

1346.5304 SECTION 304 (IFGC) COMBUSTION, VENTILATION AND DILUTION AIR.

Subpart 1. **Section 304.1.** IFGC section 304.1 is amended to read as follows:

304.1 General. Air for combustion, ventilation, and dilution of flue gases for appliances installed in buildings shall be provided by application of one of the methods prescribed in sections 304.5 to 304.9. Where the requirements of section 304.5 are not met, outdoor air shall be introduced in accordance with one of the methods prescribed in sections 304.6 to 304.9. Direct-vent appliances, gas appliances of other than natural draft design, vented gas appliances not designated as Category I and appliances equipped with power burners shall be provided with combustion, ventilation and dilution air in accordance with the appliance manufacturer's instructions.

Exceptions:

1. Type 1 clothes dryers that are provided with makeup air in accordance with the manufacturer's installation instructions.
2. Combustion air for power burner appliances equipped with a draft control device and having an input above 400,000 Btu/hr shall have a net free area of 0.2 square inches per 1,000 Btu/hr. Combustion air shall be provided from a single opening from the outdoors. In lieu of this requirement, combustion air requirements specified by the manufacturer for a specific power burner appliance may be approved by the building official.
3. Combustion air for power burner appliances not equipped with a draft control device and having an input above 400,000 Btu/hr shall have a net free area of 0.1 square inches per 1,000 Btu/hr. Combustion air shall be provided from a single opening from the outdoors. In lieu of this requirement, combustion air requirements specified by the manufacturer for a specific power burner appliance may be approved by the building official.
4. Combustion air for Category I, III, and IV gas-fired appliances shall be determined using Table 304.1.
5. Combustion air requirements for residential dwellings shall be calculated by using Worksheet E-1, "Residential Combustion Air Calculation Method" and Table E-1, "Residential Combustion Air Required Volume" located in IFGC Appendix E, as amended in Minnesota Rules, parts 1346.6012 and 1346.6014.

Table 304.1

Combustion Air Requirements for Category I, III, and IV Gas-Fired Appliances When the Combined Input is Up to and Including 400,000 Btu/hr

Total input of appliances ¹ , thousands of Btu/hr (kW)	Required free area of air-supply opening or duct, square inches (sq mm)	Acceptable approximate round duct equivalent diameter ² , inch (mm)
25 (8)	7 (4,500)	3 (75)
50 (15)	7 (4,500)	3 (75)

75 (23)	11 (7,000)	4 (100)
100 (30)	14 (9,000)	4 (100)
125 (37)	18 (12,000)	5 (125)
150 (45)	22 (14,000)	5 (125)
175 (53)	25 (16,000)	6 (150)
200 (60)	29 (19,000)	6 (150)
225 (68)	32 (21,000)	6 (150)
250 (75)	36 (23,000)	7 (175)
275 (83)	40 (26,000)	7 (175)
300 (90)	43 (28,000)	7 (175)
325 (98)	47 (30,000)	8 (200)
350 (105)	50 (32,000)	8 (200)
375 (113)	54 (35,000)	8 (200)
400 (120)	58 (37,000)	9 (225)

¹For total inputs falling between listed capacities, use next largest listed input.

²If flexible duct is used, increase the duct diameter by one inch.*

*Flexible duct shall be stretched with minimal sags.

Subp. 2. [Repealed, 34 SR 537]

Subp. 2a. **Section 304.6.1.** IFGC section 304.6.1, Two-permanent-openings method, is deleted in its entirety.

Subp. 3. **Section 304.6.2.** IFGC section 304.6.2 is amended to read as follows:

304.6.2 One permanent opening method. When any natural draft appliances are installed, one permanent opening, commencing within 12 inches (300 mm) of the bottom of the enclosure, shall be provided. When other than natural draft appliances are installed, one permanent opening, commencing within 12 inches (300) of the top of the enclosure, shall be provided. The appliances shall have clearances of at least 1 inch (25 mm) from the sides and back and 6 inches (160 mm) from the front of the appliance. The opening shall directly communicate with the outdoors or shall communicate through a vertical or horizontal duct to the outdoors or spaces that freely communicate with the outdoors.

Subp. 4. [Repealed, 34 SR 537]

Subp. 5. [Repealed, 34 SR 537]

Subp. 6. [Repealed, 34 SR 537]

Subp. 7. [Repealed, 34 SR 537]

Subp. 8. **Section 304.11.** IFGC Section 304.11 is amended to read as follows:

304.11 Combustion air ducts. Combustion air ducts shall comply with the following:

1. Ducts shall be of galvanized steel or an equivalent corrosion-resistant material. If flexible duct is used, increase the duct diameter by one inch. Flexible duct shall be stretched with minimal sags.

2. Ducts shall terminate in an unobstructed space, allowing free movement of combustion air to the appliances.

3. Ducts shall serve a single space.

4. Ducts shall not service both upper and lower combustion air openings where both such openings are used. The separation between ducts serving upper and lower combustion air openings shall be maintained to the source of combustion air.

5. Ducts shall not terminate in an attic space.

6. The remaining space surrounding a chimney liner, gas vent, special gas vent, or plastic piping installed within a masonry, metal or factory-built chimney shall not be used to supply combustion air.

Exception: Direct vent gas-fired appliances designed for installation in a solid fuel-burning fireplace where installed in accordance with the listing and the manufacturer's instructions.

7. Vertical ducts shall not extend through two or more stories without prior approval from the building official.

8. Ducts shall not terminate in the return air plenum of a forced air heating system unless installed in accordance with the heating equipment manufacturer's installation instructions.

9. Combustion air intake openings shall be located to avoid intake of exhaust air in accordance with IMC Section 401.5 and IFGC Section 503.8 and shall be covered with corrosion resistant screen of not less than 1/4 inch (6.4 mm) mesh.

10. Combustion air intake openings shall be located at least 12 inches (305 mm) above adjoining grade level.

11. When both makeup air and combustion air openings are required, they shall be provided through separate openings to the outdoors.

Exception: Combination makeup air and combustion air systems may be approved by the building official where they are reasonably equivalent in terms of health, safety, and durability.

Subp. 9. [Repealed, 34 SR 537]

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64; 326B.02; 326B.101; 326B.106; 326B.13*

History: *29 SR 299; L 2007 c 140 art 4 s 61; art 13 s 4; 34 SR 537; 39 SR 690; 44 SR 1085*

Published Electronically: *April 22, 2020*