

**~~2019~~ 2021 DENVER AMENDMENTS  
TO THE ~~2018~~ 21 EDITION OF THE  
INTERNATIONAL MECHANICAL  
CODE  
AND APPENDICES AS PUBLISHED  
BY INTERNATIONAL CODE  
COUNCIL (ICC)**

The content of the sections in this Code that begin with a letter or letters designations are maintained by other City or State entities.

[F] Denotes International Fire Code  
[IFCA] Denver Fire Code Amendments to the IFC

## CHAPTER 1 ADMINISTRATION

### SECTION 101 GENERAL

Section 101.1 Title is amended by inserting “City and County of Denver” for the name of the jurisdiction.

Sections 103 through 106, 108 and 109 are replaced in entirety as follows:

The “Administration of the ~~2019~~ 2021 Denver Building Code” provisions shall govern.

**Commented [SM1]:** IMC Chapter 1 added a new 109 Fees; 110 Construction Documents, 111 Notice of Approval, 112 Service Utilities, and 113 Stop Work Orders. So existing 109 for Appeals has moved to 114. Will need to decide if Sections 110-113 need this same standing comment referring to DBC.

## **CHAPTER 3 GENERAL REGULATIONS**

### **SECTION 309 TEMPERATURE CONTROL**

#### **Section 309.2 Outside air is added as follows:**

**309.2 Outside air.** For outdoor air mechanically delivered directly to occupied spaces addressed in 309.1, the space discharge temperature shall not be less than 60 F when heating is required.

## CHAPTER 4 VENTILATION

### SECTION 401 GENERAL

**Section 401.2 Ventilation required is replaced in its entirety as follows:**

**401.2 Ventilation required.** Unless otherwise required by this section every occupied space shall be ventilated by natural means in accordance with Section 402 or by mechanical means in accordance with Section 403. Group R-2, R-3, and R-4 occupancies three stories and less in height above the grade plane shall be ventilated by mechanical means in accordance with Section 403. Ambulatory care facilities and Group I-2 occupancies shall be ventilated by mechanical means in accordance with Section 407.

**Commented [SM2]:** While the IECC changed this section to be more in line with what Denver has going on, this section will likely need to go through the proposal process because it was discussed last year and Denver kept it as is. Not including in baseline.

### SECTION 402 NATURAL VENTILATION

**Section 402.2 Ventilation area required is amended by adding the following:**

If windows used for natural ventilation are required to have window fall prevention devices per Section 1015.8 of the *International Building Code*, only the restricted opening area can be used in the calculation for natural ventilation. The open area of each window and door used for natural ventilation shall be shown on the drawings.

**Section 402.5 Distance to opening is added as follows:**

**402.5. Distance to opening.** Excluding residential occupancies, naturally ventilated spaces shall be permanently open to and within 25 feet (8 meters) of operable openings to the exterior.

### SECTION 403 MECHANICAL VENTILATION

**Section 403.2.1 Item #1 is replaced as follows:**

1. Ventilation shall not be recirculated from one dwelling unit to another. Ventilation air shall not be recirculated between residential and nonresidential occupancies. Ventilation air shall not be recirculated between nonresidential occupancies of dissimilar use.

**Section 403.3 Outdoor air flow rate is amended by adding the following sentence:**

The calculations required by this section shall be provided by the design professional. It is recommended to use the ASHRAE 62.1-2013 spreadsheet.

**Table 403.3.1.1 Minimum ventilation rates is amended by adding the following:**

OCCUPANCY CLASSIFICATION	OCCUPANT DENSITY #/1000 FT <sup>2</sup>	PEOPLE OUTDOOR AIRFLOW RATE IN BREATHING ZONE, R <sub>P</sub>	AREA OUTDOOR AIRFLOW RATE IN BREATHING ZONE R <sub>a</sub> CFM/FT <sup>2</sup>	EXHAUST AIRFLOW RATE CFM/FT <sup>2</sup>
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		CFM/PERSON		
<b>Workrooms</b>				
Service sinks	--	--	--	1.0

**SECTION 404**

**ENCLOSED PARKING GARAGES**

**Section 404.1.1 CO detector limits is added as follows:**

**404.1.1 CO detector limits.** Where the system is arranged to operate automatically upon detection of a concentration of carbon monoxide, the limit shall be set at 25 parts per million (ppm).

**Section 404.1.2 Nitrogen dioxide detector limits is added as follows:**

**404.1.2 Nitrogen dioxide detector limits.** Where the system is arranged to operate automatically upon detection of a concentration of nitrogen dioxide, the limit shall be set at 1 part per million (ppm).

## CHAPTER 5 EXHAUST SYSTEMS

### SECTION 505

#### DOMESTIC KITCHEN EXHAUST EQUIPMENT

##### Section 505.4 Makeup air required is amended by adding an exception:

**Exception:** Make-up air shall not be required when the design professional can demonstrate that the exhaust system will not adversely affect the operation or exhaust of combustion gases of any equipment or appliance within the dwelling unit. This exception does not alleviate the requirement for pressure equalization per Section 501.4 of the *International Mechanical Code*.

##### Section 505.6 Other than Group R is replaced as follows:

**505.6. Other than individual dwelling units.** In other than individual dwelling units, where domestic cooktops, ranges, and open-top broilers are used for domestic purposes, a residential hood that contains a listed UL300A fire suppression system shall be provided. The fire suppression system shall be connected to the fire alarm system in building that have a fire alarm.

##### Section 505.7 Residential cooking appliances vented by exhaust hoods is added as follows:

**Section 505.7 Residential cooking appliances vented by exhaust hoods.** Where residential cooking appliances are gas-fired, a fan powered exhaust system shall be installed and must be vented to the outside. System shall be sized and installed in accordance with manufacturer's instructions.

### SECTION 506

#### COMMERCIAL KITCHEN HOOD VENTILATION SYSTEM DUCTS AND EXHAUST EQUIPMENT

##### Section 506.5.2 Pollution-control units is amended by adding the following:

16. Where PCU's are installed above the ceiling and/or in return air plenums clearances from combustibles shall be maintained in accordance with the listing. The manufacturer's recommended service clearances shall be provided. The unit shall be installed in accordance with the manufacturer's recommendations and limitations. PCUs installed above a ceiling shall be installed in a rated enclosure unless the associated grease duct is not required by 506.3.11 to be enclosed. Where an enclosure is required, the PCU enclosure shall be of noncombustible construction or gypsum wallboard attached to noncombustible structures forming the enclosure. A clearance per the equipment listing shall be maintained between the enclosure and the PCU.

17. Ductwork downstream of a PCU is considered to be grease duct and shall comply with code sections pertaining to grease duct.

18. The fire protection system installed within the Pollution Control Unit shall provide protection of the component sections of the equipment, and ductwork downstream of the equipment. (NFPA 96 2017 9.3.3).

19. Equipment commissioning reports shall be provided for the PCU.

**Commented [SM3]:** Per staff recommendation June 2021. Should this go through the process or be added to baseline?

**Commented [SM4]:** Renumbered for deletion of 18

20. Where a PCU enclosure is required, the construction documents shall include details showing:

- A. The construction of the pollution control unit enclosure and the UL designation number of the construction.
- B. Clearances between the PCU and the enclosure.
- C. Service access clearances.
- D. Duct wrap penetration and sealing at the PCU enclosure.
- E. Support and anchoring methods for the enclosure and the PCU.
- F. Access fire door size, type, rating, location, and UL listing.
- G. Where the PCU manufacturer requires a service platform or a service platform is provided, provide stamped calculations and details of the platform construction including handrails and how the platform is anchored.

**Section 506.3.11 is amended by adding an exception:**

**Exception 2.** A duct enclosure shall not be required for a grease duct that penetrates only an exterior wall and all of the following are true:

- 1. The grease duct does not penetrate, or pass through openings, gaps, or holes in rated or non-rated interior walls or shafts.**
- 2. The grease duct does not leave the tenant boundary.**
- 3. The grease duct shall be permitted to penetrate a non-fire-resistance-rated ceiling.**

**Section 506.3.13.2 Termination through an exterior wall is amended by adding the following sentence:**

**Exhaust outlets shall be permitted to terminate through exterior walls when a pollution-control unit is used. The pollution control unit shall have 95% efficiency at the particle size of .3 microns in accordance with ASHRAE Standard 52.2 or equivalent.**

**Section 506.5.2 Pollution-control units is amended by adding the following:**

5. Where PCU's are installed above the ceiling and/or in return air plenums the manufacturer's recommended service clearances and clearances from combustibles shall be maintained. The unit shall be installed in accordance with the manufacturer's recommendations and limitations. PCUs installed above a ceiling shall be installed in a rated enclosure unless the associated grease duct is not required by 506.3.11 to be enclosed. Where an enclosure is required, the PCU enclosure shall be of noncombustible construction or gypsum wallboard attached to noncombustible structures forming the enclosure. A clearance of not less than 6 inches (152mm) shall be maintained between the enclosure and the PCU. (*International Mechanical Code* 506.3.11.1)
6. Ductwork downstream of a PCU is considered to be grease duct and shall comply with code sections pertaining to grease duct.
7. Where an enclosure is not required for the PCU, PCU's shall have a clearance to combustible construction of not less than 18 inches (457mm) and shall have a clearance to noncombustible construction and gypsum wallboard attached to noncombustible structures of not less than 3 inches

- (76mm).
8. The fire protection system installed within the Pollution Control Unit shall provide protection of the component sections of the equipment, and ductwork downstream of the equipment. (NFPA 96 2017 9.3.3).
  9. Equipment commissioning reports shall be provided for the PCU.
  10. Where a PCU enclosure is required, the construction documents shall include details showing:
    - A. The construction of the pollution control unit enclosure and the UL designation number of the construction.
    - B. Clearances between the PCU and the enclosure.
    - C. Service access clearances.
    - D. Duct wrap penetration and sealing at the PCU enclosure.
    - E. Support and anchoring methods for the enclosure and the PCU.
    - F. Access fire door size, type, rating, location, and UL listing.
    - G. Where the PCU manufacturer requires a service platform or a service platform is provided, provide stamped calculations and details of the platform construction including handrails and how the platform is anchored.

## **SECTION 513**

### **SMOKE CONTROL SYSTEMS**

**Section 513 Smoke control systems is amended by adding the following sentence:**

All sections that begin with the letter [F] designation shall be coordinated with Section 909 of the *International Fire Code*.



## **CHAPTER 6 DUCT SYSTEMS**

### **[B] SECTION 607**

#### **DUCT AND TRANSFER OPENINGS**

**Section 607.3.1 Damper testing is amended by adding the exception as follows:**

**Exception:** When the fans associated with heating, ventilation, and air-conditioning systems are interlocked to shut down during a fire, then ceiling radiation dampers that have not been labeled for use within dynamic systems can be used within the associated systems.

**Section 607.5.5 Shaft enclosures is amended by deleting Exception 1.3 and Exception 4.**

**CHAPTER 9**  
**SPECIFIC APPLIANCES, FIREPLACES AND SOLID FUEL-BURNING**  
**EQUIPMENT**

**SECTION 901**  
**GENERAL**

**Section 901.5 Wood-burning appliances is added as follows:**

**901.5 Wood-burning appliances.** Installation of new factory-built wood-burning appliances is restricted to certified wood stoves as approved by the Environment Protection Agency. Appliances shall be listed by an *approved* testing agency. If a wood-burning appliance is not on the EPA *approved* list, it cannot be installed unless it is converted to a gas log fireplace in accordance with the requirements of Chapter 6 of the *International Fuel Gas Code*.

**SECTION 903**  
**FACTORY-BUILT FIREPLACES**

**Section 903.5 EPA certification is added as follows:**

**903.5 EPA certification.** Installation of new factory-built wood-burning appliances is restricted to certified wood stoves as approved by the Environmental Protection Agency. Appliances must be listed by an *approved* testing laboratory. If a wood-burning appliance is not on the EPA approved list, it cannot be installed unless it is converted to a gas log fireplace in accordance with the requirements of Section 903.3 of the *International Mechanical Code* and Section 602 of the *International Fuel Gas Code*.

**SECTION 910**  
**FLOOR FURNACES**

**Section 910 Floor furnaces is deleted in its entirety.**



## CHAPTER 11 REFRIGERATION

### SECTION 1107

#### REFRIGERANT PIPING

Section **1107.9** Termination of relief devices is added as follows:

**1107.9 Termination of relief devices.** Pressure-relief devices and fusible plugs on any system containing a group A3 or B3 refrigerant; on any system containing more than 6.6 lbs. of a group A2, B1, or B2 refrigerant; and on any system containing more than 110 lbs. of a group A1 refrigerant shall discharge to the atmosphere at a location not less than 15' above adjoining ground level and not less than 20' from any window, ventilation opening, or exit in any building. The discharge shall terminate in a manner that will prevent the discharged refrigerant from being sprayed directly on personnel in the vicinity and foreign material or debris from entering the discharge piping. Discharge piping connected to the discharge side of a fusible plug or rupture member shall have provisions to prevent plugging the pipe in the event the fusible plug or rupture member functions.

**Commented [SM5]:** This section now 1109. Two new sections added for 1107 and 1108.

**INTERNATIONAL MECHANICAL CODE APPENDICES  
STATUS OF ADOPTION FOR APPENDICES**

~~Appendix A is adopted.~~

~~Appendix B is deleted.~~

~~Appendix C is deleted.~~

Appendices are Added, Adopted, Adopted as Amended, or Not Adopted as part of this Code as noted in Appendix Adoption Table 1 of the *International Mechanical Code*. Provisions in Appendices that are Added, Adopted, or not-deleted Adopted as Amended carry the full weight and mandatory enforceability of the Code.

**TABLE 1  
INTERNATIONAL MECHANICAL CODE APPENDIX ADOPTION**

APPENDIX	TITLE	STATUS
A	Chimney Connector Pass-Throughs	<u>Adopted</u>
B	Recommended Permit Fee Schedule	<u>Not Adopted</u>
C	Board of Appeals	<del>Deleted</del> - <u>Not Adopted</u>

**Commented [SM6]:** New appendix C Board of Appeals needs to likely be deleted.