6.44	2.18

Notes to Table 9.6.1.3.F.:

(1) The maximum hourly wind pressure with one chance in fifty of being exceeded in any one year, as provided in MMAH Supplementary Standard SB-1, "Climatic and Seismic Data".

(2) Maximum glass area values apply to IG units of two identical lites (annealed, heat-strengthened or tempered) spaced at 12.7 mm.



9.6.1.3. Structural Sufficiency of Glass

(3) The maximum area of individual panes of glass for doors shall conform to Table 9.6.1.3.G. [NEW SENTENCE TO PROVIDE A NEW REQUIREMENT FOR GLASS AREA IN DOORS TO HAVE A MAXIMUM AREA, DEPENDING ON THE BUILDING TYPE AND LOCATION]

Table 9.6.1.3.G. Maximum Glass Area for Doors

Forming Part of Sentence 9.6.1.3.(3)

Item	Column 1 Glass Thickness, mm	Column 2 Maximum Glass Area, m ² , for Annealed Glass	Column 3 Maximum Glass Area, m ² , for Annealed, Multiple- Glazed, Factory- Sealed Units	Column 4 Maximum Glass Area, m ² , for Laminated Glass	Column 5 Maximum Glass Area, m ² , for Wired Glass	Column 6 Maximum Glass Area, m ² , for Heat- Strengthened Glass	Column 7 Maximum Glass Area, m ² , for Fully Tempered Glass	Column 8 Maximum Glass Area, m ² , for Fully Tempered, Multiple- Glazed, Factory- Sealed Units
1.	3	0.50	0.70	(1)	(1)	1.00	1.00	2.00
2.	4	1.00	1.50	(1)	(1)	1.50	4.00	4.00
3.	5	1.50	1.50	(1)	(1)	1.50	No limit	No limit
4.	6	1.50	1.50	1.20	1.00	1.50	No limit	No limit

Notes to Table 9.6.1.3.G.:

(1) Not generally available.

MEANS OF EGRESS

- Ensuring that electromagnetic lock provisions apply to all doors, not only exit doors.
- Introducing a requirement for signs to be posted where exit doors could be blocked by vehicular traffic.
- Clarifying requirements for exit signs and updating referenced standards.





9.9.6.7. Door latching, Locking and Opening Mechanisms

- (1) Principal entrance doors, exit doors and doors to suites, including exterior doors serving a house or an individual dwelling unit, and other doors in an access to exit shall,
- (a) Be openable from the inside or in travelling to an exit without requiring keys, special devices or specialized knowledge of the door opening mechanism, or
 - (b) ~~In the case of exit doors,~~ be controlled by electromagnetic locking mechanisms in accordance with Sentence 3.4.6.16.(4).

[MODIFIED CLAUSE TO PROVIDE A REQUIREMENT FOR ELECTROMAGNETIC LOCKING MECHANISMS TO APPLY TO ALL DOORS INSTEAD OF ONLY EXIT DOORS]





Article 9.9.11.2. Visibility of Signs

(2) Where an *exit* door leading directly to the outside is subject to being obstructed by a parked vehicle or storage because of its location, a visible sign prohibiting such obstructions shall be permanently mounted on the exterior side of the door. **[NEW SENTENCE TO PROVIDE A REQUIREMENT FOR SIGNAGE IN THE AREA OF EXIT DOORS WHICH MAY BE BLOCKED BY VEHICLES OR STORAGE]**



Article 9.9.11.3. Exit Signs

(2) Except as required in Sentence (6), every *exit* sign shall,
(a) be visible on approach to the *exit*,
(b) ~~except as provided in Sentence (3)~~, consist of a green pictogram and a white or lightly tinted graphical symbol meeting the colour specifications referred to in ISO 3864-1, “Graphical Symbols – Safety Colours and Safety Signs – Part 1: Design Principles for Safety Signs and Safety Markings”, and **[MODIFIED SENTENCE TO REMOVE PROVISION REFERRING TO “INTERNALLY ILLUMINATED EXIT SIGNS”]**
(c) conform to ISO 7010, “Graphical Symbols – Safety Colours and Safety Signs – Registered Safety Signs”, for the following symbols:
[MODIFIED CLAUSE TO CHANGE FROM “–SAFETY SIGNS USED IN WORKPLACES AND PUBLIC AREAS” TO REFLECT THE CURRENT NAME USED BY ISO]





Article 9.9.11.3. Visibility of Signs

- (3) Internally illuminated exit signs shall be continuously illuminated, and,
- (a) where illumination of the sign is powered by an electrical circuit, be constructed in conformance with CSA 22.2 No. 141, “Emergency Lighting Equipment”, or
 - (b) where illumination of the sign is not powered by an electrical circuit, be,
 - (i) constructed in conformance with CAN/ULC-S572, “Photoluminescent and Self-Luminous Exit Signs and Path Marking Systems”, and **[MODIFYING SUBCLAUSE TO CLARIFY REQUIREMENT IS APPLICABLE TO EXIT SIGNS]**





FIRE PROTECTION

PART 9

SUMMARY OF CATEGORY

FIRE PROTECTION

- Fire stop flaps shall conform to a new reference standard in addition to SB-2.
- Change to requirements for fire blocking on the flame spread rating of the concrete.
- Revise requirements for protection of installation of foam plastics covering non-combustible surfaces.
- New requirement for the installation of overhead doors and walk in coolers.
- Introducing a new standard for the testing of integrated life safety systems.
- Introducing new “Residential Fire Warning Systems”.





9.10.4.4. Building Size Determination

(1) Roof-top enclosures provided for elevator machinery, stairways **or** *service rooms*, used for no purpose other than for service to the *building*, shall not be considered as a *storey* in calculating the *building height*. **[MODIFIED SENTENCE TO REMOVE “AND”, REPLACE WITH “OR” TO CLARIFY THE STOREY EXEMPTION FOR ROOF-TOP ENCLOSURES CAN APPLY TO ANY ONE OF THE FOLLOWING: ELEVATOR MACHINERY, STAIRWAYS OR SERVICE ROOMS]**





9.10.5.1. Permitted Openings in Wall and Ceiling Assemblies

(4) A membrane ceiling forming part of an assembly assigned a *fire-resistance rating* on the basis of Table 2 of MMAH Supplementary Standard SB-3, “Fire and Sound Resistance of Building Assemblies”, is permitted to be pierced by openings leading to ducts within the ceiling space provided the ducts, the amount of openings and their protection conform to Sentence 9.10.13.14.(1) and the requirements in MMAH Supplementary Standard SB-2, “Fire Performance Ratings”. **[MODIFIED SENTENCE TO INCLUDE ADDITIONAL REQUIREMENTS FOR FIRE STOP FLAPS]**





9.10.9.6. Fire Separations Between Rooms and Spaces Within Buildings

(11) 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 *fire stop* requirements of Sentence (1), provided the annular space created by the penetration of a fire sprinkler is covered by a metal escutcheon plate in accordance with NFPA 13, “Installation of Sprinkler Systems”. **[MODIFIED SENTENCE TO REFLECT CHANGE IN NAME FOR NFPA 13 FROM “INSTALLATION OF SPRINKLERS”]**





9.10.10.5. Incinerators

(2) The design, construction, installation and alteration of each indoor incinerator shall conform to NFPA 82, "Incinerators and Waste and Linen Handling Systems and Equipment".
[MODIFIED SENTENCE TO REFLECT CHANGE IN NAME FOR NFPA 82 FROM "INCINERATORS, WASTE AND LINEN HANDLING SYSTEMS AND EQUIPMENT"]





9.10.13.14. Fire Stop Flaps

- (1) *Fire stop flaps* in ceiling membranes referred to in Sentence 9.10.5.1.(4) shall,
- (a) conform to CAN/ULC-S112.2, "Fire Test of Ceiling Firestop Flap Assemblies", and
 - (b) activate at a temperature approximately 30°C above the normal maximum temperature that occurs in the ducts, whether the air duct system is operating or shut down.

[ADDED TWO CLAUSES TO REFERENCE A STANDARD FOR THE INSTALLATION OF FIRE STOP FLAPS INSTEAD OF SB-2. IN ADDITION, THE TEMPERATURE ACTIVATION TEMPERATURE WAS ESTABLISHED]





9.10.16.1. Fire Blocks

(3) *Fire blocks* shall be provided at the top and bottom of each stair where **the stair** passes through a floor containing concealed space in which the exposed construction materials within the space have a surface *flame-spread rating* greater than 25. [MODIFIED SENTENCE TO PROVIDE CLARITY]



(4) Unsprinklered concealed spaces of *combustible construction* created by a ceiling, roof space or unoccupied attic space shall be separated by *fire blocks* into, [MODIFIED SENTENCE TO CLARIFY THAT THIS SENTENCE APPLIES TO ANY UNSPRINKLERED CONCEALED SPACE IN COMBUSTIBLE CONSTRUCTION. THE PREVIOUS CODE REFERENCED “UNSPRINKLERED BUILDINGS”, CLARIFYING THAT THIS SENTENCE APPLIES TO BOTH SPRINKLERED AND UNSPRINKLERED BUILDINGS]



(a) compartments having no dimension greater than 60 m, if such space contains exposed construction materials having a surface *flame-spread rating* of 25 or less, and [NEW CLAUSE PROVIDING FOR A MAXIMUM DIMENSION IF FLAME SPREAD RATING OF CONSTRUCTION MATERIALS ARE LESS THAN 25]





9.10.16.1. Fire Blocks

(b) compartments of not more than 300 m² in area, if such space contains exposed construction materials having a surface *flame-spread rating* greater than 25.

[PREVIOUSLY WITHIN SENTENCE 4]

(5) No dimension of the compartment described in Clause (4)(b) shall exceed 20 m.

[MODIFIED SENTENCE TO REFLECT NEW CLAUSE]





9.10.17.10. Protection of Foamed Plastics

(1) Except as provided in Sentences (2) and (4), foamed plastics that form part of a wall or ceiling assembly shall be protected from adjacent space in the *building*, other than adjacent concealed spaces within *attic or roof spaces*, crawl spaces, wall assemblies and ceiling assemblies, by any of the following:

- (a) one of the finishes described in Subsections 9.29.4. to 9.29.9.,
- (b) provided the *building* does not contain a Group C *major occupancy*, sheet metal that,
 - (i) is mechanically fastened to the supporting assembly independent of the insulation,
 - (ii) is not less than 0.38 mm thick, and
 - (iii) has a melting point not less than 650°C, or
- (c) any thermal barrier that meets the requirements of Sentence 3.1.5.15.(2).

[MODIFIED SENTENCE TO ADD EXCEPTIONS, CLARIFY IT APPLYING TO CEILINGS AND TO COORDINATE WITH NEW REFERENCE IN PART 3]





9.10.17.10. Protection of Foamed Plastics

(2) A walk-in cooler or freezer consisting of factory-assembled wall, floor or ceiling panels containing foamed plastics is permitted to be used, provided the panels,
(a) are protected on both sides by sheet metal not less than 0.38 mm thick having a melting point not less than 650°C,
(b) do not contain an air space, and
(c) have a *flame-spread rating* that is not more than that permitted for the room or space in which they are located or that they bound. **[NEW SENTENCE PROVIDING REQUIREMENTS FOR FACTORY ASSEMBLED PANELS FOR WALK-IN COOLERS. THE CODE PREVIOUSLY DID NOT PROVIDE PRESCRIPTIVE REQUIREMENTS.]**



(3) The *flame-spread rating* of panels required in Clause (2)(c) shall be determined by subjecting a sample panel with an assembled joint typical of field installation to the applicable test described in Subsection 3.1.12. **[NEW SENTENCE PROVIDING REQUIREMENTS FOR THE TESTING OF THE PANELS]**





9.10.17.10. Protection of Foamed Plastics

- (4) Thermosetting foamed plastic insulation having a *flame-spread rating* of not more than 200 is permitted to be used in factory-assembled doors in *storage garages* serving *buildings of residential occupancy* provided that,
- (a) the insulation is covered on the interior with a metallic foil,
 - (b) the assembly has a surface *flame-spread rating* of not more than 200, and
 - (c) the assembly incorporates no air spaces. **[MODIFIED SENTENCE LIMITS FLAME SPREAD RATING FROM 500 TO 200]**





9.10.18.10. Commissioning of Life Safety and Fire Protection Systems

(1) Where fire protection and life safety systems, and systems with fire protection and life safety functions, are integrated with each other, the systems shall be tested as a whole in accordance with CAN/ULC-S1001, “Integrated Systems Testing of Fire Protection and Life Safety Systems”, to verify that the systems have been properly integrated. **[MODIFIED SENTENCE TO ENSURE THE TESTING TO COMPLIES WITH A SPECIFIC STANDARD. PREVIOUSLY, THE CODE DID NOT REFERENCE A SPECIFIC STANDARD]**





9.10.19.1. Required Smoke Alarms

- (1) Except as permitted in Article 9.10.19.8., *smoke alarms* conforming to CAN/ULC-S531, “Smoke Alarms”, shall be installed in,
- (a) each *dwelling unit*,
 - (b) each sleeping room not within a *dwelling unit*, and
 - (c) each interior shared *means of egress* and common area in a *house*.

[MODIFIED SENTENCE TO EXEMPT SYSTEMS THAT COMPLY WITH A RESIDENTIAL FIRE WARNING SYSTEMS (9.10.19.8.) AND ADDED CLAUSE TO REQUIRE SMOKE ALARMS IN SHARED MEANS OF EGRESS AND COMMON AREAS]

- (3) The visual signalling component required in Sentence (2) need not,
- (a) be integrated with the *smoke alarm* provided it is interconnected to it,
 - (b) be on battery backup, or
 - (c) have synchronized flash rates, when installed in a **house** or an individual *dwelling unit*.

[MODIFIED CLAUSE TO CLARIFY SYNCHRONIZED FLASH RATE REQUIREMENTS]





9.10.19.8. Residential Fire Warning Systems

- (1) Except where a fire alarm system is installed or required in a *building*, *smoke detectors* forming part of a residential fire warning system installed in conformance with CAN/ULC-S540 “Residential Fire and Life Safety Warning Systems: Installation, Inspection, Testing and Maintenance”, are permitted to be installed in lieu of all *smoke alarms* required by Articles 9.10.19.1. and 9.10.19.3., provided that the fire warning system,
- (a) is capable of sounding audible signals in accordance with Articles 9.10.19.2. and 9.10.19.5.,
 - (b) is powered in accordance with Article 9.10.19.4., and
 - (c) is equipped with a silencing device conforming to Article 9.10.19.6. **[NEW ARTICLE INTRODUCING RESIDENTIAL FIRE WARNING SYSTEMS AND A NEW REFERENCE STANDARD]**





9.10.19.3. Location of Smoke Alarms

- (1) Except as permitted in Article 9.10.19.8., within *dwelling units*, sufficient *smoke alarms* shall be installed so that,
- (a) there is at least one *smoke alarm* installed on each *storey*, including *basements*, and
 - (b) on any *storey* of a *dwelling unit* containing sleeping rooms, a *smoke alarm* is installed,
 - (i) in each sleeping room, and
 - (ii) in a location between the sleeping rooms and the remainder of the *storey*, and if the sleeping rooms are served by a hallway, the *smoke alarm* shall be located in the hallway.

- (2) Except as permitted in Article 9.10.19.8., within a *house* that contains an interior shared *means of egress* or common area, a *smoke alarm* shall be installed in each shared *means of egress* and common area.

[MODIFIED SENTENCES TO PROVIDE EXEMPTIONS BY COMPLYING WITH RESIDENTIAL FIRE WARNING SYSTEM]





9.10.22.2. Vertical Clearances Above Cooktops

- (2) The vertical clearance described in Sentence (1) for framing, finishes and cabinets located directly above the location of the *cooktop* is permitted to be reduced to 600 mm above the level of the elements or burners provided the framing, finishes and cabinets,
- (a) are *non-combustible*, or
 - (b) are protected by,
 - (i) ~~asbestos millboard not less than 6 mm thick, covered with sheet metal not less than 0.33 mm thick, or~~
 - (ii) a metal hood with a 125 mm projection beyond the framing, finishes and cabinets.

[REFERENCE TO ASBESTOS MILLBOARD REVOKED FROM SUBCLAUSE]





PROTECTION FROM AIRBORNE NOISE

PART 9

SUMMARY OF CATEGORY

PROTECTION FROM AIRBORNE NOISE (FORMERLY "SOUND CONTROL")

- Completely reorganized and added new provisions.
- Added option to comply with apparent sound transmission class ratings (ASTC) and Part 5.
- New provisions required for the flanking assemblies when compliance with SB-3 is used.
- Flanking provisions require the assemblies to either require specific concrete construction, be interrupted or provide special floor treatments.





PROTECTION FROM AIRBORNE NOISE

PART 9

9.11.1.

Section 9.11. Sound Transmission

9.11.1. Protection from Airborne Noise

9.11.1.1. Required Protection

(1) Except as provided in Sentence (2), a *dwelling unit* and a *suite* in *hotels* shall be separated from every other space in a *building* in which noise may be generated by,

(a) a separating assembly and adjoining construction, which, together, provide an *apparent sound transmission class* rating of not less than 47, or

(b) a separating assembly that provides a *sound transmission class* rating of at least 50 and adjoining construction that conforms to Article 9.11.1.4. **[MOVED FROM SENTENCE 2 AND MODIFIED TO ALLOW COMPLIANCE WITH AN APPARENT SOUND TRANSMISSION CLASS RATING]**

(2) Construction separating a *dwelling unit* or *suite* in a *hotel* from an elevator shaft or refuse chute shall have an *STC* rating of at least 55, ~~measured in accordance with Subsection 9.11.1. or as listed in Tables 1 and 2 of MMAH Supplementary Standard SB-3, "Fire and Sound Resistance of Building Assemblies"~~ **[MODIFIED SENTENCE TO MOVE COMPLIANCE WITH SB-3 TO 9.11.1.3.(1)]**





9.11.1.2. Determination of Sound Transmission Ratings

(1) The *STC* ratings shall be determined in accordance with ASTM E413, “Classification for Rating Sound Insulation”, using the results from measurements carried out in accordance with ASTM E90, “Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements”. **[PREVIOUSLY SENTENCE 9.11.1.2.(1) AND MODIFIED FOR CLARITY]**

(2) The *ASTC* ratings shall be,
(a) determined in accordance with ASTM E413, “Classification for Rating Sound Insulation”, using the results from measurements carried out in accordance with ASTM E336, “Measurement of Airborne Sound Attenuation between Rooms in Buildings”, or
(b) calculated in accordance with Article 5.8.1.4. or Article 5.8.1.5. **[PREVIOUSLY SENTENCE 9.11.1.1.(1) AND ADDED HOW APPARENT SOUND TRANSMISSION RATINGS CAN BE CONFIRMED]**





PROTECTION FROM AIRBORNE NOISE

PART 9

9.11.1.3.

9.11.1.3. Compliance with Required Ratings

- (1) Compliance with the required *STC* ratings shall be demonstrated through,
 - (a) measurements carried out in accordance with Sentence 9.11.1.2.(1), or
 - (b) the construction of separating assemblies conforming to Table 1 or 2 of MMAH Supplementary Standard SB-3, “Fire and Sound Resistance of Building Assemblies”, as applicable. **[PREVIOUSLY SENTENCE 9.11.2.1.(1) AND MODIFIED FOR CLARITY]**

- (2) Compliance with the required *ASTC* ratings shall be demonstrated through,
 - (a) measurements or calculations carried out in accordance with Sentence 9.11.1.2.(2), or
 - (b) the construction of separating assemblies conforming to Table 1 or 2 of MMAH Supplementary Standard SB-3, “Fire and Sound Resistance of Building Assemblies”, as applicable, that have an *STC* rating of not less than 50 in conjunction with flanking assemblies constructed in accordance with Article 9.11.1.4. **[PREVIOUSLY SENTENCE 9.11.2.1.(1) AND ADDED NEW REFERENCE TO HOW *ASTC* RATINGS CAN BE ACHIEVED]**





PROTECTION FROM AIRBORNE NOISE

PART 9

9.11.1.4.

9.11.1.4. Adjoining Construction

(1) This Article applies where the required protection is provided in accordance with Clause 9.11.1.1.(1)(b) and compliance is demonstrated in accordance with Clause 9.11.1.3.(2)(b).

[NEW SENTENCE REQUIRING COMPLIANCE WITH ARTICLE IF YOU USE SB-3 FOR STC OR ASTC RATINGS]



(2) Flanking wall assemblies connected to a separating floor or ceiling assembly shall be constructed with,

(a) concrete or concrete block having a mass per area greater than 200 kg/m², or

(b) gypsum board finish that,

(i) is supported on wood or steel framing, and

(ii) ends or is interrupted where it meets the structure of the separating floor or ceiling assembly. **[ADDED SENTENCE TO REQUIRE PROVISIONS FOR THE WALLS FLANKING THE SOUND RATED FLOOR AND CEILING ASSEMBLIES]**





9.11.1.4. Adjoining Construction [TWO SLIDES]

(3) Flanking wall and ceiling assemblies connected to a separating wall assembly shall be constructed with,

(a) concrete or concrete block having a mass per area greater than 300 kg/m^2 , or

(b) gypsum board finish that,

(i) is supported on wood or steel framing, and

(ii) ends or is interrupted where it meets the structure of the separating

wall assembly or, for double-stud walls, where it meets the space between the two lines of studs. **[ADDED SENTENCE TO REQUIRE PROVISIONS FOR THE WALLS AND CEILINGS FLANKING THE SOUND RATED WALL ASSEMBLIES]**

(4) Flanking floor assemblies connected to a separating wall assembly shall be,

(a) constructed,

(i) with concrete having a mass per area greater than 300 kg/m^2 , or

(ii) in accordance with Section 9.16., or

(b) supported on joists or trusses that are not continuous across the junction and are covered with floor treatments in accordance with Table 9.11.1.4. for the applicable wall construction. **[ADDED SENTENCE TO REQUIRE PROVISIONS FOR THE FLOORS FLANKING THE SOUND RATED WALL ASSEMBLIES]**





**PROTECTION FROM
AIRBORNE NOISE**

PART 9

9.11.1.4.

9.11.1.4. Adjoining Construction [CON'T]

**Table 9.11.1.4.
Floor Treatments for Flanking Wood-Framed Floor Assemblies in Horizontally Adjoining Spaces**

Forming Part of Sentence 9.11.1.4.(4)

Item	Column 1 Type of Separating Wall Assembly with $STC \geq 50$ from MMAH Supplementary Standard SB-3, "Fire and Sound Resistance of Building Assemblies"	Column 2 Minimum Requirements for Floor Treatments Applied over Subfloor of Wood-Framed Flanking Floor Assemblies on Both Sides of Floor/Wall Junction
1.	W5, W6, W10, W12 (staggered studs)	(a) Wood strip flooring not less than 16 mm thick aligned parallel to separating wall, (b) <u>one layer</u> OSB or plywood not less than 15.5 mm thick plus finished flooring, or (c) one additional material layer plus finished flooring having a combined mass per area not less than 8 kg/m ²
2.	W4, W11 (staggered studs)	(a) One layer of OSB or plywood not less than 12.5 mm thick plus hardwood strip flooring not less than 19 mm thick aligned parallel to separating wall, or (b) one additional material layer plus finished flooring having a combined mass per area 16 kg/m ²
3.	W8, W9 (staggered studs)	(a) Concrete or gypsum concrete topping not less than 19 mm thick bonded to the subfloor plus finished flooring, or (b) one additional material layer plus finished flooring having a combined mass per area not less than 32 kg/m ²
4.	W13, W14, W15 (double stud walls)	Where a continuous subfloor or other rigid materials at the floor/wall junction provide structural connection between the two rows of studs in the separating wall: (a) hardwood strip flooring not less than 16 mm thick aligned parallel to separating wall, (b) <u>one layer</u> OSB or plywood not less than 15.5 mm thick plus finished flooring, or (c) one additional material layer plus finished flooring having a combined mass per area not less than 8 kg/m ² Any finished flooring where the subfloor and other rigid materials are not connected at the floor/wall junction and where there are no structural connections between the two rows of studs in the separating wall
5.	B1 to B10	Any finished flooring





DAMP-PROOFING AND WATER-PROOFING

- **Modify and introduce standards for dampproofing and waterproofing materials.**
- **Introducing prescriptive requirements for the preparation of surfaces prior to dampproofing or waterproofing.**
- **Introducing a provision for certain foam plastics to provide dampproofing for floors on ground.**
- **Introducing a requirement for dampproofing and waterproofing of ICF foundations to comply with the manufacturer's installation requirements.**

DRAINAGE

- **Revoked reference to Asbestos containing materials.**





9.13. Dampproofing, Waterproofing and Soil Gas Control

9.13.1. General

[MODIFIED EXISTING SECTION 9.13. "DAMP-PROOFING, WATER-PROOFING AND SOIL GAS CONTROL" TO REORGANIZE SECTION AND PROVIDE FOR NEW REQUIREMENTS]



9.13.1.1. Scope and Application

- (1) This Section prescribes measures to control the ingress of water, moisture and *soil* gas.
- (2) Subsection 9.13.2. applies to below-ground walls and floors-on-ground where drainage is provided in accordance with Section 9.14. over and along the entire below-ground portion of the *foundation* wall.
- (3) Subsection 9.13.3. applies to below-ground walls, floors-on-ground and roofs of underground structures that are subject to hydrostatic pressure.
- (4) Subsection 9.13.4. applies to walls, roofs and floors that are in contact with the ground.

[NEW ARTICLE CONSOLIDATING SCOPE AND APPLICATION FROM PREVIOUS SEPARATE SUBSECTIONS TO INCLUDE THEM ALL IN THIS ARTICLE]





9.13.2. Dampproofing

9.13.2.1. Dampproofing



(1) Except as provided in Sentence (4) and Article 9.13.3.1., where the exterior finished ground level is at a higher elevation than the ground level inside the *foundation* walls, exterior surfaces of *foundation* walls below ground level shall be dampproofed.

[MODIFIED SENTENCE TO PROVIDE CROSS REFERENCE TO SENTENCE 4]

(2) Except as provided in Sentence (3) and Article 9.13.3.1., floors-on-ground shall be dampproofed.

(3) Floors in garages, floors in unenclosed portions of *buildings* and floors installed over granular *fill* in conformance with Article 9.16.2.1. need not be dampproofed.

(4) Dampproofing in Sentence (1) is not required where the exterior surfaces of *foundation* walls below ground level are waterproofed.



9.13.2.2. Dampproofing Materials

(1) Materials installed to provide required dampproofing shall be,
(a) capable of protecting assemblies against moisture transfer from the ground,
(b) compatible with adjoining materials, and
(c) resistant to mechanisms of deterioration that may reasonably be expected, given the nature, function and exposure of the materials. **[NEW SENTENCE PROVIDING FOR PERSCRIPTIVE REQUIREMENTS IN ADDITION TO APPLICATION TO NEW AND EXISTING STANDARDS]**



(2) Except as otherwise specified in this Section, materials used for exterior dampproofing shall,

(a) conform to one of the following standards:

(i) ASTM D1227 “Emulsified Asphalt Used as a Protective Coating for Roofing”, Type III, Class I,

(ii) ASTM D4479 / D4479M, “Asphalt Roof Coatings - Asbestos-Free”, Type III, **[CLAUSES ADDED TO PROVIDE REFERENCED STANDARDS FOR ASPHALT COATINGS]**





9.13.2.2. Dampproofing Materials

- (iii) CAN/CGSB-51.34-M, "Vapour Barrier, Polyethylene Sheet for Use in Building Construction", or
 - (iv) CAN/CSA-A123.4, "Asphalt for Constructing Built-Up Roof Coverings and Waterproofing Systems", or
- (b) have a water vapour permeance of not more than $43 \text{ ng/Pa}\cdot\text{s}\cdot\text{m}^2$ when tested in accordance with Procedure A (wet cup) of ASTM E96 / E96M, "Water Vapor Transmission of Materials", and consist of one of the following material types:
- (i) a vapour-resistant coating,
 - (ii) a cold-fluid-applied or hot-rubberized bituminous dampproofing membrane,
 - (iii) a liquid-applied or spray-applied asphalt-based emulsion dampproofing, or
 - (iv) a Type III hot-applied asphalt.

[NEW CLAUSE PROVIDING A NEW OPTION TO MEET DAMPPROOFING REQUIREMENTS WITHOUT COMPLYING WITH A SPECIFIC STANDARD]





9.13.2.3. Preparation of Surface

- (1) The area in which dampproofing is to be carried out shall be kept free of water during the application and curing of the dampproofing system.
- (2) The surface to be dampproofed shall be prepared in accordance with the instructions of the dampproofing material manufacturer.
- (3) Where the dampproofing material is to be applied on insulating concrete form (ICF) walls, the instructions of the ICF wall manufacturer shall be followed. **[NEW SENTENCE PROVIDING FOR A REQUIREMENT TO FOLLOW THE ICF MANUFACTURER'S INSTRUCTIONS FOR DAMPPROOFING OF ICF FORMS]**
- (4) Unit masonry walls to be dampproofed shall be parged on the exterior face below ground level with not less than 6 mm of mortar conforming to Section 9.20. covered over the footing.





9.13.2.3. Preparation of Surface

(5) Concrete walls to be dampproofed shall have holes and recesses sealed with cement mortar or a mastic or sealant that is suitable for vertical applications and compatible with the dampproofing material. **[MODIFIED SENTENCE TO REMOVE DAMPPROOFING MATERIAL AS AN OPTION FOR SEALING HOLES/RECESSES. A MASTIC OR SEALANT MUST BE USED]**



(6) The surface required to be dampproofed shall be clean and dry and free of ice, snow, frost, dust, dirt, oil, grease, cracks, projections, depressions, loose particles and debris that could be detrimental to the performance of the membrane to be applied.

[NEW SENTENCE PROVIDING FOR A REQUIREMENT TO PREPARE THE SURFACE FOR DAMPPROOFING FOLLOWING SPECIFIC REQUIREMENTS]





9.13.2.4. Application of Dampproofing Material

(1) Exterior dampproofing shall be applied from finished ground level to the top of the exterior of the footing. **[MODIFIED SENTENCE TO CLARIFY WHERE DAMPPROOFING SHALL BE APPLIED ON THE FOUNDATION WALL]**



(2) Unless otherwise stated in this Subsection, dampproofing shall be installed in accordance with the manufacturer's instructions with regard to,

- (a) surface priming,
- (b) conditions during application,
- (c) application quantity and rate, and
- (d) curing times.

(3) Joints, cracks and penetrations shall be sealed to maintain the continuity of the dampproofing, where the dampproofing material is not capable of bridging such discontinuities. **[NEW SENTENCE TO PROVIDE FOR ADDITIONAL REQUIREMENTS FOR THE INSTALLATION OF DAMPPROOFING]**





9.13.2.5. Moisture Protection for Interior Finishes

[NO CHANGE TO EXISTING REQUIREMENT, MOVED FROM 9.13.2.6.]





9.13.2.6. Damproofing of Floors-on-Ground

- (1) Where damproofing is installed below the floor, it shall consist of,
 - (a) polyethylene not less than 0.15 mm thick with joints lapped not less than 100 mm,
 - (b) Type S roll roofing with joints lapped not less than 100 mm, or
 - (c) rigid extruded/expanded polystyrene with sealed or ship-lapped joints that has,
 - (i) sufficient compressive strength to support the floor assembly, and
 - (ii) a water vapour permeance complying with Clause 9.13.2.2.(2)(b).

- (2) Where damproofing is installed between a floor-on-ground and a finished floor, it shall consist of,
 - (a) rigid extruded/expanded polystyrene with sealed or ship-lapped joints that has,
 - (i) sufficient compressive strength to support the floor assembly, and
 - (ii) a water vapour permeance complying with Clause 9.13.2.2.(2)(b), or
 - (b) polyethylene not less than 0.05 mm with joints lapped not less than 100 mm.



[NEW CLAUSES TO INCLUDE POLYSTYRENE FOAM AS AN OPTION TO PROVIDE DAMPROOFING]



9.13.2.7. Dampproofing of Preserved Wood Foundation Walls

(1) Preserved wood *foundation* walls shall be dampproofed as described in CSA S406, “Permanent Wood Foundations for Housing and Small Buildings”.

[MODIFIED SENTENCE TO UPDATE NAME OF STANDARD, MOVED FROM 9.13.2.8.]





9.13.3. Waterproofing

9.13.3.2. Waterproofing Materials

- (1) Materials installed to provide required waterproofing shall be,
 - (a) compatible with adjoining materials, and
 - (b) resistant to mechanisms of deterioration that may reasonably be expected, given the nature, function and exposure of the materials.

[NEW SENTENCE TO PROVIDE ADDITIONAL REQUIREMENTS FOR WATERPROOFING MATERIALS]

- (2) Materials used for exterior waterproofing shall conform to,
 - (a) ASTM D1227, "Emulsified Asphalt Used as a Protective Coating for Roofing", in which case, they shall be installed in accordance with Sentence 9.13.3.3.(3),
 - (b) ASTM D3019, "Lap Cement Used with Asphalt Roll Roofing, Non-Fibered, Asbestos-Fibered, and Non-Asbestos-Fibered", but only with respect to non-fibered and non-asbestos-fibered (Types I and III) asphalt roll roofing,
 - (c) ASTM D4479 / D4479M, "Asphalt Roof Coatings - Asbestos-Free", in which case, they shall be installed in accordance with Sentence 9.13.3.3.(3) and with reinforcing material,
 - (d) ASTM D4637 / D4637M, "EPDM Sheet Used In Single-Ply Roof Membrane",
 - (e) ASTM D4811 / D4811M, "Nonvulcanized (Uncured) Rubber Sheet Used as Roof Flashing",
 - (f) ASTM D6878 / D6878M, "Thermoplastic Polyolefin Based Sheet Roofing",





9.13.3.2. Waterproofing Materials

- (g) CGSB 37-GP-9Ma, “Primer, Asphalt, Unfilled, for Asphalt Roofing, Dampproofing and Waterproofing”, where a primer is required,
- (h) CAN/CGSB-37.50-M, “Hot-Applied, Rubberized Asphalt for Roofing and Waterproofing”,
- (i) CAN/CGSB-37.54, “Polyvinyl Chloride Roofing and Waterproofing Membrane”,
- (j) CGSB 37-GP-56M, “Membrane, Modified, Bituminous, Prefabricated, and Reinforced for Roofing”,
- (k) CAN/CGSB-37.58-M, “Membrane, Elastomeric, Cold-Applied Liquid, for Non-Exposed Use in Roofing and Waterproofing”,
- (l) CAN/CSA-A123.2, “Asphalt-Coated Roofing Sheets”,
- (m) CAN/CSA-A123.4, “Asphalt for Constructing Built-Up Roof Coverings and Waterproofing Systems”, in which case, they shall be installed with reinforcing material, or
- (n) CSA A123.17, “Asphalt Glass Felt Used in Roofing and Waterproofing”.

[NEW CLAUSES ADDED TO PROVIDE REFERENCE STANDARDS FOR WATERPROOFING MATERIALS]





9.13.3.3. ~~Standards for Application~~

~~(1) The method of application of all bituminous waterproofing materials shall conform to CAN/CGSB-37.3-M, "Application of Emulsified Asphalts for Dampproofing or Waterproofing".~~ **[ARTICLE REVOKED; APPLICATION NOW ADDRESSED IN 9.13.3.4.]**

9.13.3.3. Preparation of Surface [NEW ARTICLE]

(1) Surfaces to be waterproofed shall be prepared in accordance with the instructions of the waterproofing material manufacturer. **[NEW SENTENCE REQUIRING THE PREPARATION TO COMPLY WITH THE MANUFACTURER'S REQUIREMENTS INSTEAD OF PRESCRIPTIVE CODE REQUIREMENTS]**

(2) Where the waterproofing material is to be applied on insulating concrete form (ICF) walls, the instructions of the ICF wall manufacturer shall be followed. **[NEW SENTENCE PROVIDING FOR A REQUIREMENT TO FOLLOW THE ICF MANUFACTURER'S INSTRUCTIONS FOR WATERPROOFING OF ICF FORMS]**

(3) Unit masonry walls that are to be waterproofed shall be parged on exterior surfaces below ground level with not less than 6 mm of mortar conforming to Section 9.20. covered over the footing.





9.13.3.3. Preparation of Surface

- (4) Concrete walls that are to be waterproofed shall have all holes and recesses sealed with mortar or waterproofing material.
- (5) Surfaces required to be waterproofed shall be clean and dry and free of ice, snow, frost, dust, dirt, oil, grease, cracks, projections and depressions, loose particles and debris that could be detrimental to the performance of the waterproofing material.

[NEW SENTENCE PROVIDING FOR A REQUIREMENT TO PREPARE THE SURFACE FOR WATERPROOFING FOLLOWING SPECIFIC REQUIREMENTS]





9.13.3.4. Application of Waterproofing Membranes

- (1) Unless otherwise stated in this Subsection, waterproofing shall be installed in accordance with the manufacturer's instructions with regard to,
 - (a) surface priming,
 - (b) conditions during application,
 - (c) the required number of layers of reinforcing fabric on *foundations*, footings, floors, walls and structural slabs,
 - (d) application quantity and rate, and
 - (e) curing times.
- (2) Waterproofing shall be continuous across joints and at junctions between different *building* elements.
- (3) The waterproofed surface shall be protected with a suitable material to minimize mechanical damage during backfilling.
- (4) The area in which the waterproofing is to be carried out shall be kept free of water during the application and curing of the waterproofing system. **[PREVIOUSLY 9.13.3.5. ARTICLE MODIFIED PROVIDING REQUIREMENTS FOR THE INSTALLATION OF WATERPROOFING MEMBRANES. PREVIOUSLY, ONLY PRESCRIPTIVE REQUIREMENTS FOR BITUMENOUS MEMBRANES WERE ADDRESSED. NOW, THE REQUIREMENTS ARE ADDRESSED IN THE MANUFACTURER'S SPECIFICATIONS AND THE REVISED ARTICLE]**





9.14.3. Drainage Tile and Pipe

9.14.3.1. Material Standards

- (1) Drain tile and drain pipe for *foundation* drainage shall conform to,
 - (a) ASTM C4, "Clay Drain Tile and Perforated Clay Drain Tile",
 - (b) ASTM C412M, "Concrete Drain Tile (Metric)",
 - (c) ASTM C444M, "Perforated Concrete Pipe (Metric)",
 - (d) ASTM C700, "Vitrified Clay Pipe, Extra Strength, Standard Strength and Perforated",
 - ~~(e) CAN/CGSB-34.22, "Asbestos-Cement Drain pipe",~~
 - (f) CAN/CSA-B182.1, "Plastic Drain and Sewer Pipe and Pipe Fittings",
 - (g) CAN/CSA-G401, "Corrugated Steel Pipe Products", or
 - (h) BNQ 3624-115, "Polyethylene (PE) Pipe Fittings – Flexible Pipes for Drainage – Characteristics and Test Methods".

[REVOKED CLAUSE DUE TO REMOVAL OF ASBESTOS MATERIALS]





PART 9

SUMMARY OF CATEGORY

FOOTINGS AND FOUNDATIONS

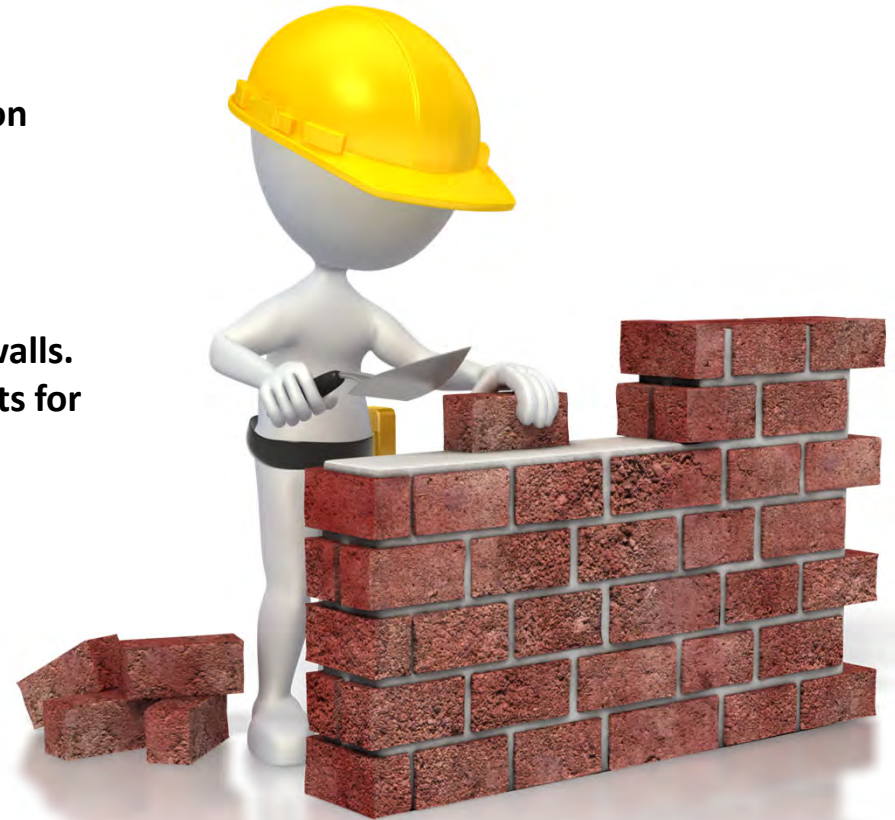
- Modified and introduce new standards.
- Clarification on support of joists and beams on masonry foundations.

MASONRY

- Clarification on the construction of parapet walls.
- Revised permitted projection beyond supports for masonry veneer.

FLOORS ON GROUND

- Modified reference standard for permanent wood foundations.





9.15.1.3. Foundations for Deformation Resistant Buildings

- (1) Where the superstructure of a detached *building* conforms to the requirements of the deformation resistance test in CSA Z240.2.1, “Structural Requirements for Manufactured Homes”, the *foundation* shall be constructed in conformance with,
- (a) this Section, or
 - (b) CSA Z240.10.1, “Site Preparation, Foundation, and Anchorage of Manufactured Homes installation of buildings”. **[SENTENCE MODIFIED TO CHANGE NAME OF STANDARD]**





9.15.4. Foundation Walls

9.15.4.1. Permanent Form Material

(1) Insulating concrete form units shall be manufactured of polystyrene conforming to the performance requirements of CAN/ULC-S701.1, "Thermal Insulation, Polystyrene Boards", for Type 2, 3 or 4 polystyrene. **[SENTENCE MODIFIED TO CHANGE REFERENCE STANDARD]**





9.15.5. Support of Joists and Beams on Masonry Foundation Walls

9.15.5.1. Support of Floor Joists

(1) Except as permitted in Sentence (2), *foundation* walls of hollow masonry units supporting floor joists shall be capped with,
(a) not less than 50 mm of concrete,
(b) *solid masonry units* that are 100% solid and not less than 50 mm high, or
(c) semi-solid or hollow *solid masonry units* that have the top course completely filled with mortar, grout or concrete [CLAUSES MODIFIED FOR CLARIFICATION, NO CHANGE TO CODE REQUIREMENTS]



9.15.5.3.(3) Pilasters

(3) The top 200 mm of pilasters required in Sentence (1) shall be *solid masonry with the cells of hollow or semi-solid units filled with mortar, grout or concrete.* [SENTENCE MODIFIED FOR CLARIFICATION, NO CHANGE TO CODE REQUIREMENTS]





9.16.5.1. Wood Frame Floors

(1) Floors-on-ground constructed of wood shall conform to CSA S406, “Permanent Wood Foundations for Housing and Small Buildings”. [SENTENCE MODIFIED TO CHANGE NAME OF REFERENCE STANDARD]





9.20.2.1. Masonry Unit Standards

- (1) Masonry units shall comply with,
- (a) ASTM C73, "Calcium Silicate Brick (Sand-Lime Brick)",
 - (b) ASTM C126, "Ceramic Glazed Structural Clay Facing Tile, Facing Brick, and Solid Masonry Units",
 - (c) ASTM C212, "Structural Clay Facing Tile",
 - ~~(d) CAN/CSA A82.1 M, "Burned Clay Brick (Solid Masonry Units Made from Clay or Shale)",~~
 - ~~(e) CSA A82.4 M, "Structural Clay Load-Bearing Wall Tile",~~
 - ~~(f) CSA A82.5 M, "Structural Clay Non-Load-Bearing Tile",~~
 - ~~(g) CAN3-A82.8 M, "Hollow Clay Brick",~~
 - ~~(h) CAN/CSA A165.1, "Concrete Block Masonry Units",~~
 - ~~(i) CAN/CSA A165.2, "Concrete Brick Masonry Units",~~
 - ~~(j) CAN/CSA A165.3, "Prefaced Concrete Masonry Units", or~~
 - ~~(k) CAN3-A165.4 M, "Autoclaved Cellular Units".~~
 - (d) CAN/CSA-A82 "Fire Masonry Brick Made from Clay or Shale",
 - (e) CSA A165.1, "Concrete Block Masonry Units",
 - (f) CSA A165.2, "Concrete Brick Masonry Units", or
 - (g) CSA A165.3, "Prefaced Concrete Masonry Units".

[CLAUSES REVOKED AND MODIFIED TO CHANGE REFERENCE STANDARDS FOR MASONRY]





9.20.4.2. Masonry Units

- (1) Hollow masonry units shall be laid with mortar applied to head and bed joints of both inner and outer face shells.
- (2) Vertically aligned webs of hollow masonry units shall be laid in a full bed of mortar,
 - (a) under the starting course,
 - (b) in all courses of columns, and
 - (c) where adjacent to cells or cavities that are to be filled with grout.
- (3) Except for head joints left open for weep holes and ventilation, *solid masonry units* shall be laid with full head and bed joints.

[MOVED AND CONSOLIDATED ARTICLES 9.20.4.2. AND 9.20.4.3. NO CHANGE TO CODE REQUIREMENTS]





9.20.6.5. Parapet Walls

- (1) The height of a parapet wall above the adjacent roof surface shall be not more than three times the parapet wall thickness.
- (2) A parapet wall shall be *solid masonry* that extends from the top of the parapet wall to not less than 300 mm below the adjacent roof level.
- (3) Where semi-solid or hollow units are used in a parapet wall, the cells of those units shall be filled with mortar, grout or concrete. **[NEW SENTENCE PROVIDING CLARIFICATION THAT PARAPET MASONRY MUST BE SOLID OR CELLS FILLED]**





9.20.8.5. Projection of Masonry Veneer beyond Supporting Members

(1) Masonry veneer of *solid masonry units* resting on a bearing support shall not project more than one-third of the thickness of the veneer. **[MODIFIED SENTENCE TO REMOVE PERMITTED PROJECTION BEYOND SUPPORTS FOR HOLLOW MASONRY UNITS, NOW REFERS ONLY TO SOLID MASONRY]**





9.20.9.5. Ties for Masonry Veneer



Table 9.20.9.5.
Veneer Tie Spacing

Forming Part of Sentence 9.20.9.5.(1)

Item	Column 1 Maximum Vertical Spacing, mm	Column 2 Maximum Horizontal Spacing, mm
1.	406	813
2.	508	610
3.	610	406

[MODIFIED TABLE TO COORDINATE METRIC UNITS WITH IMPERIAL UNITS]

HEAT TRANSFER, AIR LEAKAGE AND
CONDENSATION CONTROL

- **Modify and introduce standards.**
- **Introducing a new provision for low permeance materials and their location within the wall assembly.**





9.25.2.2. Insulation Materials

(1) Except as required in Sentence (2), thermal insulation shall conform to the requirements of,

- (a) ASTM C726, "Mineral Wool Roof Insulation Board," **[NEW STANDARD]**
- (b) CAN/CGSB-51.25-M, "Thermal Insulation, Phenolic, Faced",
- (c) CGSB 51-GP-27M, "Thermal Insulation, Polystyrene, Loose Fill",
- (d) CAN/ULC-S701.1, "Thermal Insulation, Polystyrene Boards", **[MODIFIED TO UPDATE STANDARD]**
- (e) CAN/ULC-S702 "Mineral Fibre Thermal Insulation for Buildings",
- (f) CAN/ULC-S703, "Cellulose Fibre Insulation for Buildings",
- (g) CAN/ULC-S704, "Thermal Insulation, Polyurethane and Polyisocyanurate, Boards, Faced",
- (h) CAN/ULC-S705.1, "Thermal Insulation - Spray Applied Rigid Polyurethane Foam, Medium Density - Material - Specification", or
- (i) CAN/ULC-S706.1, "Wood Fibre Insulating Boards for Buildings". **[MODIFIED TO UPDATE STANDARD]**

9.25.2.2. Insulation Materials

(6) Where insulation is exposed to the weather and subject to mechanical damage, it shall be protected with not less than,

- ~~(a) 6 mm asbestos cement board,~~

[REVOKED CLAUSE DUE TO REMOVAL OF ASBESTOS MATERIALS]





9.25.5.1. Properties and Position of Materials in Building Envelope

(1) Except as provided in Sentences (2) to (4), sheet and panel-type materials incorporated into assemblies described in Article 9.25.1.1. shall conform to Article 9.25.5.2. where,

(a) the material has,

(i) an air leakage characteristic less than $0.1 \text{ L}/(\text{s}\cdot\text{m}^2)$ at 75 Pa, and

(ii) a water vapour permeance less than $60 \text{ ng}/(\text{Pa}\cdot\text{s}\cdot\text{m}^2)$ when measured in accordance with ASTM E96 / E96M “Water Vapor Transmission of Materials”, using the desiccant method (dry cup), and

(b) the intended use of the interior space where the materials are installed will not result in high moisture generation.

(4) Sheet and panel-type materials need not comply with Sentence (1) where,

(a) the material has,

(i) a water vapour permeance not less than $30 \text{ ng}/(\text{Pa}\cdot\text{s}\cdot\text{m}^2)$, and

(ii) a thermal resistance not less than $0.7 \text{ (m}^2\cdot\text{K)/W}$, and

(b) the heating degree-days of the *building* location, in degrees Celsius, are less than

6 000. **[ADDED NEW SENTENCE WHERE LOW VAPOUR PERMEABLE MATERIALS NEED NOT COMPLY WITH THE REQUIREMENTS FOR THE POSITION OF LOW PERMEANCE MATERIALS]**



ROOFING

- **Modify and introduce standards.**
- **Introducing a new compliance option for roofing to comply with Part 5 as an alternative.**

CLADDING

- **Modify and introduce standards.**
- **Removing reference to asbestos containing materials.**

FLOORING

- **Removing reference to asbestos containing materials.**





9.26.1.1. Purpose of Roofing

- (1) In this Section,
(a) “roof” means sloped or near-horizontal assemblies that protect the spaces beneath them and includes platforms that effectively serve as roofs with respect to the accumulation or drainage of precipitation, and
(b) “roofing” means the primary covering for roofs. **[NEW SENTENCE TO ADD DEFINITIONS IN THE ROOFING SECTION]**

9.26.1.1A. Required Protection

- (1) Roofs shall be protected with roofing, including flashing, installed so as to,
(a) effectively shed water,
(b) prevent the ingress of water and moisture into building assemblies and occupied space, and
(c) minimize the ingress of water due to ice damming into building assemblies. **[PREVIOUSLY SENTENCE 1 AND MODIFIED TO PROVIDE CLARITY]**
- (2) Compliance with Sentence (1) shall be demonstrated by conforming to,
(a) this Section, or
(b) Part 5 **[NEW SENTENCE TO PROVIDE COMPLIANCE OPTION THROUGH PART 5]**



9.26.2. Roofing Materials

9.26.2.1. Material Standards

(1) Where materials used for the preparation of the substrate for roofing are covered in the scope of a standard listed in Table 9.26.2.1.A., they shall conform to that standard.



**Table 9.26.2.1.A.
Materials for Preparation of the Substrate for Roofing**

Forming Part of Sentence 9.26.2.1.(1)

Item	Column 1 Type of Material	Column 2 Standards
1.	Sheathing Membranes	CAN/CGSB-51.32-M, "Sheathing, Membrane, Breather Type"
2.	Primers	CGSB 37-GP-9Ma, "Primer, Asphalt, Unfilled, for Asphalt Roofing, Dampproofing and Waterproofing"

[MODIFIED ARTICLE TO PROVIDE NEW TABLE FOR STANDARDS REGARDING ROOFING SUBSTRATE]



9.26.2.1. Material Standards

(2) Where roofing materials are covered in the scope of a standard listed in Table 9.26.2.1.B., they shall conform to that standard.



**Table 9.26.2.1.B.
Roofing Materials**

Forming Part of Sentence 9.26.2.1.(2)

Item	Column 1 Type of Roof Covering	Column 2 Standards
1.	Built-up roofing (BUR)	ASTM D3019, "Lap Cement Used with Asphalt Roll Roofing, Non-Fibered, Asbestos-Fibered, and Non-Asbestos-Fibered" (1) ASTM D4479 / D 4479M, "Asphalt Roof Coatings - Asbestos-Free" CGSB 37-GP-56M, "Membrane, Modified, Bituminous, Prefabricated, and Reinforced for Roofing" CAN/CGSB-37.50-M, "Hot-Applied, Rubberized Asphalt for Roofing and Waterproofing" CAN/CSA-A123.2, "Asphalt-Coated Roofing Sheets" CSA A123.3, "Asphalt Saturated Organic Roofing Felt" CAN/CSA-A123.4, "Asphalt for Constructing Built-Up Roof Coverings and Waterproofing Systems" CSA A123.17, "Asphalt Glass Felt Used in Roofing and Waterproofing"
2.	Single-ply membranes	CAN/CGSB-37.54, "Polyvinyl Chloride Roofing and Waterproofing Membrane" CAN/CGSB-37.58-M, "Membrane, Elastomeric, Cold-Applied Liquid, for Non-Exposed Use in Roofing and Waterproofing" ASTM D4637 / D4637M, "EPDM Sheet Used In Single-Ply Roof Membrane" ASTM D4811, "Nonvulcanized (Uncured) Rubber Sheet Used as Roof Flashing" ASTM D6878 / D6878M, "Thermoplastic Polyolefin Based Sheet Roofing"
3.	Shingles, shakes, tiles, panels	CSA A123.1 / CSA A123.5, "Asphalt Shingles Made From Organic Felt and Surfaced with Mineral Granules / Asphalt Shingles Made From Glass Felt and Surfaced with Mineral Granules" CAN/CSA-A220 Series, "Concrete Roof Tiles" CSA O118.1, "Western Red Cedar Shakes and Shingles" CSA O118.2, "Eastern White Cedar Shingles"
4.	Eave protection	CSA A123.22, "Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection"
5.	Flashing	ASTM D4811 / D4811M, "Nonvulcanized (Uncured) Rubber Sheet Used as Roof Flashing"

[MODIFIED ARTICLE TO INCLUDE TABLE FOR STANDARDS REGARDING ROOFING SUBSTRATE]



9.26.2.2. Installation of Materials

(1) Materials listed in Tables 9.26.2.1.A. and 9.26.2.1.B. shall be installed in conformance with the manufacturer's instructions. **[NEW ARTICLE AND SENTENCE TO INTRODUCE NEW REQUIREMENTS FOR THE INSTALLATION OF ROOFING MATERIALS TO COMPLY WITH THE MANUFACTURER'S INSTRUCTIONS]**





9.26.2.3. Nails

(1) Nails used for roofing shall be corrosion-resistant roofing or shingle nails conforming to,
(a) ASTM F1667, “Driven Fasteners: Nails, Spikes, and Staples”, or
(b) CSA B111, “Wire Nails, Spikes and Staples”.

(2) Nails shall have sufficient length to penetrate through or 12 mm into roof sheathing.

(3) Nails used with asphalt roofing shall have a head diameter of not less than 9.5 mm and a shank thickness of not less than 2.95 mm.

(4) Nails used with wood shingles or shakes shall have a head diameter of not less than 4.8 mm and a shank thickness of not less than 2.0 mm and shall be stainless steel, aluminum or hot-dipped galvanized.

[MOVED REQUIREMENTS FOR NAILS TO A NEW ARTICLE, NO CHANGE TO CODE REQUIREMENTS]





9.26.2.4. Staples

(1) Staples used to apply asphalt or wood shingles shall be corrosion-resistant and shall be driven with the crown parallel to the eaves.

(2) Staples used with asphalt shingles shall be not less than 19 mm long, 1.6 mm diam or thickness, with not less than a 25 mm crown, except that an 11 mm crown may be used as provided in Sentence 9.26.7.4.(2).

(3) Staples used with wood shingles shall be not less than 29 mm long, 1.6 mm diam or thickness, with not less than a 9.5 mm crown and shall be stainless steel or aluminum.

[MOVED REQUIREMENTS FOR STAPLES TO A NEW ARTICLE, NO CHANGE TO CODE REQUIREMENTS]



**9.26.3. Slope of Roof Surfaces**

**Table 9.26.3.1.
Roofing Types and Slope Limits**

Forming Part of Sentence 9.26.3.1.(1)

Item	Column 1 Type of Roofing	Column 2 Minimum Slope	Column 3 Maximum Slope
1.	Asphalt shingles - Low slope application	1 in 6	no limit
2.	Asphalt shingles - Normal application	1 in 3	no limit
3.	Built-up roofing - Asphalt base (without gravel)	1 in 25	1 in 2
4.	Built-up roofing - Asphalt base (gravelled)	1 in 50 ⁽¹⁾	1 in 4
5.	Built-up roofing - Coal-tar base (gravelled)	1 in 50 ⁽¹⁾	1 in 25
6.	Built-up roofing - Cold process	1 in 25	1 in 1.33
7.	Cedar shakes	1 in 3	no limit
8.	Clay tile	1 in 2	no limit
9.	Glass fibre reinforced polyester roofing panels	1 in 4	no limit
10.	Modified bituminous membranes	1 in 50	1 in 4
11.	Profiled metal roofing	1 in 4 ⁽²⁾	no limit
12.	Roll roofing - 480 mm wide selvage asphalt roofing	1 in 6	no limit
13.	Roll roofing - Cold application felt	1 in 50	1 in 1.33
14.	Roll roofing - Smooth and mineral surfaced	1 in 4	no limit
15.	Sheet metal shingles	1 in 4 ⁽²⁾	no limit
16.	Slate shingles	1 in 2	no limit
17.	Wood shingles	1 in 4	no limit

[ASPHALT-CEMENT CORRUGATED SHEETS REVOKED FROM TABLE]



9.26.4.1. Required Flashing at Intersections

~~(2) For the purpose of Sentence (1), roofs shall include platforms that effectively serve as roofs with respect to accumulation or drainage of precipitation.~~

[SENTENCE REVOKED TO PROVIDE CLARITY]





9.27.5. Attachment of Cladding

9.27.5.1 Attachment [TWO SLIDES]

- (1) Except as permitted in Sentences (2), (3) and (4), cladding shall be fastened to the framing members or furring members, or to blocking between the framing members.

- (2) Vertical lumber and stucco lath or reinforcing are permitted to be attached to sheathing only where the sheathing consists of not less than,
 - (a) 14.3 mm lumber,
 - (b) 12.5 mm plywood, or
 - (c) 12.5 mm OSB or waferboard.

- (3) Vertically applied metal siding and wood shingles and shakes are permitted to be attached to the sheathing only where the sheathing consists of not less than,
 - (a) 14.3 mm lumber,
 - (b) 7.5 mm plywood, or
 - (c) 7.5 mm OSB or waferboard.



9.27.5.1 Attachment [CON'T]

~~(4) Asbestos-cement shingles are permitted to be attached to the sheathing only when the sheathing consists of not less than,~~
~~(a) 14.3 mm lumber,~~
~~(b) 9.5 mm plywood, or~~
~~(c) 9.5 mm OSB or waferboard.~~

[SENTENCES REVOKED TO REMOVE REFERENCE TO ASBESTOS CONTAINING MATERIALS]

(4) Where wood shingles or shakes are applied to sheathing that is not suitable for attaching the shingles or shakes, the shingles or shakes may be attached to a wood lath not less than 38 mm by 9.5 mm thick securely nailed to the framing and applied as described in Article 9.27.7.5. [PREVIOUSLY SENTENCE 5]

~~(6) Where asbestos-cement shingles are applied to sheathing that is not suitable for attaching the shingles, the shingles may be fastened to a wood lath not less than 89 mm by 9.5 mm thick securely nailed to the framing.~~

~~(7) Lath referred to in Sentence (6) shall be applied so that it overlaps the preceding shingle course by not less than 20 mm.~~

[SENTENCES REVOKED TO REMOVE REFERENCE TO ASBESTOS CONTAINING MATERIALS]





9.27.5.3. Furring

(1) Except as permitted in 9.27.5.1.(4) furring for the attachment of cladding shall be not less than 19 mm by 38 mm lumber when applied over sheathing. **[REFERENCE TO ASBESTOS CONTAINING MATERIALS IS REVOKED FROM SENTENCE]**





9.27.5.4. Size and Spacing of Fasteners

Table 9.27.5.4.
Attachment of Cladding

Forming Part of Sentence 9.27.5.4.(1)

Item	Column 1 Type of Cladding	Column 2 Minimum Nail or Staple Length, mm	Column 3 Minimum Number of Nails or Staples	Column 4 Maximum Nail or Staple Spacing, mm (o.c.)
1.	Wood trim	51	---	600
2.	Lumber siding or horizontal siding made from sheet metal	51	---	600
3.	Metal cladding	38	---	600 (nailed to framing) 400 (nailed to sheathing only)
4.	Wood shakes up to 200 mm in width	51	2	---
5.	Wood shakes over 200 mm in width	51	3	---
6.	Wood shingles up to 200 mm in width	32	2	---
7.	Wood shingles over 200 mm in width	32	3	---
8.	Panel or sheet type cladding up to 7 mm thick	38	---	150 (along edges)
9.	Panel or sheet type cladding more than 7 mm thick	51	---	300 (along intermediate supports)

[REFERENCE TO ASBESTOS CONTAINING MATERIALS REVOKED FROM TABLE]



9.27.8. Plywood

9.27.8.1. Material Standards

- (1) Plywood cladding shall be exterior type conforming to,
 - (a) ANSI/HPVA HP-1, "Hardwood and Decorative Plywood",
[MODIFIED CLAUSE TO REFERENCE NEW STANDARD FOR PLYWOOD]





9.30.5. Resilient Flooring

9.30.5.1. Materials

(1) Resilient flooring used on concrete slabs supported on ground shall consist of asphalt, rubber, ~~vinyl-asbestos~~, unbacked vinyl or vinyl with an inorganic type backing.

[REFERENCE TO ASBESTOS CONTAINING MATERIALS REVOKED FROM SENTENCE]





VENTILATION

PART 9

SUMMARY OF CATEGORY

VENTILATION

- **Modify and introduce standards.**
- **Introducing a new provision for the venting of laundry drying equipment.**





VENTILATION

PART 9 GENERAL

9.32.1.1.

9.32. Ventilation

9.32.1. General

9.32.1.1. Application

(5) A clothes dryer *exhaust duct* system shall conform to Article 9.32.1.4. or Part 6.

[MODIFIED SENTENCE TO PROVIDE ADDITIONAL REFERENCE FOR COMPLIANCE OPTIONS REGARDING DRYER EXHAUST DUCTS]





9.32.1.4. Venting of Laundry Drying Equipment

- (1) *Exhaust ducts* or vents connected to laundry-drying equipment shall discharge directly to the outdoors.
- (2) *Exhaust ducts* connected to laundry-drying equipment shall be,
 - (a) independent of other *exhaust ducts*,
 - (b) accessible for cleaning, and
 - (c) constructed of a smooth corrosion-resistant material.
- (3) Where collective venting of multiple installations of laundry-drying equipment is used, the ventilation system shall,
 - (a) be connected to a common *exhaust duct* that is vented by one central exhaust fan and incorporates one central lint trap,
 - (b) include an interlock to activate the central exhaust fan when laundry-drying equipment is in use, and
 - (c) where required by Article 9.32.3.8., be provided with make-up air.

[NEW ARTICLE TO PROVIDE ADDITIONAL COMPLIANCE OPTION FOR DRYER EXHAUST DUCTS]





9.32.3.9. Fan Ratings

- (2) Sound ratings for required fans shall be determined in accordance with,
(a) CAN/CSA-C260-M, “Rating the Performance of Residential Mechanical Ventilating Equipment”, or
(b) HVI 915, “**Loudness Testing and Rating Procedure**”.

[MODIFIED CLAUSE DUE TO NAME CHANGE OF REFERENCE STANDARD]





GARAGES AND CARPORTS

PART 9

SUMMARY OF CATEGORY

GARAGES AND CARPORTS

- Providing additional relief for foundations of garages of a certain size.
- Addition of a concrete slab as a suitable foundation in addition to mud sills.
- Small garages need to conform to foundation drainage requirements.





9.35. Garages and Carports

9.35.3. Foundations

9.35.3.1. Foundations Required



- (2) Detached garages of less than 55 m² *floor area* and not more than 1 *storey* in height that are not of masonry or masonry veneer construction are permitted to be supported on,
- (a) wood mud sills, or
 - (b) a concrete floor slab having a minimum thickness of not less than 100 mm. **[NEW SENTENCE PROVIDING ADDITIONAL RELIEF FOR FOUNDATIONS OF GARAGES OF A CERTAIN SIZE]**



9.35. Garages and Carports

9.35.3. Foundations

9.35.3.3. Small Garages

(1) Detached garages of less than 55 m² *floor area* and not more than 1 *storey* in height that are not of masonry or masonry veneer construction need not conform with the *foundation* drainage requirements described in Section 9.14. where the finished ground level is at or near the elevation of the garage floor and where the ground slopes away from the *building*.

[NEW SENTENCE TO PROVIDE CLARIFICATION THAT DRAINAGE REQUIREMENTS DO NOT APPLY TO GARAGES OF A CERTAIN SIZE]





This document has been prepared by **RSM Building Consultants** to highlight the changes in the Ontario Building Code effective January 1, 2020. Although every effort has been made to identify and give rationale for all the noted changes the readers must satisfy themselves as to the accuracy of the information provided.

