Welcome to the BCBC 2018 Update Sessions

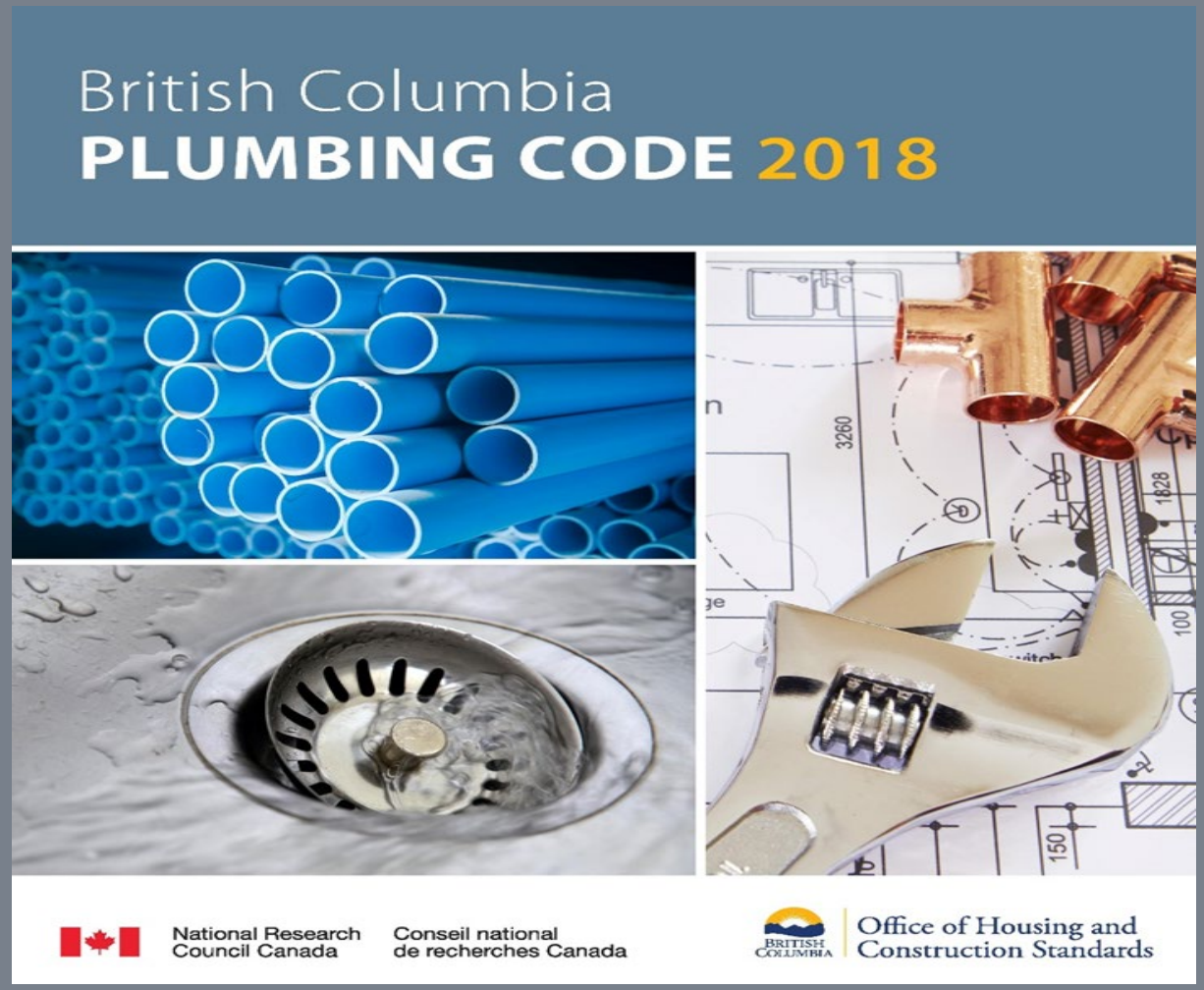
Session 4.12

Part 7

Specific to

Plumbing

Nov 28-30, 2018



Book II: Plumbing Systems

2018 British Columbia Building Code
Code Change Workshop

Book II: Plumbing Systems

National Research Council Canada | Conseil national de recherches Canada

Office of Housing and Construction Standards

Code Changes Consistent Throughout Book II

- Asbestos-Cement (AC) pipe and fittings, all references to AC have been removed throughout Book II.
- For example 2.2.5.1., 2.2.5.2., 2.2.6.2., 2.3.4.5. and Table ,2.3.5.2. and Table A 2.2.5., 2.2.6. and 2.2.7. (Summary of Pipe and Fitting Applications)

Code Changes Consistent Throughout Book II

- Appendices (The Appendix) have been retitled “Notes”
- Notes are arranged to be at the end of the associated Part of the Code
- Whenever the previous Code edition read “(See Appendix A)” it now reads “(See Note A-*.*.*.*.(*)”

Old

(see Appendix A)

(See Appendix Note Appendix Note A-2.4.2.1.(4) in Appendix A.)

New

(see Note A-2.4.2.1.(1)(a)(ii) and (e)(vi)),

(See Note A-2.4.2.1.(4).)

Code Changes Consistent Throughout Book II

- Stainless steel pipe and fittings are identified as new to this Code edition, however, this material was adopted into the BC Code through Ministerial Order M 378 on December 11, 2015 (Revision 8)
- Renumbering has occurred throughout the Code to accommodate deletions and additions

Code Changes Consistent Throughout Book II

- Consistency of Code language
- in previous Code editions, “every” or “all” was used
- These have been removed.
- For example; Sentence 2.6.3.1.(1) used to read “Every *water distribution system* shall….” but now reads “*Water distribution systems* shall….”

Old

2.4.2.1. Connections to Sanitary Drainage Systems

1) Every fixture shall be directly connected to a sanitary drainage system,

New

2.4.2.1.Connections to Sanitary Drainage Systems

1) Fixtures shall be directly connected to a sanitary drainage system,

Referenced Documents - Table 1.3.1.2.

Section 1.3. Referenced Documents and Organizations

1.3.1. Referenced Documents

1.3.1.1. Effective Date

1) Unless otherwise specified herein, the documents referenced in this Code shall include all amendments, revisions, reaffirmations, reapprovals, addenda and supplements effective to 30 June 2014.

1.3.1.2. Applicable Editions

1) Where documents are referenced in this Code, they shall be the editions designated in Table 1.3.1.2.

Table 1.3.1.2.
Documents Referenced in Book II (Plumbing Systems) of the British Columbia Building Code
Forming Part of Sentence 1.3.1.2.(1)

Issuing Agency	Document Number[1]	Title of Document[2]	Code Reference
ANSI/CSA	ANSI Z21.22-1999/CSA 4.4-M99 (including Addenda 1 and 2)	Relief Valves for Hot Water Supply Systems	2.2.10.1[1].(1)
ASHRAE	2013	ASHRAE Handbook – Fundamentals	A-2.6.3.1.(2)
ASHRAE	2011	ASHRAE Handbook – HVAC Applications	A-2.6.3.1.(2)
ASME/CSA	ASME A112.18.1-2012/CSA B125.1-12	Plumbing Supply Fittings	2.2.10.6.(1) 2.2.10.7.(1)
ASME/CSA	ASME A112.18.2-2011/CSA B125.2-11	Plumbing Waste Fittings	2.2.3.9.(1) 2.2.10.6.(5)
ASME/CSA	ASME A112.19.1-2013/CSA B45.2-13	Enameled Cast Iron and Enameled Steel Plumbing Fixtures	2.2.2.2.(1)
ASME/CSA	ASME A112.19.2-2013/CSA B45.1-13	Ceramic Plumbing Fixtures	2.2.2.2.(1)
ASME/CSA	ASME A112.19.3-08/CSA B45.4-08	Stainless Steel Plumbing Fixtures	2.2.2.2.(1)
ASME/CSA	ASME A112.19.7-2012/CSA B45.10-12	Hydromassage Bathtub Systems	2.2.2.2.(1)
ASME	B16.3-2011	Malleable-Iron Threaded Fittings: Classes 150 and 300	2.2.6.7.(1) A-2.2.5., 2.2.6. and 2.2.7.
ASME	B16.4-2011	Gray Iron Threaded Fittings: Classes 125 and 250	2.2.6.6.(1) A-2.2.5., 2.2.6. and 2.2.7.
ASME	B16.5-2013	Pipe Flanges and Flanged Fittings: NPS ½ Through NPS 24 Metric/Inch Standard	2.2.6.13.(1)
ASME	B16.9-2007	Factory-Made Wrought Buttwelding Fittings	2.2.6.12.(1) 2.2.6.15.(1)
ASME	B16.12-2009	Cast Iron Threaded Drainage Fittings	2.2.6.4.(1)
ASME	B16.15-2013	Cast Copper Alloy Threaded Fittings: Classes 125 and 250	2.2.7.3.(1) A-2.2.5., 2.2.6. and 2.2.7.
ASME	B16.18-2012	Cast Copper Alloy Solder-Joint Pressure Fittings	2.2.7.6.(1) 2.2.7.6.(2) A-2.2.5., 2.2.6. and 2.2.7.
ASME	B16.22-2013	Wrought Copper and Copper Alloy Solder Joint Pressure Fittings	2.2.7.6.(1) A-2.2.5., 2.2.6. and 2.2.7.
ASME	B16.23-2011	Cast Copper Alloy Solder Joint Drainage Fittings: DWV	2.2.7.5.(1) A-2.2.5., 2.2.6. and 2.2.7.
ASME	B16.24-2011	Cast Copper Alloy Pipe Flanges and Flanged Fittings: Classes 150, 300, 600, 900, 1500, and 2500	2.2.7.2.(1)

Water Use Efficiency Objectives and Functional Statements

OE 1 – Energy Efficiency and Water Use

*Minor wording change from National Plumbing Code

Functional Statements (New)

F130 – To limit the unnecessary demand and/or consumption of water for fixtures

F 131 – To limit the unnecessary demand and/or consumption of water for fittings

New Requirements for Grease Interceptors

Sentence 2.2.3.2.(3) – 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.”

(See Note A- 2.2.3.2.(3).)

*This presents the possibility that a conflict may exist should a local region have requirements in regards to grease interceptor sizing etc. (For example; Metro Vancouver has FOG requirements as set out in the Food Sector Grease Interceptor Bylaw No. 268 (2012). As required by the Building Act, local governments must follow the requirements contained in the British Columbia Building Code.

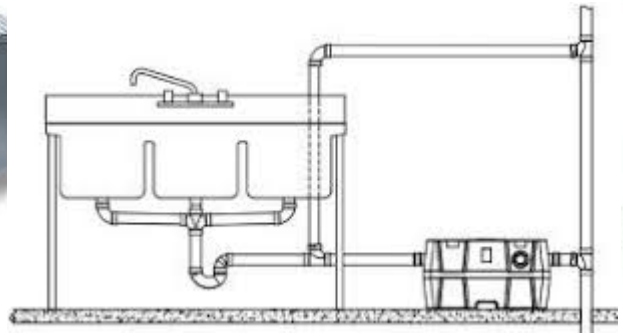
New Requirements for Grease Interceptors

Sentence 2.2.3.2.(3) – 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.”

For the first time, this requires Grease traps to be certified. This also means that they must be installed as per their listing, with or without a flow control. The grease trap shall be labelled indicating which type of flow control.



Maintenance Holes & Catch Basins

New Article

2.2.6.2.(1) - Cast-iron frames and covers for maintenance holes and catch basins shall conform to CSA B70.1, “Frames and Covers for Maintenance Holes and Catchbasins.”

Copper Tube

2.2.7.4.(3) – 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.

Previous wording was “flush valve operated urinal.”

Screws, Bolts, Nuts & Washers

2.2.10.2.(1) - Every screw, bolt, nut and washer shall be of corrosion-resistant materials when used

a) to connect a water closet to a floor flange,

b) to anchor the floor flange to the floor, or

c) to anchor the water closet to the floor

*Clause (a) & (b) wording changed to reflect that the water closet and floor flange are separate and distinct

Water Efficiency Requirements (Relocated from Part 10)

2.2.10.6.(2) - Except for lavatories in health care facilities, emergency eye washes, and emergency showers, supply fittings and individual shower heads shall have an integral means of limiting the maximum water flow rate to that specified in Table 2.2.10.6.
(See Note A-2.2.10.6.(2).)

Supply and Waste Fittings

Table 2.2.10.6.
Water Flow Rates from Supply Fittings
Forming Part of Sentence 2.2.10.6.(2)

Supply Fittings	Maximum Water Flow Rate, L/min
Lavatory supply fittings	
private	5.7
public	1.9
Kitchen supply fittings (except those in industrial, commercial or institutional kitchens)	8.3
Shower heads	7.6

*Previous flow rates – Lavatory 8.3 L/min
Shower head – 9.5 L/min
Kitchen Faucet - unchanged

Kramer Video

Supply and Waste Fittings

2.2.10.6.(3) - An automatic compensating valve serving an individual shower head addressed in Sentence (1) shall have a water flow rate equal to or less than the shower head it serves.
(See Note A-2.2.10.6.(3).)

2.2.10.6.(4) - 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.
(See Note A-2.2.10.6.(4) and (5).)

Supply & Waste Fittings and Water Temperature Control

2.2.10.6.(5) - Each lavatory in a public washroom shall be equipped with a device capable of automatically shutting off the flow of water when the lavatory is not in use.
(See Note A-2.2.10.6.(4) and (5).)

2.2.10.7.(2) - Individual pressure-balanced or thermostatic-mixing valves shall not be 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.”

Water Treatment Systems

New Sentence

2.2.10.17.(1) - Point-of-use devices, including their disposable parts, used in *potable* water treatment systems shall conform to CAN/CSA-B483.1, “Drinking Water Treatment Systems.”

Connection of Floor Outlet Fixtures

2.3.3.8.(4) - Floor flanges and *fixtures* shall be securely set on a firm base and fastened to the floor or *trap* flange of the *fixture*.

2.3.3.8.(5) - Joints in a floor flange or between a *fixture* and the *drainage system* shall be sealed with a resilient watertight and gas-tight seal.

New Reference

Articles 2.3.5.4. and 2.3.5.6. – Protection Against Freezing and Protection from Condensation

New Note referencing the TIAC “Mechanical Insulation Best Practices Guide”

Cleanouts for Drainage Systems

2.4.7.1.(6) - *Building drains* shall be provided with a *cleanout* fitting conforming to Sentence 2.4.7.2.(2) that is located as close as practical to the place where the *building drain* leaves the *building*. (See Note A-2.4.7.1.(6).)

2.4.7.1.(9) - *Cleanouts* shall be installed so that the cumulative change in direction is not more than 90° between *cleanouts* in a drip pipe from a food receptacle or in a *fixture drain* serving a kitchen sink in a non-residential *occupancy*. (See Note A-2.4.7.1.(9).)

Cleanouts for Drainage Systems

2.4.7.1.(10) - A *fixture outlet pipe*, a *trap* with a removable *trap dip*, or a separate *cleanout* shall be used as a *cleanout* for a *fixture drain*. (See Note A-2.4.7.1.(10).)

2.4.7.1.(11) - *Building drains* shall be provided with an additional *cleanout* for each cumulative horizontal change in direction exceeding 135°.

Size and Spacing of Cleanouts

Table 2.4.7.2 – Minimum size cleanout for 3” and 4” pipe reduced to 3” (except as provided in 2.4.7.2.(2))

2.4.7.2.(2) - *Cleanout* fittings for *building drains* shall be at least 4 inches in *size*.

Minimum Size of Vent Pipes & Air Admittance Valve as a Vent Terminal

2.5.7.2.(2) - *Building drains* shall be provided with at least one vent that is not less than 3 inches in *size*. (This is a new Sentence that is duplicated from Sentence 2.5.8.4.(5), however the word sanitary is omitted.

2.5.9.1.(1) - *Individual vents* and *dual vents* are permitted to terminate with a connection to an *air admittance valve* as provided in Articles 2.5.9.2. and 2.5.9.3. (See also Sentence 2.2.10.16.(1).)

Water Efficiency Requirements (Relocated from Part 10)

2.6.1.6.(3) - Except as provided in Sentence (4), water closets and urinals shall have an integral means of limiting the maximum amount of water used in each flush cycle to that specified in Table 2.6.1.6.

Flushing Devices

Table 2.6.1.6.
Water Usage per Flush Cycle
Forming Part of Sentence 2.6.1.6.(3)

Fixtures	Maximum Water Usage per Flush Cycle, Lpf
Water closets – residential	
single-flush	4.8
dual-flush: 6.0/4.1 Lpf	4.8(1)
Water closets – industrial, commercial, institutional	6.0
Urinals	1.9

Notes to Table 2.6.1.6.:
(1) A water closet with a dual flush cycle of 6.0 L and 4.1 L or less complies with this requirement.

Limits unchanged

Flushing Devices

New Sentence

2.6.1.6.(4) - In residential retrofits, a maximum water usage of 6.0 Lpf shall be permitted for single-flush water closets where it can be demonstrated that a maximum water usage of 4.8 Lpf would be Impracticable given the existing *building* or municipal infrastructure.

Relocated from Part 10

2.6.1.6.(5) - Except where installed in *buildings* not intended to be occupied year-round, flush-tank-type urinals shall be equipped with a device capable of preventing flush cycles when they are not in use. (See Note A-2.6.1.6.(5).)

Section 2.8 – Objectives and Functional Statements

Section 2.8. Objectives and Functional Statements

2.8.1. Objectives and Functional Statements

2.8.1.1. Attribution to Acceptable Solutions

1) For the purposes of compliance with this Code as required in Clause 1.2.1.1.(1)(b) of Division A, the objectives and functional statements attributed to the acceptable solutions in this Part shall be the objectives and functional statements listed in Table 2.8.1.1. (See Note A-1.1.2.1.(1).)

Table 2.8.1.1.
Objectives and Functional Statements Attributed to the Acceptable Solutions in Part 2
Forming Part of Sentence 2.8.1.1.(1)

	Functional Statements and Objectives
2.1.2.1. Sanitary Drainage Systems	
(1)	[F72-OH2.1]
(2)	[F72-OH2.1]
	[F72-OP5]
2.1.2.2. Storm Drainage Systems	
(1)	[F72-OP5]
2.1.2.3. Water Distribution Systems	
(1)	[F45-OH2.2]
2.1.2.4. Separate Services	
(1)	[F21-OH2.1,OH2.5] [F70-OH2.5]
2.1.3.1. Lighting and Ventilation Requirements	
(1)	[F90-OH1.1] Applies to the requirement for ventilation.
	[F30-OS3.1] Applies to the requirement for lighting.
2.1.3.2. Accessibility	
(1)	[F40-OH2.1] [F41-OH2.4] [F71-OH2.5]
	[F82-OH2.1,OH2.2,OH2.3,OH2.4]
	[F71-OH2.3] [F81-OH2.4]
	[F81-OP6]
2.2.1.1. Exposure of Materials	
(1)	[F80-OH2.1,OH2.2,OH2.3,OH2.4]
	[F80-OP5]
(2)	[F81-OH2.1]
	[F80-OP5]
2.2.1.2. Restrictions on Re-Use	
(1)	[F70-OH2.2]
2.2.1.5. Withstanding Pressure	
(1)	[F20,F81-OH2.1,OH2.3] [F45-OH2.2]
	[F23-OP5]
2.2.1.6. Working Pressure of a Water Service Pipe	

Division C – Part 2 Administrative Provisions

2.2.1.1.(1) – This Code is made pursuant to Section 3 of the Building Act.

2.2.3.1.(1) – Reference to 2.2.7.2.(1) Division C of BCBC Book I - Letters of Assurance

Added Notes to Division B, Part 2

A-2.2.3.2.(3) – Reference to CSA B481.4 – “Maintenance of Grease Interceptors”

A-2.3.5.4. – Reference to TIAC “Mechanical Insulation Best Practices Guide

Deletions

- As mentioned previously, all references to asbestos cement pipe and fittings have been removed
- Sentence 2.2.10.13.(1) – removed “excluding CAN/CSA-F379S1” from this Sentence (regarding solar domestic hot water systems).
- Division C Part 2 – 2.2.1.2. Personnel Performing Plumbing Work has been removed. This was duplicated from Division A in previous Code editions.

Questions?

Thank you!