

PROVINCE OF BRITISH COLUMBIA

REGULATION OF THE MINISTER OF NATURAL GAS DEVELOPMENT AND  
MINISTER RESPONSIBLE FOR HOUSING AND DEPUTY PREMIER

*Building Act*

Ministerial Order No. M 378

I, Rich Coleman, Minister of Natural Gas Development and Minister Responsible for Housing and Deputy Premier, order that,

- (a) effective December 11, 2015, the British Columbia Building Code Regulation, B.C. Reg. 264/2012, is amended as set out in the attached Schedules 1 and 2, and
- (b) an applicant for a building permit as defined in section 3 of the British Columbia Building Code Regulation, B.C. Reg. 264/2012, is exempt from the amendments set out in the attached Schedules 1 and 2 in respect of a building permit application submitted before December 11, 2015, if
  - (i) the building permit applied for is issued and work commences and continues to completion without interruption, other than work stoppages considered reasonable in the building industry, and
  - (ii) all work is carried out in conformity with the British Columbia Building Code Regulation, B.C. Reg. 264/2012, except the amendments set out in the attached Schedules 1 and 2.

DEPOSITED

November 17, 2015

B.C. REG. 209/2015

NOV 10 2015

\_\_\_\_\_  
Date



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*Minister of Natural Gas Development and  
Minister Responsible for Housing and  
Deputy Premier*

*(This part is for administrative purposes only and is not part of the Order.)*

Authority under which Order is made:

Act and section: *Building Act, S.B.C. 2015, c. 2, s. 3*

Other: \_\_\_\_\_

September 30, 2015

## SCHEDULE 1

**1** *Book I (General) of the British Columbia Building Code established by the British Columbia Building Code Regulation, B.C. Reg. 264/2012, is amended as set out in this Schedule.*

### Division 1 – Changes to Division B

**2** *Article 1.1.3.1. of Division B is amended*

*(a) by repealing Sentence (1) and substituting the following:*

1) Except as required by Sentence 9.7.4.3.(2), the climatic and seismic values required for the design of *buildings* under this Code shall be in conformance with the values established by the *authority having jurisdiction* or, in the absence of such data, with Sentence (2) and the climatic and seismic values in Appendix C. (See Appendix A.) , *and*

*(b) by repealing Sentence (3).*

**3** *Table 1.3.1.2. is amended*

*(a) by adding the following items:*

AAMA	1304-02	Voluntary Specification for Forced Entry Resistance of Side-Hinged Door Systems	9.7.5.2.(2)
ASTM	E 1300-04e1	Standard Practice for Determining Load Resistance of Glass in Buildings	4.3.6.1.(1) 9.6.1.3.(1)

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*(b) by repealing the following item:*

ASTM	F 476-84	Security of Swinging Door Assemblies	9.7.5.2.(2)
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*(c) by adding the following item:*

ASTM	F 842-04	Standard Test Methods for Measuring the Forced Entry Resistance of Sliding Door Assemblies, Excluding Glazing Impact	9.7.5.1.(3)
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**(d) by repealing the following item:**

CSA	AAMAWDMA/CSA 101/I.S.2/A440-08	NAFS – North American Fenestration Standard/Specification for Windows, Doors, and Skylights	5.10.2.2.(1) 5.10.2.2.(3) 9.7.4.1.(1) 9.7.4.2.(1) 9.7.4.3.(2) 9.7.5.1.(1) 9.7.5.3.(1) 9.36.2.9.(3)
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**and substituting the following:**

CSA	AAMAWDMA/CSA 101/I.S.2/A440-08	NAFS – North American Fenestration Standard/Specification for Windows, Doors, and Skylights	5.10.2.2.(1) 9.7.4.2.(1) 9.7.4.2.(2) 9.7.5.3.(1) 9.36.2.9.(3)
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**, and**

**(e) by repealing the following item:**

CSA	A440S1-09	Canadian Supplement to AAMAWDMA/CSA 101/I.S.2/A440, NAFS – North American Fenestration Standard/Specification for Windows, Doors, and Skylights, as updated by Update No. 1 (July 2013)	1.1.3.1.(3) 5.10.2.2.(1) 9.7.4.2.(1) 9.36.2.9.(3)
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**and substituting the following:**

CSA	A440S1-09	Canadian Supplement to AAMAWDMA/CSA 101/I.S.2/A440, NAFS – North American Fenestration Standard/Specification for Windows, Doors, and Skylights, as updated by Update No. 1 (July 2013)	5.10.2.2.(1) 5.10.2.2.(3) 9.7.4.2.(1) 9.7.4.3.(1) 9.7.4.3.(2) 9.36.2.9.(3)
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**4 Sentence 3.2.1.1.(1) is repealed and the following substituted:**

- 1) A roof-top enclosure shall not be considered as a *storey* in calculating the *building height* if the roof-top enclosure is
  - a) provided for elevator machinery, a stairway or a *service room*, and
  - b) used for no purpose other than for service to the *building*.

**5 Sentence 3.3.4.9.(1) is repealed and the following substituted:**

- 1) *Dwelling units* shall conform to Article 9.7.2.1. and Subsection 9.7.5.

**6 Article 3.4.6.8. is amended by adding the following Sentence:**

- 11) Stairs shall be provided with tactile warning strips conforming to Article 3.8.3.11. unless the stairs are
- a) stairs within or serving *dwelling units*,
  - b) *exit* stairs not normally used for access purposes, or
  - c) fire escape stairs.

**7 Sentence 3.4.6.16.(3) is repealed and the following substituted:**

- 3) Except as required by Clause 3.3.1.13.(10)(d), every *exit* door shall be designed and installed so that, when the latch is released, the door will open under a force of not more than 90 N, applied at the knob or other latch-releasing device.

**8 Article 4.3.6.1. is repealed and the following substituted:**

**4.3.6.1. Design Basis for Glass**

- 1) Glass used in *buildings* shall be designed in conformance with
  - a) CAN/CGSB-12.20-M, "Structural Design of Glass for Buildings," or
  - b) ASTM E1300, "Standard Practice for Determining Load Resistance of Glass in Buildings."

**9 Subsection 5.10.2. is amended by repealing the heading and substituting the following:**

**5.10.2. Windows, Doors, Skylights and Other Glazed Products .**

**10 Articles 5.10.2.1. to 5.10.2.3. are repealed and the following substituted:**

**5.10.2.1. General**

- 1) This Subsection applies to windows, doors, skylights, other glazed products and their components that separate
  - a) interior space from exterior space, or
  - b) environmentally dissimilar interior spaces.
- 2) For the purposes of this Subsection, the term "skylight" refers to unit skylights, roof windows and tubular daylighting devices.
- 3) Windows, doors, skylights, other glazed products and their components that are required to have a *fire-protection rating* need not conform to this Subsection. (See Appendix A.)

**5.10.2.2. Design and Construction**

(See Appendix A.)

- 1) Windows, doors, skylights and their components shall be designed and constructed in accordance with
  - a) Subsection 5.1.4., Section 5.3., Section 5.4. and Section 5.6., or

- b) the following standards:
  - i) AAMA/WDMA/CSA 101/I.S.2/A440, "NAFS – North American Fenestration Standard/Specification for Windows, Doors, and Skylights," and
  - ii) except as permitted by Sentence (3), CSA A440S1, "Canadian Supplement to AAMA/WDMA/CSA 101/I.S.2/A440, NAFS – North American Fenestration Standard/Specification for Windows, Doors, and Skylights."

(See Appendix A.)

2) Other glazed products and their components shall be designed and constructed in accordance with Subsection 5.1.4., Section 5.3., Section 5.4. and Section 5.6. (See Appendix A.)

3) For the purposes of conformance with Subclause (1)(b)(ii), loads and procedures from Section 5.2. may be used instead of the loads and procedures set out in the standard. (See Appendix A.)

**5.10.2.3. [Reserved].**

**11 Article 9.6.1.1. is repealed and the following substituted:**

**9.6.1.1. Application**

- 1) This Section applies to glass, and the protection of glass, in
  - a) doors, including closet doors and sidelights for doors,
  - b) windows,
  - c) skylights as defined in Sentence 9.7.1.1.(2),
  - d) shower or bathtub enclosures, and
  - e) glazed panels and partitions.

(See Appendix A.)

**12 Article 9.6.1.3. is repealed and the following substituted:**

**9.6.1.3. Structural Sufficiency of Glass**

- 1) Except as permitted by Sentence (2), glass used in *buildings* shall be designed in conformance with
  - a) CAN/CGSB-12.20-M, "Structural Design of Glass for Buildings," or
  - b) ASTM E1300, "Standard Practice for Determining Load Resistance of Glass in Buildings."
- 2) Individual panes of glass conforming to Table 9.6.1.3. that are used in doors need not comply with Sentence (1).

**13 Section 9.7. is amended by adding "(See Appendix A and A-9.7.4. in Appendix A.)" under the heading.**

**14 Sentence 9.7.1.1.(3) is repealed and the following substituted:**

3) For the purpose of this Section, the term “doors” includes glazing in doors and sidelights for doors but does not include vehicular access doors.

**15 Article 9.7.2.2. is repealed and the following substituted:**

**9.7.2.2. [Reserved].**

**16 Article 9.7.3.1. is repealed and the following substituted:**

**9.7.3.1. General**

- 1) [Reserved.]
- 2) Skylights and their components shall be designed, constructed and installed so that they resist snow loads.

**17 Sentences 9.7.3.3.(1) and (2) are repealed and the following substituted:**

- 1) Except as permitted in Sentence (2), metal frames, and metal sashes, of windows, doors and skylights shall incorporate a thermal break.
- 2) Windows and doors described in Sentence (1) do not require a thermal break where they
  - a) are installed as storm windows and doors, or
  - b) are required to have a *fire-protection rating*.

**18 Subsection 9.7.4. is repealed and the following substituted:**

**9.7.4. Design and Construction**

(See Appendix A.)

**9.7.4.1. General**

- 1) Except as provided by Sentence (2), windows, doors, skylights and their components shall be designed and constructed in accordance with
  - a) Article 9.7.4.2., or
  - b) Part 5.
- 2) Windows, doors, skylights and their components that are required to have a *fire-protection rating* need not conform to this Subsection. (See Appendix A.)

**9.7.4.2. Standards**

- 1) Except as permitted by Sentence (2) and Article 9.7.4.3., windows, doors, skylights and their components shall conform to
  - a) AAMA/WDMA/CSA 101/I.S.2/A440, “NAFS – North American Fenestration Standard/Specification for Windows, Doors, and Skylights” (Harmonized Standard), and

- b) A440S1, "Canadian Supplement to AAMA/WDMA/CSA 101/LS.2/A440, NAFS – North American Fenestration Standard/Specification for Windows, Doors, and Skylights."

(See Appendix A.)

- 2) A door designated as a "Limited Water" door in accordance with the standard referenced in Clause (1)(a) shall not be used unless the door
  - a) separates a *dwelling unit* from an unconditioned *storage garage* or a carport,
  - b) conforms to Clauses 3.3.1.13.(1)(a), (b) and (c) and Sentences 3.3.1.13.(5) and (10), or
  - c) is not required by Sentence 9.27.3.8.(3) to have flashing installed.

#### **9.7.4.3. Performance Requirements**

- 1) For the purposes of compliance with the standard referenced in Clause 9.7.4.2.(1)(b), windows, doors and their components in a *building* of no more than 10 m in height, measured from *grade*, may conform to the design pressure, performance grade and water resistance values in Table C-4 of Appendix C instead of the values calculated in the Canadian Supplement.
- 2) For *buildings* described in Sentence 1.3.3.3.(1) of Division A, where design pressure, performance grade and water resistance values are calculated in accordance with the standard referenced in Clause 9.7.4.2.(1)(b), the driving rain wind pressure (DRWP) values in Table A.1 of CSA A440S1, "Canadian Supplement to AAMA/WDMA/CSA 101/LS.2/A440, NAFS – North American Fenestration Standard/Specification for Windows, Doors, and Skylights," shall be used. (See Appendix A.)

**19** *Subsection 9.7.5. is amended by repealing the heading and substituting the following:*

#### **9.7.5. Resistance to Forced Entry .**

**20** *Article 9.7.5.1. is repealed and the following substituted:*

##### **9.7.5.1. Resistance to Forced Entry for Sliding Doors**

- 1) This Article applies to sliding doors serving *dwelling units*, other than exterior doors to garages and to other ancillary spaces.
- 2) Sliding doors shall not permit the removal of the sliding panel when in the locked position.
- 3) Exterior doors shall
  - a) have a pin type locking mechanism, with a minimum 9 mm throw into the frame, or an equivalent locking mechanism, operable from the interior without the use of keys, special devices or specialized knowledge of the locking mechanism, or

- b) conform to at least Grade 10 in ASTM F842, "Standard Test Methods for Measuring the Forced Entry Resistance of Sliding Door Assemblies, Excluding Glazing Impact."

**21 Article 9.7.5.2 is amended by repealing the heading and substituting the following:**

**9.7.5.2. Resistance to Forced Entry for Swinging Doors .**

**22 Sentences 9.7.5.2.(2) to (6) are repealed and the following substituted:**

- 2) Doors, frames and hardware that conform to AAMA 1304, "Voluntary Specification for Forced Entry Resistance of Side-Hinged Door Systems," are not required to conform to Sentences (3) to (7).
- 3) Wood doors described in Sentence (1) shall
  - a) be solid core or stile-and-rail type,
  - b) be not less than 45 mm thick, and
  - c) if of the stile-and-rail type, have a panel thickness of not less than 19 mm, with a total panel area not more than half of the door area.
- 4) Doors described in Sentence (1) shall be provided with
  - a) a deadbolt lock with a cylinder having no fewer than 5 pins, and
  - b) a bolt throw not less than 25 mm long, protected with a solid or hardened free-turning ring or bevelled cylinder housing.

(See Article 9.9.6.7.)

- 5) An inactive leaf in double doors used in locations specified in Sentence (1) shall be provided with heavy-duty bolts top and bottom having an engagement of not less than 15 mm.
- 6) Hinges for doors described in Sentence (1) shall be fastened
  - a) to wood doors with wood screws not less than 25 mm long and to wood frames with wood screws so that at least 2 screws per hinge penetrate not less than 30 mm into solid wood, or
  - b) to metal doors and metal frames with machine screws not smaller than No. 10 and not less than 10 mm long.

(See Appendix A.)

**23 Article 9.7.6.1. is repealed and the following substituted:**

**9.7.6.1. Installation of Windows, Doors and Skylights**

- 1) Except as provided by Sentence (2), the installation of manufactured and pre-assembled windows, doors and skylights and the field assembly of manufactured window and door combination units shall conform to the instructions, if any, provided by the manufacturer.
- 2) In case of conflict between the provisions of this Code and instructions referred to in Sentence (1), the provisions of this Code shall govern.



**24 Article 9.10.4.4. is repealed and the following substituted:**

**9.10.4.4. Roof-Top Enclosures**

- 1) A roof-top enclosure shall not be considered as a *storey* in calculating the *building height* if the roof-top enclosure is
  - a) provided for elevator machinery, a stairway or a *service room*, and
  - b) used for no purpose other than for service to the *building*.

**25 Clause 9.32.3.4.(2)(b) is repealed and the following substituted:**

- b) draw supply air from an outdoor inlet that is connected to the cabinet containing the furnace air circulating fan required by Clause (d) by ducting that measures, from that cabinet to the point at which the ducting intersects the return air plenum,
  - i) between 3 m and 4.5 m in length, or
  - ii) if a flow control device is used, not more than 4.5 m in length.

**26 Clause 9.32.3.4.(3)(a) is repealed and the following substituted:**

- a) the ducted forced-air heating system shall conform to Clauses (2)(a), (c) and (d),

**27 Sentence 9.32.3.4.(6) is repealed and the following substituted:**

- 6) A principal ventilation system need not conform to Sentence (1) if the principal ventilation system
  - a) services a *dwelling unit* that
    - i) is located where the January design temperature, on a 2.5% basis determined in conformance with Article 1.1.3.1., is greater than  $-20^{\circ}$  C,
    - ii) has only 1 *storey* and a *floor area* of less than 168 m<sup>2</sup> within the *building envelope* (see Appendix A), and
    - iii) does not have a ducted forced-air heating system, and
  - b) provides supply air passively from outdoors through dedicated inlets that
    - i) are located in each bedroom and at least one common area,
    - ii) are located at least 1 800 mm above the floor, and
    - iii) have an unobstructed vent area of not less than 25 cm<sup>2</sup>.

**28 Sentences 9.32.3.7.(1) to (3) are repealed and the following substituted:**

1) Where a crawl space is heated by a ducted forced-air heating system that does not draw air from the crawl space to the furnace through the return air plenum, the crawl space shall be connected to the floor space above the crawl space by at least one air-transfer grille.

2) Where a crawl space is heated other than by a ducted forced-air heating system, the crawl space shall

- a) be connected to
    - i) the floor space above the crawl space by at least one air-transfer grille, and
    - ii) the principal ventilation system by a supply air outlet or an exhaust air inlet,
  - b) be connected to the floor space above the crawl space by at least 2 air-transfer grilles, or
  - c) be connected to
    - i) the floor space above the crawl space by at least one air-transfer grille, and
    - ii) the outdoors by a dedicated exhaust fan that complies with Sentence (4).
- 3) An air-transfer grille required by Sentence (1) or (2) shall have an unobstructed vent area of the greater of
- a) 25 cm<sup>2</sup>, and
  - b) 0.83 cm<sup>2</sup> for every m<sup>2</sup> of crawl space area.

**29 Sentence 9.32.3.8.(7) is repealed and the following substituted:**

- 7) Except for a supply air system described in Sentence 9.32.3.4.(2) or (3), all joints in *exhaust ducts*, and in *supply ducts* that conduct conditioned air, shall be sealed against air leakage with
- a) sealants or gaskets made from liquids, mastics or heat-applied materials,
  - b) mastic with embedded fabric,
  - c) foil-faced butyl tape, or
  - d) aluminum foil tape.

**30 Sentence 9.32.4.1.(1) is repealed and the following substituted:**

- 1) Additional make-up air for the actual *appliance* exhaust rate shall be provided for any *appliance* that discharges air to the exterior at an installed rate exceeding 0.5 air change per hour when it is located within a *dwelling unit* that contains a vented *appliance* that is subject to back drafting (Naturally Aspirating Fuel-Fired Vented Appliance). (See Appendix A.)

**31 Sentence 9.36.2.5.(6) is repealed and the following substituted:**

- 6) Except as permitted by Article 9.36.2.11., where mechanical, plumbing or electrical system components, such as pipes, ducts, conduits, cabinets, chases, panels or recessed heaters, are placed within and parallel to a wall assembly required to be insulated, the effective thermal resistance of that wall at the projected area of the system component shall be not less than that required by Tables 9.36.2.6.A., 9.36.2.6.B., 9.36.2.8.A. and 9.36.2.8.B. (See Appendix A.)

32 *Table 9.36.2.8.A. is amended*

(a) *in the column headed “Zone 4” by striking out “1.96<sup>(7)</sup>” in both places and substituting “1.96”, and*

(b) *in the Notes to the table by repealing Note (7).*

33 *Table 9.36.2.8.B. is amended*

(a) *in the column headed “Zone 4” by striking out “1.96<sup>(7)</sup>” in both places and substituting “1.96”, and*

(b) *in the Notes to the table by repealing Note (7).*

34 *Clause 9.37.2.19.(3)(a) is repealed and the following substituted:*

- a) *the fire separations required in Articles 9.37.2.15. and 9.37.2.16. have a fire-resistance rating of 45 min or greater, or .*

**Division 2 – Changes to Attribution Tables to Division B**

35 *Table 9.38.1.1. in the Attribution Tables to Division B is amended by adding the following rows:*

<b>9.36.2.2. Determination of Thermal Characteristics of Materials, Components and Assemblies</b>	
(1)	[F92-OE1.1]
(2)	[F92-OE1.1]
(3)	[F92-OE1.1]
(4)	[F92-OE1.1]
<b>9.36.2.4. Calculation of Effective Thermal Resistance of Assemblies</b>	
(1)	[F92-OE1.1]
(3)	[F92-OE1.1]
<b>9.36.2.5. Continuity of Insulation</b>	
(1)	[F92-OE1.1]
(2)	[F92-OE1.1]
(4)	[F92-OE1.1]
(5)	[F92-OE1.1]
(6)	[F92-OE1.1]
(7)	[F92-OE1.1]
(8)	[F92-OE1.1]
<b>9.36.2.6. Thermal Characteristics of Above-ground Opaque Building Assemblies</b>	
(1)	[F92-OE1.1]
(2)	[F92-OE1.1]
(3)	[F92-OE1.1]
(4)	[F92-OE1.1]
<b>9.36.2.7. Thermal Characteristics of Fenestration, Doors and Skylights</b>	
(1)	[F92-OE1.1]

(2)	[F92-OE1.1]
(3)	[F92-OE1.1]
(4)	[F92-OE1.1]
(5)	[F92-OE1.1]
(7)	[F92-OE1.1]
(8)	[F92-OE1.1]
<b>9.36.2.8. Thermal Characteristics of Building Assemblies Below-Grade or in Contact with the Ground</b>	
(1)	[F92-OE1.1]
(2)	[F92-OE1.1]
(3)	[F92-OE1.1]
(4)	[F92-OE1.1]
(5)	[F92-OE1.1]
(6)	[F92-OE1.1]
(7)	[F92-OE1.1]
(8)	[F92-OE1.1]
(9)	[F92-OE1.1]
<b>9.36.2.9. Airtightness</b>	
(1)	[F90-OE1.1]
(2)	[F90-OE1.1]
(3)	[F90-OE1.1]
(4)	[F90-OE1.1]
(5)	[F90-OE1.1]
(6)	[F90-OE1.1]
<b>9.36.2.10. Construction of Air Barrier Details</b>	
(1)	[F90-OE1.1]
(2)	[F90-OE1.1]
(3)	[F90-OE1.1]
(4)	[F90-OE1.1]
(5)	[F90-OE1.1]
(6)	[F90-OE1.1]
(17)	[F90-OE1.1]
<b>9.36.2.11. Trade-off Options for Above-ground Building Envelope Components and Assemblies</b>	
(2)	[F92-OE1.1]
(3)	[F92-OE1.1]
(4)	[F92-OE1.1]
(5)	[F92-OE1.1]
(6)	[F92-OE1.1]
(7)	[F92-OE1.1]
(8)	[F92-OE1.1]
<b>9.36.3.2. Equipment and Ducts</b>	
(1)	[F95-OE1.1]

(3)	[F91,F93-OE1.1]
(4)	[F91,F93-OE1.1]
(5)	[F91,F93-OE1.1]
<b>9.36.3.3. Air Intake and Outlet Dampers</b>	
(1)	[F91,F95-OE1.1]
(2)	[F91,F95-OE1.1]
<b>9.36.3.4. Piping for Heating and Cooling Systems</b>	
(2)	[F93-OE1.1]
<b>9.36.3.5. Equipment for Heating and Air-conditioning Systems</b>	
(1)	[F98-OE1.1]
<b>9.36.3.6. Temperature Controls</b>	
(1)	[F92-OE1.1]
(2)	[F95,F98-OE1.1]
(3)	[F95-OE1.1]
(4)	[F95-OE1.1]
(5)	[F95-OE1.1]
(6)	[F95-OE1.1]
(7)	[F95-OE1.1]
<b>9.36.3.7. Humidification</b>	
(1)	[F95-OE1.1]
<b>9.36.3.8. Heat Recovery from Dehumidification in Spaces with an Indoor Pool or Hot Tub</b>	
(1)	[F95,F100-OE1.1]
(3)	[F95-OE1.1]
(4)	[F98,F100-OE1.1]
(5)	[F98,F100-OE1.1]
<b>9.36.3.9. Heat Recovery from Ventilation Systems</b>	
(2)	[F95,F100-OE1.1]
(3)	[F95,F100-OE1.1]
(4)	[F95,F98,F100-OE1.1]
<b>9.36.3.10. Equipment Efficiency</b>	
(1)	[F95,F98,F99-OE1.1]
<b>9.36.3.11. Solar Thermal Systems</b>	
(1)	[F95,F98,F99-OE1.1]
(3)	[F93,F96-OE1.1]
<b>9.36.4.2. Equipment Efficiency</b>	
(1)	[F96,F98-OE1.1]
(2)	[F93,F96-OE1.1]
(3)	[F98-OE1.1]
<b>9.36.4.3. Solar Domestic Hot Water Systems</b>	
(1)	[F96,F98-OE1.1]
(3)	[F93,F96-OE1.1]

<b>9.36.4.4. Piping</b>	
(1)	[F93,F96-OE1.1]
(2)	[F93,F96-OE1.1]
(3)	[F93,F96-OE1.1]
<b>9.36.4.5. Controls</b>	
(1)	[F96-OE1.1]
<b>9.36.4.6. Indoor Swimming Pool Equipment Controls</b>	
(1)	[F96-OE1.1]
(2)	[F96-OE1.1]
<b>9.36.5.3. Compliance</b>	
(1)	[F99-OE1.1]
(2)	[F92,F93,F95,F96,F98,F99,F100-OE1.1]
(3)	[F92,F93,F95,F96,F98,F99,F100-OE1.1]
(4)	[F92,F93,F95,F96,F98,F99,F100-OE1.1]
(5)	[F92,F93,F95,F96,F98,F99,F100-OE1.1]
(6)	[F99-OE1.1]
<b>9.36.5.4. Calculation Methods</b>	
(1)	[F99-OE1.1]
(3)	[F99-OE1.1]
(4)	[F99-OE1.1]
(5)	[F95,F99-OE1.1]
(6)	[F95,F99-OE1.1]
(7)	[F95,F99-OE1.1]
(8)	[F99-OE1.1]
(9)	[F99-OE1.1]
(10)	[F90,F99-OE1.1]
(11)	[F90,F99-OE1.1]
<b>9.36.5.5. Climatic Data</b>	
(1)	[F99-OE1.1]
(2)	[F99-OE1.1]
(3)	[F99-OE1.1]
<b>9.36.5.6. Building Envelope Calculations</b>	
(1)	[F92,F99-OE1.1]
(2)	[F92,F99-OE1.1]
(3)	[F92,F99-OE1.1]
(4)	[F92,F99-OE1.1]
(5)	[F92,F99-OE1.1]
(6)	[F92,F99-OE1.1]
(7)	[F92,F93,F95,F96,F99-OE1.1]
(8)	[F92,F99-OE1.1]
(9)	[F92,F99-OE1.1]
(10)	[F92,F99-OE1.1]

(11)	[F92,F99-OE1.1]
<b>9.36.5.7. HVAC System Calculations</b>	
(1)	[F95,F99-OE1.1]
(2)	[F95,F99-OE1.1]
(3)	[F95,F99-OE1.1]
(4)	[F95,F99-OE1.1]
(5)	[F95,F99-OE1.1]
(6)	[F95,F99-OE1.1]
(7)	[F95,F99-OE1.1]
(8)	[F95,F99-OE1.1]
(9)	[F95,F99-OE1.1]
<b>9.36.5.8. Service Water Heating System Calculations</b>	
(1)	[F96,F99-OE1.1]
(2)	[F96,F99-OE1.1]
(3)	[F96,F99-OE1.1]
(4)	[F96,F99-OE1.1]
(5)	[F96,F99-OE1.1]
(6)	[F96,F99-OE1.1]
<b>9.36.5.9. General Requirements for Modeling the Proposed House</b>	
(1)	[F99-OE1.1]
<b>9.36.5.10. Modelling Building Envelope of Proposed House</b>	
(1)	[F92,F95,F99-OE1.1]
(4)	[F92,F95,F99-OE1.1]
(5)	[F92,F95,F99-OE1.1]
(6)	[F92,F95,F99-OE1.1]
(7)	[F92,F95,F99-OE1.1]
(9)	[F90,F91,F92,F95,F99-OE1.1]
(10)	[F90,F99-OE1.1]
(11)	[F90,F99-OE1.1]
(12)	[F90,F99-OE1.1]
(13)	[F90,F99-OE1.1]
<b>9.36.5.11. Modeling HVAC System of Proposed House</b>	
(1)	[F95,F99-OE1.1]
(2)	[F95,F99-OE1.1]
(3)	[F92,F95,F99-OE1.1]
(4)	[F95,F99,F100-OE1.1]
(5)	[F95,F99-OE1.1]
(6)	[F95,F99-OE1.1]
(7)	[F99-OE1.1]
(8)	[F95,F99-OE1.1]
(9)	[F95,F99-OE1.1]
(10)	[F95,F99,F100-OE1.1]

(11)	[F95,F99-OE1.1]
(12)	[F95,F99,F100-OE1.1]
(13)	[F95,F99-OE1.1]
(14)	[F95,F99,F100-OE1.1]
(15)	[F95,F99-OE1.1]
(16)	[F95,F99-OE1.1]
(17)	[F95,F99-OE1.1]
(18)	[F95,F99-OE1.1]
(19)	[F95,F99-OE1.1]
(20)	[F95,F99-OE1.1]
<b>9.36.5.12. Modeling Service Water Heating System of Proposed House</b>	
(1)	[F96,F99-OE1.1]
(2)	[F99-OE1.1]
<b>9.36.5.13. General Requirements for Modeling the Reference House</b>	
(1)	[F99-OE1.1]
(2)	[F99-OE1.1]
<b>9.36.5.14. Modeling Building Envelope of Reference House</b>	
(1)	[F92,F95,F99-OE1.1]
(2)	[F90,F91,F92,F95,F99-OE1.1]
(3)	[F92,F95,F99-OE1.1]
(4)	[F92,F95,F99-OE1.1]
(5)	[F92,F99-OE1.1]
(6)	[F92,F95,F99-OE1.1]
(7)	[F92,F99-OE1.1]
(8)	[F92,F99-OE1.1]
(9)	[F92,F95,F99-OE1.1]
(10)	[F92,F99-OE1.1]
<b>9.36.5.15. Modeling HVAC System of Reference House</b>	
(1)	[F95,F99-OE1.1]
(2)	[F95,F99-OE1.1]
(3)	[F95,F99,F100-OE1.1]
(4)	[F95,F99-OE1.1]
(5)	[F95,F99-OE1.1]
(6)	[F95,F99-OE1.1]
(7)	[F95,F99-OE1.1]
(8)	[F95,F99,F100-OE1.1]
(9)	[F95,F99-OE1.1]
(10)	[F95,F99-OE1.1]
(11)	[F95,F99-OE1.1]
(12)	[F95,F99,F100-OE1.1]
(13)	[F95,F99,F100-OE1.1]
(14)	[F95,F99-OE1.1]



(15)	[F95,F99-OE1.1]
(16)	[F95,F99-OE1.1]
<b>9.36.5.16. Modeling Service Water Heating System of Reference House</b>	
(1)	[F95,F99-OE1.1]
(2)	[F95,F99-OE1.1]
(3)	[F95,F99-OE1.1]

### **Division 3 – Changes to Appendix A of Division B**

**36 Appendix A to Division B is amended by repealing Appendix Note A-5.10.2.2. and substituting the following:**

**A-5.10.2.2. Windows, Doors, Skylights and Other Glazed Products**

**Design Values**

CSA A440S1 requires that the individual performance levels achieved by the product for structural resistance, water penetration resistance and air leakage resistance be reported on the product's performance label.

**Storm Doors and Windows**

Where storm doors and storm windows are not incorporated in a rated window or door assembly, they should be designed and constructed to comply with the applicable requirements of Part 5 regarding such properties as appropriate air leakage and structural loads.

**Forced Entry Test**

Even though the performance label on rated windows, doors and skylights does not explicitly indicate that the product has passed the forced entry resistance test, products are required to pass this test in order to be rated.

**Installation and Field Testing of Windows, Doors, Skylights and Other Glazed Products**

Windows, doors, skylights, other glazed products and their components require installation details that are appropriately designed and constructed to provide acceptable overall performance of a building envelope assembly. Proper design of installation details provides the information necessary to integrate the window, door or skylight's structure, air barrier, vapour barrier and water barrier functions into the overall design of the building envelope assembly for these functions. Proper construction of these details is necessary to achieve an appropriate level of long term performance. Further guidance on installation detailing for windows, doors, skylights and other glazed products and their components can be found in CSA A440.4, "Window, Door and Skylight Installation."

Field testing of installed windows, doors and skylights during construction can be an invaluable tool for verifying acceptable levels of performance for the installed system. Although not required by this Code, field testing early in the envelope construction phase is considered favourable such that discontinuities in the system can be readily identified and corrections made before construction of the entire assembly is completed. Additional field testing during the construction phases can also be used to monitor installation consistency. Further guidance on methods and guidelines for the field testing of windows, doors and skylights can be found in CSA A440.4, "Window, Door and Skylight Installation, Annex D - Field Testing of Window and Door Installations." While this document does list previously identified industry performance data values, it is important to note that the user should utilize current specific performance requirements for a project as governed by the values developed in the referenced standard AAMA/WDMA/CSA101/LS.2/A440, "NAFS – North American Fenestration Standard/Specification for Windows, Doors, and Skylights."

Field test procedures should be in accordance with referenced test standards, such as ASTM E783, "Standard Test Method for Field Measurement of Air Leakage Through Installed Exterior Windows and Doors" and ASTM E1105, "Standard Test Method for Field Determination of Water Penetration of Installed Exterior Windows, Skylights, Doors, and Curtain Walls, by Uniform or Cyclic Static Air Pressure Difference."

**37 The following Appendix Notes are added:**

**A-5.10.2.2.(1) Two Compliance Paths.** It is intended that any fenestration product that conforms to this Part may choose to comply with either Clause (a) or Clause (b) of Sentence 5.10.2.2.(1). Even if a product is in scope of the standards referenced via Clause (b) (NAFS and the Canadian Supplement to NAFS), the compliance path in Clause (a) may be used. However, it is not intended that the compliance path in Clause (b) be used where fenestration products are not within the scope of the referenced standards.

**A-5.10.2.2.(2) Other Glazed Products.** Glazed products such as curtain walls or sloped glazing that are not typically considered windows but are installed as part of a separation described in Sentence 5.10.2.1.(1) are not within the scope of the referenced standards and therefore must conform to Subsection 5.1.4. and Sections 5.3., 5.4. and 5.6.

**A-5.10.2.2.(4) Loads and Procedures.** For windows within the scope of the “Canadian Supplement” referred to in Sentence 5.10.2.2.(1), structural and wind loads are included and may be calculated in accordance with that standard. As an alternative, structural and wind loads from Section 5.2. may be used to select fenestration products that are appropriate for the point of installation. Values derived from the referenced standard, which uses a simplified calculation method, are typically higher than those derived from calculations done in conformance with Section 5.2.

**38 The following Appendix Note is added:**

**A-9.6.1.1.(1) Application.** The scope of this Section includes glass installed on the interior or on the exterior of a building.

**39 Appendix Note A-9.6.1.3.(1) is repealed.**

**40 The following Appendix Notes are added:**

**A-9.7. Windows, Doors and Skylights.** This section applies only to windows, doors and skylights as defined in the scope of the standards referenced in Article 9.7.4.2. Other glazed products, such as site-built windows, curtain walls or sloped glazing, are required to conform to Part 5.

It is also permitted for fenestration products within the scope of the NAFS standard to conform to Part 5. This option is typically used for windows and doors that are impractical to subject to the testing requirements of NAFS due to their size or for custom configurations.

**A-9.7.4. Design and Construction.** Garage doors, sloped glazing, curtain walls, storefronts, commercial entrance systems, site-built or site-glazed products, revolving doors, interior windows and doors, storm windows, storm doors, sunrooms and commercial steel doors are not in the scope of NAFS.

All windows, doors and skylights installed to separate conditioned space from unconditioned space or the exterior must also conform to Section 9.36.

**41 Appendix Note A-9.7.4.2.(1) is amended**

**(a) by adding the following before the passage headed “Canadian Requirements in the Harmonized Standard”:**

**General**

Doors between an unconditioned garage and a dwelling unit are considered to be in scope of the standard referenced in this Sentence. Although the standard refers to windows in “exterior building envelopes”, a note to the definition of “building envelope” clarifies that for the purpose of application of the standard, in some cases a building envelope may consist of 2 separate walls (such as a wall between garage and dwelling unit as well as the exterior wall of the garage itself).

A door leading to the exterior from an unconditioned garage is also within scope of the referenced standard, as it is also part of the exterior building envelope. However, because the scope of the BC Building Code takes

precedence, these doors are not required to conform to “NAFS”. This Subsection of the Code does not apply to a door separating two unconditioned spaces. ,

***(b) by repealing the passage headed “Water Penetration Resistance” and substituting the following:***

#### **Water Penetration Resistance**

For the various performance grades listed in the Harmonized Standard, the corresponding water penetration resistance test pressures are a percentage of the design pressure. For R class products, water penetration resistance test pressures are 15% of design pressure. In Canada, driving rain wind pressures (DRWP) have been determined for the locations listed in Appendix C of the Code. These are listed in the Canadian Supplement. The DRWP given in the Canadian Supplement must be used for all products covered in the scope of the Harmonized Standard when used in buildings within the scope of Part 9.

To achieve equivalent levels of water penetration resistance for all locations, the Canadian Supplement includes a provision for calculating specified DRWP at the building site considering building exposure. Specified DRWP values are, in some cases, greater than 15% of design pressure and, in other cases, less than 15% of design pressure. For a fenestration product to comply with the Code, it must be able to resist the structural and water penetration loads at the building site. Reliance on a percentage of design pressure for water penetration resistance in the selection of an acceptable fenestration product will not always be adequate. Design pressure values are reported on a secondary designator, which is required by the Canadian Supplement to be affixed to the window.

As an alternative to the above noted provision in the Canadian Supplement for calculating specified DRWP, the Water Resistance values listed in Table C-4 of Appendix C may be used. ,

***(c) by repealing the passage headed “Uniform Load Structural Test” and substituting the following:***

#### **Uniform Load Structural Test**

The Harmonized Standard specifies that fenestration products be tested at 150% of design pressure for wind (specified wind load) and that skylights and roof windows be tested at 200% of design pressure for snow (specified snow load). With the change in the NBC 2005 to a 1-in-50 return period for wind load, a factor of 1.4 rather than 1.5 is now applied for wind. The NBC has traditionally applied a factor of 1.5 rather than 2.0 for snow. Incorporating these lower load factors into the Code requirements for fenestration would better reflect acceptable minimum performance levels; however, this has not been done in order to avoid adding complexity to the Code, to recognize the benefits of Canada-US harmonization, and to recognize that differentiation of products that meet the Canadian versus the US requirements would add complexity for manufacturers, designers, specifiers and regulatory officials.

The required design pressure and Performance Grade (PG) rating of doors and windows has been listed for each of the geographic locations found in the Code in Table C-4. These may be used as an alternative to the specified wind load calculations in the Canadian Supplement. ,

***(d) in the passage headed “Condensation Resistance” by striking out “, which is referenced in Table 9.7.3.3.,”, and***

***(e) by repealing the passage headed “Greenhouse Windows”.***

#### **42 The following Appendix Note is added:**

**A-9.7.4.3.(2) Performance Requirements.** If the option of calculating design pressure performance grade and water resistance values using the Canadian Supplement is chosen, the DRWP values in Table A.1 of that standard must be used for all buildings within the scope of Part 9 of the BC Building Code. This requirement applies whether the windows, doors and skylights are designed to conform to Article 9.7.4.2. or to Part 5.

#### **43 Appendix Note A-9.7.5.2.(2) is repealed.**

44 Appendix Note A-9.32.3.4. is repealed and the following substituted:

A-9.32.3.4. Principal Ventilation System Supply Air.

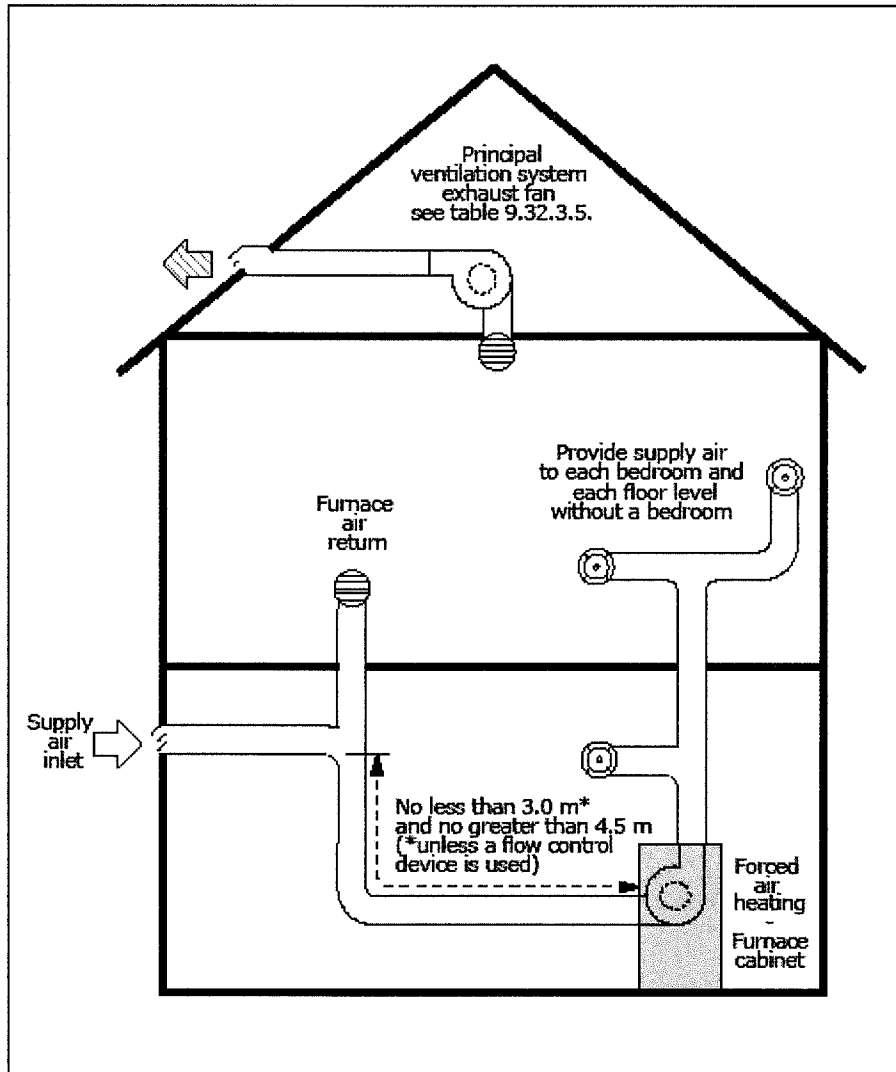


Figure A-9.32.3.4.(2)  
Forced-Air Heating System Supply Air Distribution

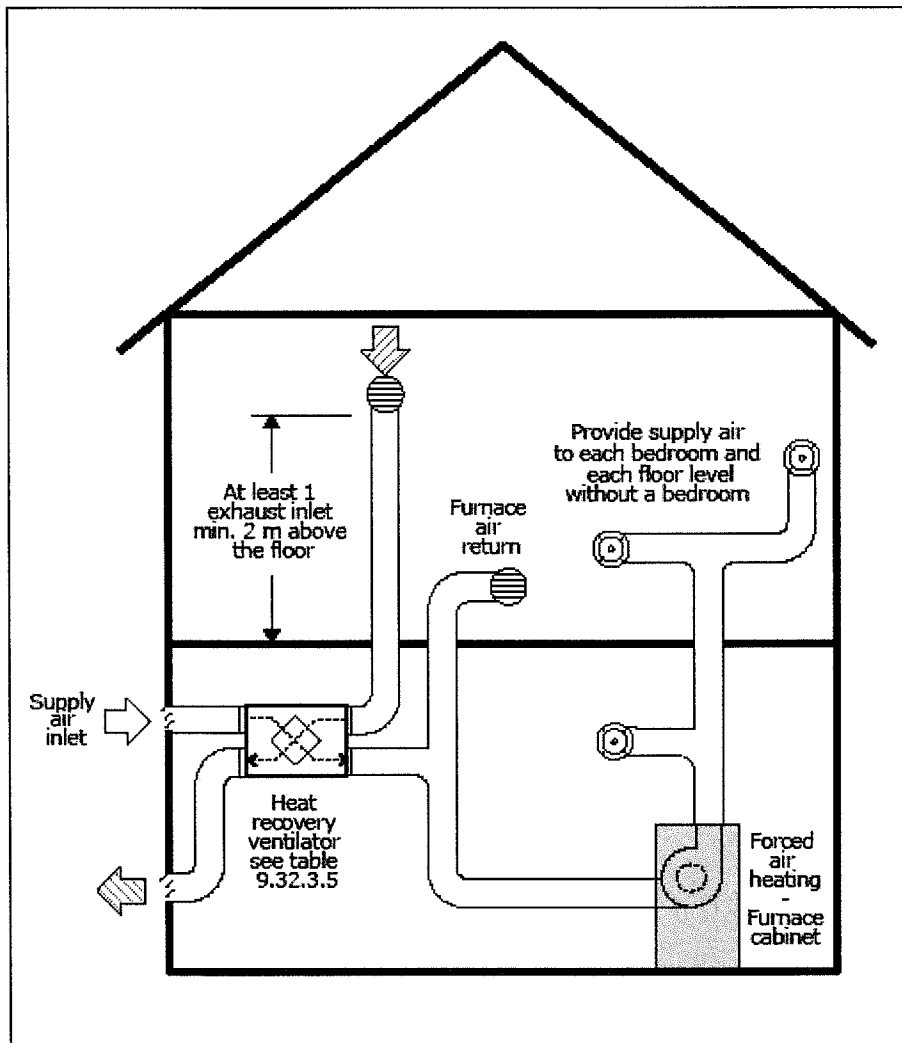


Figure A-9.32.3.4.(3)  
 Forced-Air Heating System with Heat Recovery Ventilator Supply Air Distribution

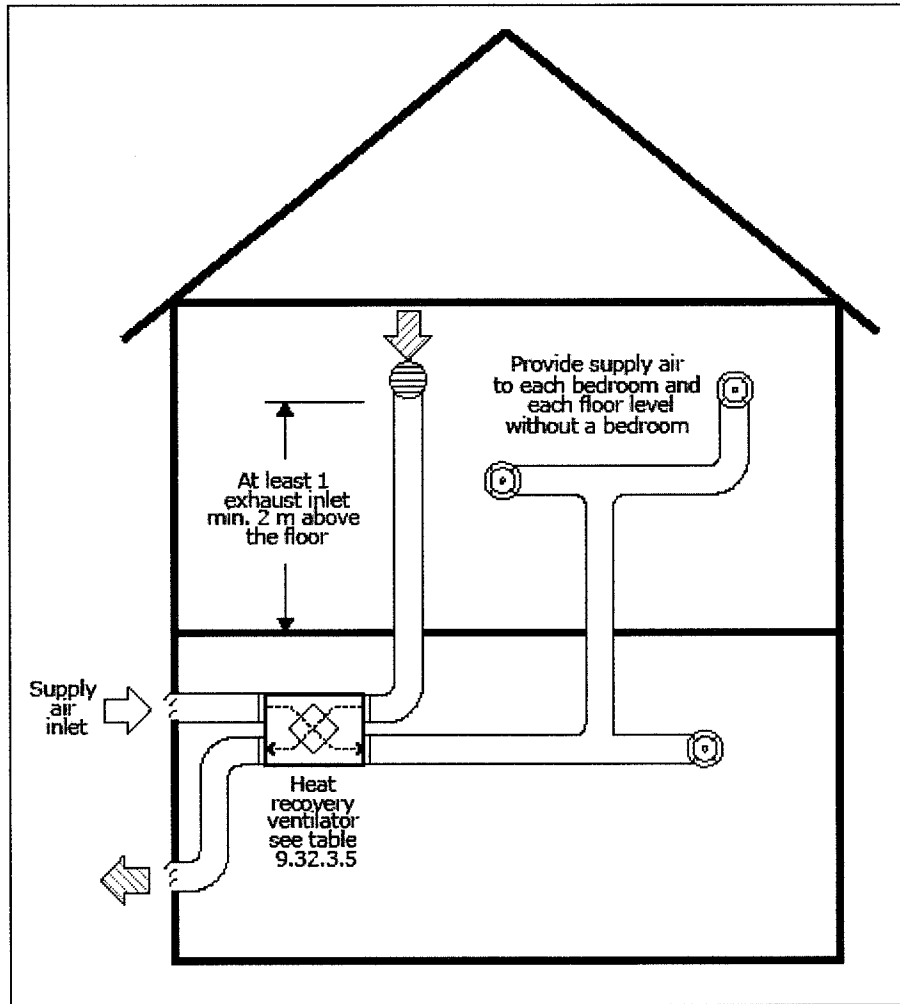


Figure A-9.32.3.4.(4)  
Heat Recovery Ventilator Supply Air Distribution

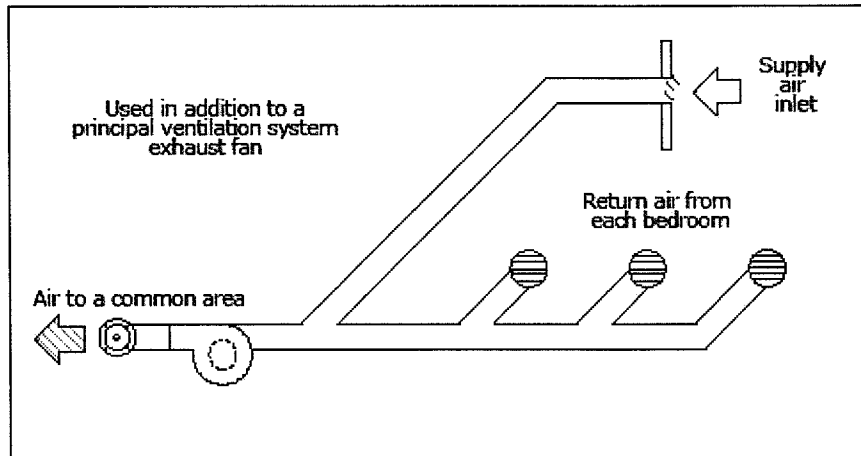


Figure A-9.32.3.4.(5)(b)(i)  
Central Recirculation System Supply Air Distribution

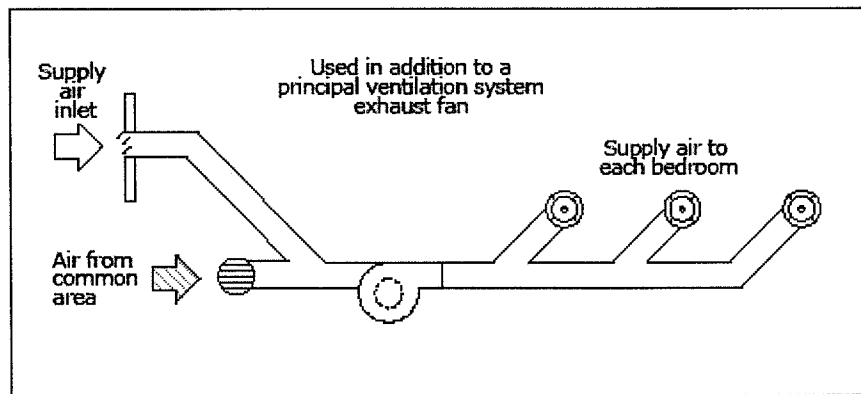


Figure A-9.32.3.4.(5)(b)(ii)  
Central Recirculation System Supply Air Distribution

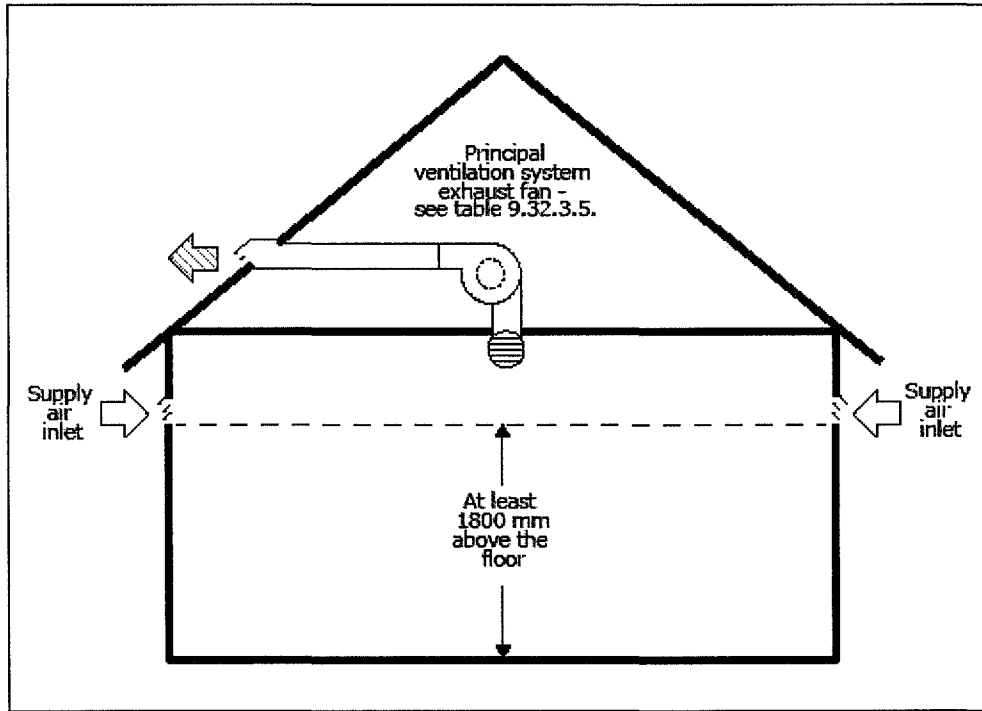


Figure A-9.32.3.4.(6)  
Passive Supply Air Distribution

45 Appendix Note A-9.32.4.1.(1)(a) is repealed and the following substituted:

A-9.32.4.1.(1) Naturally Aspirating Fuel-Fired Vented Appliance (NAFFVA). NAFFVA, typically appliances with draft hoods, are subject to back drafting when a negative pressure condition occurs in the dwelling. The following tables describe the conditions under which Sentence 9.32.4.1.(1) applies:

Table A-9.32.4.1.(1)A.  
Vent Safety — Natural Gas and Propane

Fuel Type	Natural Gas and Propane			
Vent Type	Power Vent <sup>(3)</sup>	Direct Vent <sup>(3)</sup>	Thermal Buoyancy Chimney <sup>(2)</sup>	
Appliance Type	Furnace Boiler HWT Fireplace	HWT Fireplace Heater	Mid-Efficient F/A Furnace or Boiler <sup>(5)</sup>	Drafthood Boiler HWT <sup>(4)</sup>
Special Conditions				Located in Air-Barriered Room <sup>(1)</sup>
Classification	Non-NAFFVA		NAFFVA	Non-NAFFVA
9.32.4.1.(1) Applies	No		Yes	No

Notes to Table A-9.32.4.1.(1)A.:

<sup>(1)</sup> Mechanical room must be air-barriered from remainder of house with no access from within house. Room must be lined with panel products with sealed joints and all pipe and wire penetrations sealed. Effectively, the room must be finished before equipment is installed and holes drilled for pipes and wires. This option is not available for forced air furnaces as it is not possible to effectively seal the ducts.



- (2) Thermal buoyancy chimneys must be within the heated envelope of the house to provide acceptable venting performance.
- (3) Any power vented appliance with pressurized vent (1 pipe) or sealed combustion (2 pipe) or direct vent appliance (fireplace, heater or HWT) are non-NAFFVA.
- (4) Mid-efficient (draft induced) appliances are considered NAFFVA with the exception of a boiler or HWT located in an air-barriered room.
- (5) This category applies only to
- (a) mid-efficient forced air furnaces equipped with induced draft fans and exhaust proving switch, and
  - (b) boilers equipped with induced draft fans and exhaust proving switch.

**Table A-9.32.4.1.(1)B.  
Vent Safety — Oil and Solid Fuel**

Fuel Type	Oil			Solid		
Vent Type	Thermal Buoyancy Chimney <sup>(2)</sup>		Direct Vent	Thermal Buoyancy Chimney <sup>(2)</sup>		Any
Appliance Type	Boiler HWT <sup>(4)</sup>	F/A Furnace Boiler HWT <sup>(3), (4)</sup>	F/A Furnace Boiler HWT	Boiler	F/A Furnace Boiler HWT Fireplace Heat Stove	Outside Boiler
Special Conditions	Located in Air-Barriered Room <sup>(1)</sup>			Located in Air-Barriered Room <sup>(1)</sup>		
Classification	Non-NAFFVA	NAFFVA	Non-NAFFVA	Non-NAFFVA	NAFFVA <sup>(5)</sup>	N/A
9.32.4.1.(1) Applies	No	Yes	No	No	Yes <sup>(5)</sup>	No

**Notes to Table A-9.32.4.1.(1)B.:**

- (1) Mechanical room must be air-barriered from remainder of house with no access from within house. Room must be lined with panel products with sealed joints and all pipe and wire penetrations sealed. Effectively, the room must be finished before equipment is installed and holes drilled for pipes and wires. This option is not available for forced air furnaces as it is not possible to effectively seal the ducts.
- (2) Thermal buoyancy chimneys must be within the heated envelope of the house to provide acceptable venting performance.
- (3) Oil-fired HWT, boilers and furnaces equipped with blocked vent switches.
- (4) Sealed combustion kits can be added to oil-fired appliances but they switch to interior combustion air if intake is blocked and rely on barometrically dampered thermal buoyancy chimneys so they are considered NAFFVA.
- (5) Wood-burning appliances certified for use in mobile homes and installed to mobile home installation standards are considered non-NAFFVA and Sentence 9.32.4.1.(1) does not apply to them.

**46 Appendix Note A-9.36.2.4.(1) is amended**

**(a) in Table A-9.36.2.4.(1)D. by striking out the following row:**

Walls (heat flow horizontal) faced with non-reflective material <sup>(2)</sup>	13 mm	—	0.16
	20 mm	—	0.18
	40 mm	—	0.18
	90 mm	—	0.18

**and substituting the following:**

Walls (heat flow horizontal) faced with non-reflective material <sup>(2)</sup>	9.5 mm	—	0.15
	13 mm	—	0.16
	20 mm	—	0.18
	40 mm	—	0.18
	90 mm	—	0.18

, and

(b) in the Notes to Table A-9.36.2.4.(1)D. by repealing Notes (2) and (5) and substituting the following:

- (2) RSI values can be interpolated for air cavity sizes that fall between 9.5 and 90 mm, and they can be moderately extrapolated for air cavities measuring more than 90 mm. However, air cavities measuring less than 9.5 mm cannot be included in the calculation of effective thermal resistance of the assembly.
- (5) Materials installed towards the exterior of a vented air space in a roof assembly cannot be included in the calculation of effective thermal resistance of the assembly.

47 Appendix Note A-9.36.2.7.(3) is repealed and the following substituted:

**A-9.36.2.7.(3) Site-built Windows.** Site-built windows are often installed in custom-built homes or in unique configurations for which manufactured units are not available. Article 9.7.4.1. requires windows, doors and skylights to conform to either the standards referenced in Article 9.7.4.2. or to Part 5. Regardless of the compliance path chosen, the requirements of Section 9.36. and the remainder of Section 9.7. must also be met. Windows, doors and skylights and other glazed products that comply with Part 5 and are installed in a Part 9 building may use the site-built provisions of Sentence 9.36.2.7.(3) rather than complying with the requirements in Sentence 9.36.2.7.(1).

### Division 4 – Changes to Appendix C of Division B

48 The following Table is added to Appendix C to Division B:

Table C-4  
Required Performance of Windows and Doors in Part 9 Buildings  
Forming Part of Appendix C

Location	Climatic Data		Specified Loads			NAFS		
	1/5 DRWP	1/50 HWP	DRWP	Wind Load		Required Fenestration Performance		
	Pa	kPa	Pa	Pa	(psf)	DP	PG	Water Resist.
100 Mile House	60	0.35	60	709	14.80	720	15	140
Abbotsford	160	0.44	160	891	18.61	960	20	180
Agassiz	160	0.47	160	952	19.88	960	20	180
Alberni	220	0.32	220	648	13.53	720	15	220
Ashcroft	80	0.38	80	770	16.07	960	20	150
Bamfield	280	0.50	280	1013	21.15	1200	25	290
Beatton River	80	0.30	80	608	12.69	720	15	140
Bella Bella	350	0.50	350	1013	21.15	1200	25	360
Bella Coola	350	0.39	350	790	16.49	960	20	360
Burns Lake	100	0.39	100	790	16.49	960	20	150
Cache Creek	80	0.39	80	790	16.49	960	20	150
Campbell River	260	0.52	260	1053	21.99	1200	25	260
Carmi	60	0.38	60	770	16.07	960	20	150
Castlegar	60	0.34	60	689	14.38	720	15	140
Chetwynd	60	0.40	60	810	16.92	960	20	150
Chilliwack	160	0.47	160	952	19.88	960	20	180
Comox	260	0.52	260	1053	21.99	1200	25	260
Courtenay	260	0.52	260	1053	21.99	1200	25	260

Cranbrook	100	0.33	100	668	13.96	720	15	140
Crescent Valley	80	0.33	80	668	13.96	720	15	140
Crofton	160	0.40	160	810	16.92	960	20	180
Dawson Creek	100	0.40	100	810	16.92	960	20	150
Dease Lake	380	0.30	380	608	12.69	720	15	400
Dog Creek	100	0.35	100	709	14.80	720	15	140
Duncan	180	0.39	180	790	16.49	960	20	180
Elko	100	0.40	100	810	16.92	960	20	150
Fernie	100	0.40	100	810	16.92	960	20	150
Fort Nelson	80	0.30	80	608	12.69	720	15	140
Fort St. John	100	0.39	100	790	16.49	960	20	150
Glacier	80	0.32	80	648	13.53	720	15	140
Gold River	250	0.32	250	648	13.53	720	15	260
Golden	100	0.35	100	709	14.80	720	15	140
Grand Forks	80	0.40	80	810	16.92	960	20	150
Greenwood	80	0.40	80	810	16.92	960	20	150
Hope	140	0.63	140	1276	26.64	1440	30	220
Jordan River	250	0.55	250	1114	23.26	1200	25	260
Kamloops	80	0.40	80	810	16.92	960	20	150
Kaslo	80	0.31	80	628	13.11	720	15	140
Kelowna	80	0.40	80	810	16.92	960	20	150
Kimberley	100	0.33	100	668	13.96	720	15	140
Kitimat Plant	220	0.48	220	972	20.30	1200	25	220
Kitimat Townsite	220	0.48	220	972	20.30	1200	25	220
Ladysmith	180	0.40	180	810	16.92	960	20	180
Langford	220	0.40	220	810	16.92	960	20	220
Lillooet	100	0.44	100	891	18.61	960	20	150
Lytton	80	0.43	80	871	18.19	960	20	150
Mackenzie	60	0.32	60	648	13.53	720	15	140
Masset	400	0.61	400	1235	25.80	1440	30	400
McBride	60	0.35	60	709	14.80	720	15	140
McLeod Lake	60	0.32	60	648	13.53	720	15	140
Merritt	80	0.44	80	891	18.61	960	20	150
Mission City	160	0.43	160	871	18.19	960	20	180
Montrose	60	0.35	60	709	14.80	720	15	140
Nakusp	60	0.33	60	668	13.96	720	15	140
Nanaimo	200	0.50	200	1013	21.15	1200	25	220
Nelson	60	0.33	60	668	13.96	720	15	140
Ocean Falls	350	0.59	350	1195	24.95	1200	25	360
Osoyoos	60	0.40	60	810	16.92	960	20	150
Parksville	200	0.50	200	1013	21.15	1200	25	220
Penticton	60	0.45	60	911	19.03	960	20	150

Port Alberni	240	0.32	240	648	13.53	720	15	260
Port Alice	220	0.32	220	648	13.53	720	15	220
Port Hardy	220	0.52	220	1053	21.99	1200	25	220
Port McNeill	260	0.52	260	1053	21.99	1200	25	260
Port Renfrew	270	0.52	270	1053	21.99	1200	25	290
Powell River	220	0.51	220	1033	21.57	1200	25	220
Prince George	80	0.37	80	749	15.65	960	20	150
Prince Rupert	240	0.54	240	1094	22.84	1200	25	260
Princeton	80	0.36	80	729	15.23	960	20	150
Qualicum Beach	200	0.53	200	1073	22.42	1200	25	220
Queen Charlotte City	360	0.61	360	1235	25.80	1440	30	360
Quesnel	80	0.31	80	628	13.11	720	15	140
Revelstoke	80	0.32	80	648	13.53	720	15	140
Salmon Arm	80	0.39	80	790	16.49	960	20	150
Sandspit	500	0.78	500	1580	32.99	1680	35	510
Sechelt	160	0.48	160	972	20.30	1200	25	180
Sidney	160	0.42	160	851	17.76	960	20	180
Smith River	40	0.30	40	608	12.69	720	15	140
Smithers	120	0.40	120	810	16.92	960	20	150
Sooke	220	0.48	220	972	20.30	1200	25	220
Squamish	160	0.50	160	1013	21.15	1200	25	180
Stewart	180	0.36	180	729	15.23	960	20	180
Tahsis	300	0.34	300	689	14.38	720	15	330
Taylor	100	0.40	100	810	16.92	960	20	150
Terrace	200	0.36	200	729	15.23	960	20	220
Tofino	300	0.68	300	1377	28.76	1440	30	330
Trail	60	0.35	60	709	14.80	720	15	140
Ucluelet	280	0.68	280	1377	28.76	1440	30	290
Vancouver Region								
Vancouver - Burnaby (Simon Fraser Univ.)	160	0.47	160	952	19.88	960	20	180
Vancouver - Cloverdale	160	0.44	160	891	18.61	960	20	180
Vancouver - Haney	160	0.44	160	891	18.61	960	20	180
Vancouver - Ladner	160	0.46	160	932	19.45	960	20	180
Vancouver - Langley	160	0.44	160	891	18.61	960	20	180
Vancouver - New Westminster	160	0.44	160	891	18.61	960	20	180
Vancouver - North Vancouver	160	0.45	160	911	19.03	960	20	180
Vancouver - Richmond	160	0.45	160	911	19.03	960	20	180
Vancouver - Surrey (88 Ave. & 156 St.)	160	0.44	160	891	18.61	960	20	180
West Vancouver	160	0.48	160	972	20.30	1200	25	180
Vernon	80	0.40	80	810	16.92	960	20	150
Victoria Region								
Victoria (Gonzales Hts)	220	0.57	220	1154	24.11	1200	25	220
Victoria (Mt Tolmie)	220	0.63	220	1276	26.64	1440	30	220

Victoria	220	0.57	220	1154	24.11	1200	25	220
Whistler	160	0.32	160	648	13.53	720	15	180
White Rock	160	0.44	160	891	18.61	960	20	180
Williams Lake	80	0.35	80	709	14.80	720	15	140
Youbou	200	0.32	200	648	13.53	720	15	220

**Notes to Table C-4**

Table C-4 may not be used for skylights (see Sentence 9.7.4.3.(1)).

## SCHEDULE 2

- 1 *Book II (Plumbing Systems) of the British Columbia Building Code established by the British Columbia Building Code Regulation, B.C. Reg. 264/2012, is amended as set out in this Schedule.*

### Division 1 – Changes to Division B

- 2 *Table 1.3.1.2. of Division B is amended by adding the following items:*

ANSI/AWWA	C228-08	Stainless-Steel Pipe Flanges for Water Service—Sizes 2 In. Through 72 In. (50mm Through 1,800 mm)	2.2.6.12.(1)
ASME	B16.5-2009	Pipe Flanges and Flanged Fittings: NPS ½ Through NPS 24 Metric/Inch Standard	2.2.6.12.(1)
ASME	B16.9-2007	Factory-Made Wrought Butt welding Fittings	2.2.6.11.(1) 2.2.6.14.(1)
ASME	B31.9-2008	Building Services Piping	2.3.2.8.(1)
ASME	B36.19M-2004	Stainless Steel Pipe	2.2.6.10.(1)
ASTM	A 182/A 182M-06	Forged or Rolled Alloy and Stainless Steel Pipe Flanges, Forged Fittings, and Valves and Parts for High-Temperature Service	2.2.6.12.(1) 2.2.6.13.(1)
ASTM	A 269-10	Seamless and Welded Austenitic Stainless Steel Tubing for General Service	2.2.6.14.(1)
ASTM	A 312/A 312M-11	Seamless, Welded, and Heavily Cold Worked Austenitic Stainless Steel Pipes	2.2.6.10.(1)
ASTM	A 351/A 351M-10	Castings, Austenitic, for Pressure-Containing Parts	2.2.6.13.(1)
ASTM	A 403/A 403M-11	Wrought Austenitic Stainless Steel Piping Fittings	2.2.6.11.(1)

- 3 *Subsection 2.2.6. is amended by adding the following Articles:*

#### 2.2.6.10. Stainless Steel Pipe

- 1) Stainless steel pipe shall conform to
  - a) ASTM A 312/A 312M, “Seamless, Welded, and Heavily Cold Worked Austenitic Stainless Steel Pipes,” and
  - b) ASME B36.19M, “Stainless Steel Pipe.”
- 2) Only grade 304/304L or 316/316L stainless steel pipe shall be used.

#### 2.2.6.11. Stainless Steel Butt Weld Pipe Fittings

- 1) Stainless steel butt weld pipe fittings shall conform to
  - a) ASTM A 403/A 403M, “Wrought Austenitic Stainless Steel Piping Fittings,” and
  - b) ASME B16.9 “Factory-Made Wrought Butt welding Fittings.”

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

**2.2.6.12. Stainless Steel Pipe Flanges**

1) Stainless steel pipe flanges shall conform to ASME B16.5, "Pipe Flanges and Flanged Fittings: NPS ½ Through NPS 24 Metric/Inch Standard," and

- a) ASTM A 182/A 182M, "Forged or Rolled Alloy and Stainless Steel Pipe Flanges, Forged Fittings, and Valves and Parts for High-Temperature Service," or
- b) ANSI/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.

**2.2.6.13. Stainless Steel Threaded Fittings**

1) Stainless steel threaded fittings shall be schedule 40s or greater conforming to

- a) ASTM A 182/A 182M, "Forged or Rolled Alloy and Stainless Steel Pipe Flanges, Forged Fittings, and Valves and Parts for High-Temperature Service," or
- b) ASTM A 351/A 351M, "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.

**2.2.6.14. Stainless Steel Tube**

- 1) Stainless steel tube shall conform to
- a) ASTM A 269, "Seamless and Welded Austenitic Stainless Steel Tubing for General Service," and
- b) ASME B16.9, "Factory-Made Wrought Buttwelding Fittings."
- 2) Only grade 304/304L or 316/316L stainless steel tube shall be used.

**2.2.6.15. Stainless Steel Pipe and Tube**

- 1) The use of stainless steel pipe and tube shall conform to Table 2.2.6.15.

**Table 2.2.6.15.  
Permitted Uses of Stainless Steel Tube and Pipe  
Forming Part of Sentence 2.2.6.15.(1)**

Stainless Steel Tube or Pipe	Plumbing Purposes						
	Water Distribution System		Building Sewer	Drainage System		Venting System	
	Underground	Above-ground		Underground	Above-ground	Underground	Above-ground
Stainless steel pipe	P	P	P	P	P	P	P
Stainless steel tube	P	P	N	N	N	N	N

P = Permitted N = Not Permitted

**4 Subsection 2.3.2. is amended by adding the following Article:**

**2.3.2.8. Stainless Steel Welded Joints**

- 1) Welding shall conform to ASME B31.9, "Building Services Piping," and accord with good engineering practice.
- 2) Butt weld pipe fittings shall have an equal or thicker section than the pipe wall specified.

**5 Article 2.3.4.3. is amended by adding the following Sentence:**

- 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.



6 *Table 2.3.4.5. is amended by adding the following rows:*

Stainless steel pipe		
• diameter ≥ 1 inch	3	
• diameter < 1 inch	2.5	
Stainless steel tube		
• diameter ≥ 1 inch	3	
• diameter < 1 inch	2.5	

*after the following row:*

Galvanized iron or steel pipe		
• diameter ≥ 6 inches	3.75	
• diameter < 6 inches	2.5	

7 *Table 2.8.1.1. is amended*

*(a) by adding the following rows:*

<b>2.2.6.10. Stainless Steel Pipe</b>	
(1)	[F71,F80-OH2.1,OH2.3] Applies to drainage systems and venting systems. [F46-OH2.2] Applies to water systems. [F80-OP5]
(2)	[F71,F80-OH2.1,OH2.3] Applies to drainage systems and venting systems. [F46-OH2.2] Applies to water systems. [F80-OP5]
<b>2.2.6.11. Stainless Steel Butt Weld Pipe Fittings</b>	
(1)	[F71,F80-OH2.1,OH2.3] Applies to drainage systems and venting systems. [F46-OH2.2] Applies to water systems. [F80-OP5]
(2)	[F71,F80-OH2.1,OH2.3] Applies to drainage systems and venting systems. [F46-OH2.2] Applies to water systems. [F80-OP5]
<b>2.2.6.12. Stainless Steel Pipe Flanges</b>	
(1)	[F71,F80-OH2.1,OH2.3] Applies to drainage systems and venting systems. [F46-OH2.2] Applies to water systems. [F80-OP5]
(2)	[F71,F80-OH2.1,OH2.3] Applies to drainage systems and venting systems. [F46-OH2.2] Applies to water systems. [F80-OP5]
<b>2.2.6.13. Stainless Steel Threaded Fittings</b>	
(1)	[F20-OP5]
(2)	[F20-OP5]

<b>2.2.6.14. Stainless Steel Tube</b>	
(1)	[F46-OH2.2]
(2)	[F46-OH2.2]
<b>2.2.6.15. Stainless Steel Pipe and Tube</b>	
(1)	[F80-OH2.1,OH2.2, OH2.3]

<b>2.3.2.8. Stainless Steel Welded Joints</b>	
(1)	[F20,F81–OH2.1, OH2.2, OH 2.3]
(2)	[F20,F81– OH2.1, OH2.2, OH 2.3]

, and

(b) by repealing the following row:

<b>2.3.4.3. Insulation of Support</b>	
(1)	[F80–OH2.1,OH2.3]
	[F80–OP5]
	[F80–OS3.1]

and substituting the following:

<b>2.3.4.3. Insulation of Support</b>	
(1)	[F80–OH2.1,OH2.3]
	[F80–OP5]
	[F80–OS3.1]
(2)	[F80–OH2.1,OH2.3]
	[F80–OS3.1]
	[F80–OP5]

**Division 2 – Changes to Appendix A to Division B**

8 Table A-1.3.1.2.(1) of Appendix A to Division B is amended by adding the following items:

ASTM	A 269-10	Seamless and Welded Austenitic Stainless Steel Tubing for General Service	Table A-2.2.5., 2.2.6. and 2.2.7.
ASTM	A 312-11	Seamless, Welded, and Heavily Cold Worked Austenitic Stainless Steel Pipes	Table A-2.2.5., 2.2.6. and 2.2.7.

9 Table A-2.2.5., 2.2.6. and 2.2.7. is amended by adding the following rows:

Stainless steel pipe	ASTM A 312	2.2.6.10.	P	P	P	P	P	P	P	P	P
Stainless steel tube	ASTM A 269	2.2.6.14.	N	N	N	N	N	P	P	P	P

before the following row:

Welded and seamless steel galvanized pipe	ASTM A 53/A 53M	2.2.6.7.	P	N	N	P	N	P <sup>(9)</sup>	P <sup>(9)</sup>	P <sup>(9)</sup>	P <sup>(9)</sup>
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