

2006 IMC Committee Review

RBC304.1 SHORT TITLE. This section will be known and cited as the Mechanical Code.

RBC304.2 SCOPE. The Mechanical Code shall regulate the design, installation, maintenance and alteration of mechanical systems that are permanently installed and utilized to provide control of environmental conditions and related processes within buildings. This Code shall also regulate those mechanical systems, system components, equipment and appliance specifically addressed therein. The installation of fuel gas distribution piping and equipment, fuel gas-fired appliances and fuel gas-fired appliance venting systems shall be regulated by the *International Fuel Gas Code*.

RBC304.3 CODES ADOPTED BY REFERENCE.

There is hereby adopted by reference the International Mechanical Code of the International Code Council, 4051 West Flossmoor Road, Country Club Hills, IL 60478-5795, 2003 Edition. Three (3) copies of the Code are now filed in the office of the Clerk of the Jurisdiction and may be inspected during regular business hours. The above Code is being adopted as if set out at length, to include Appendix A, except the following sections which are declared to be inapplicable and are therefore expressly deleted:

1. Chapter 1, Administration
2. Chapter 7, Combustion Air, except Section 701
3. Chapter 13, Fuel Oil Piping and Storage
4. Chapter 14, Solar Systems
5. Appendix B, Recommended Permit Fee Schedule

RBC304.4 ADDITIONS AND MODIFICATIONS.

The adopted Code is subject to the following additions and modifications:

RBC101.4.1 Section 202. Delete the last sentence of the definition of "Commercial Cooking Appliances" and replace with the following:

For the purpose of this definition, a food service establishment shall include any building or a portion thereof used for the preparation and serving of food, requiring a license from the El Paso County Health Department.

~~**RBC101.4.2 Section 202.** Insert the following definitions:~~

~~**ENVIRONMENTAL AIR DUCT.** An environmental air duct is ducting used for conveying air at temperatures not exceeding 250°F (121°C) to or from an occupied area of any occupancy through other than heating or air-conditioning systems, such as ventilation for human usage, domestic kitchen range exhaust,~~

~~bathroom exhaust ducts, and domestic type clothes dryer exhaust ducts.~~

~~**FIRE DAMPER.** A listed device installed in ducts and air transfer openings of an air distribution system, and designed to close automatically upon detection of heat to interrupt migratory air flow and restrict the passage of flame. Fire dampers are classified for use in either static systems that will automatically shut down in the event of fire, or in dynamic systems that continue to operate during a fire. A dynamic damper is tested and rated for closure under airflow.~~

PRODUCT CONVEYING DUCT. A product conveying duct is ducting used for conveying solid particulates, such as refuse, dust, fumes and smoke; liquid particulate matter, such as spray residue, mists and fogs; vapors, such as vapors from flammable or corrosive liquids; noxious and toxic gases; and air at temperatures exceeding 250°F (121°C).

~~**RBC101.4.3 Section 202.** Delete the definition of "smoke damper" and replace with the following:~~

~~**SMOKE DAMPER.** A listed device installed in ducts and air transfer openings that are designed to resist the passage of air and smoke. The device is installed to operate automatically, controlled by a smoke detection system, and where required, is capable of being positioned from a remote command station.~~

~~**RBC101.4.4 Section 202.** Add the following to the definition of "Unconfined space":~~

~~Rooms communicating directly with the space in which the appliances are installed, through openings not less than 200 square inches (1,290 cm²) in net free area and not furnished with doors, are considered a part of the unconfined space.~~

~~**RBC101.4.5 Section 301.1.** Delete and replace with the following:~~

~~This chapter shall govern the approval and installation of all equipment and appliances that comprise parts of the building mechanical systems regulated by this Code.~~

~~**RBC101.4.6 Section 301.4.** Delete and replace with the following:~~

~~All appliances regulated by this Code shall be listed or labeled, unless otherwise approved.~~

~~**RBC101.4.7 Section 303.3. Exception 1.** Delete and replace with the following:~~

~~1. Direct vent and electric appliances.~~

RBC101.4.8 ~~Section 303.3, Exception 2.~~ Delete "Solid fuel-fired" and replace with "Fuel-fired".

RBC101.4.9 ~~Section 303.3, Exception 3.~~ In the first sentence, delete "Section 703" and replace with "Section 304.6 of the International Fuel Gas Code, 2003 Edition". Delete exceptions 1,2,3 and replace with the following **Exceptions:**

1. Direct-vent appliances installed in accordance with the conditions of its listing and the manufacturer's instructions.
2. Vented room heaters, wall furnaces, vented gas fireplaces, vented gas fireplace heaters and vented decorative appliances for installation in vented solid fuel-burning fireplaces are installed in rooms that meet the required volume criteria of Section 304.5 of the International Fuel Gas Code, 2006 edition.
3. Appliances installed in a room or space that opens only into a bedroom or bathroom, such room or space is used for no other purpose and is provided with a solid weather-stripped door equipped with an approved self-closing device. All combustion air shall be taken directly from the outdoors in accordance with Section 304.6 of the International Fuel gas Code, 2006 edition.

RBC101.4.10 **Section 304.3.** Add the following exception:

Exception: Appliances in a dedicated enclosure in which all combustion air is taken directly from the outdoors, in accordance with Section 304.6 of the International Fuel Gas Code, 2006 Edition. Access to this enclosure shall be through a solid door, weather stripped in accordance with the exterior door air leakage requirement of the International Energy Conservation Code and equipped with an approved self-closing device.

RBC101.4.11 **Section 304.4.** Delete this section through 304.4.3.

~~**RBC101.4.11** **Section 304.5, Exception.** Delete "Section 304.3 and NFPA 88B" and replace with "the exception to Section 304.3 of the International Mechanical Code, 2003 Edition".~~

~~**RBC101.4.11** **Section 304.6, Exception.** Delete "Section 304.3" and replace with "the exception to Section 304.3 of the International Mechanical Code, 2003 Edition".~~

RBC101.4.12 **Section 304.8.** Add the following exception:

Exception: A floor-mounted doorstep, permanently attached to the building structure, may be used to maintain clearance to a combustible door.

RBC101.4.14 **Section 304.9.** Equipment and appliances installed at grade level shall be supported on a level concrete slab or other approved materials extending a minimum of 3 inches (76.2 mm) above adjoining grade or shall be suspended a minimum of 6 inches (152.4 mm) above adjoining grade.

RBC101.4.13 **Section 305.** Delete title and replace with the following:

SECTION 305

Piping and Appliance Support

RBC101.4.14 **Section 305.5.** Delete the last sentence and replace with the following:

Protective shield plates shall be a minimum of 0.062 inch (1.6 mm) thick steel and shall cover the area of the pipe where the member is notched or bored.

RBC101.4.15 **Section 305.6.** Insert a new section as follows:

305.6 Specific Provisions. Appliances and equipment shall be supported by substantial bases or hangers capable of supporting the loads to which they will be subjected as determined by the Commercial Building Code. Stationary equipment shall be fixed in position by substantial means which will prevent its incidental displacement. The restraint shall accommodate both of the vertical and lateral loads including, where applicable, wind, snow and seismic as required by the International Building Code. Piping, electrical conduit, ductwork, vents and the like shall not be used to provide support of restraint or equipment. Where other portions of this Code or provisions of the International Building Code require non-combustible construction or supports, non-combustible materials shall also be used to meet the requirements of this section.

~~**RBC101.4.16** **Section 306.1.** ~~After the second sentence insert the following:~~Add the following:~~

Unless otherwise specified, not less than 30 inches (762 mm) in depth, width and height of working space and platform shall be provided to service the appliance.

RBC101.4.17 **Section 306.1.1. Exception.** Delete and replace with the following:

Exception: Replacement appliances or air conditioning cooling coils may be installed in an existing compartment, alcove or room with lesser width and depth when approved by the Building Official and provided that the width and depth are adequate to service or replace the unit and are in compliance with conditions of listing.

~~**RBC101.4.18** **Section 306.3.** Add the following exception:~~

~~2.—Where the passageway is not less entire length, the passageway shall not be limited in length than 6 feet (1,828.8 mm) high for its:~~

RBC101.4.19 Section 306.4. ~~Add the following after the exception:~~ Add exception 3

3. Access to appliances installed in under floor spaces shall not be through a garage unless the installation complies with Exception 3 of Section 303.3 of the International Mechanical Code, 2006 Edition.

RBC101.2.21 Section 306.4. ~~Add the following exception:~~

~~2.—Where the passageway is not less than 6 feet (1,828.8 mm) in height for its entire length, the passageway shall not be limited in length.~~

RBC101.4.20 Section 306.5. Item 1. ~~Delete and replace with the following:~~

~~1.—The side railing shall extend above the parapet or roof edge not less than 30 inches (762 mm) except at an interior roof hatch.~~

RBC101.4.21 Section 306.7. ~~Insert a new section as follows:~~

~~**306.7 Electrical requirements.** A receptacle outlet shall be provided at or near the equipment location in accordance with the National Electrical Code.~~

RBC101.4.22 Section 307.2.2. ~~Delete and replace with the following:~~

~~**307.2.2 Drain pipe materials and sizes.** Components of the condensate disposal system shall be cast iron, galvanized steel, copper, cross-linked polyethylene, polybutylene, polyethylene, ABS, CPVC or PVC pipe or tubing. All components shall be selected for the pressure and temperature rating of the installation. Condensate waste and drain line size shall be not less than 3/4 inch (19 mm) internal diameter and shall not decrease in size from the drain pan connection to the place of condensate disposal. Where the drainpipes from more than one unit are manifolded together for condensate drainage, the pipe or tubing shall be sized in accordance with Table 307.2.2 below.~~

~~**Table 307.2.2. Condensate Drain Sizes**~~

Tons of Refrigeration	Size of Drain
Up to 20	3/4 inch
Over 20 to 40	1 inch
Over 40 tons to 90	1 1/4 inch
Over 90 tons to 125	1 1/2 inch
Over 125 tons to 250	2 inch

~~For SI: 1 inch = 25.4 mm~~

~~All horizontal sections of drain piping shall be installed in uniform alignment at a uniform slope of 1/4 unit vertical in 12 units horizontal (2 percent).~~

RBC101.4.23 Section 307.2.3. ~~Add an exception as follows:~~ Add the following exceptions:

1. Fuel-fired appliances that automatically shut down operation in the event of a stoppage in the condensate drainage system.
2. A secondary or auxiliary drain pan is not required for a cooling or evaporative coil located above a non-rated suspended acoustical ceiling.

~~**Exception:** A secondary or an auxiliary drain pan is not required for a cooling or evaporative coil located above a non-rated suspended acoustical ceiling.~~

RBC101.2.25 Section 401.4.1 Delete the last sentence and replace with the following:

Where a source of contaminant is located within 10 feet (3048 mm) horizontally of an intake opening, such opening shall be located 3 feet (610mm) below the contaminant source.

RBC101.2.27 Section 401.5.1. ~~Delete "2 feet (609.6 mm)" and replace with "3 feet (914.4 mm)" at the end of the section.~~

RBC101.2.28 Section 403.2.1 Delete item 4.

RBC101.4.24 Section 403.3. Add the following exception: **LEAVE THESE SECTIONS FOR 2009**

2. Ventilation rates may be calculated in accordance with the American Society of Heating, Refrigeration and Air-Conditioning Engineers (ASHRAE) Standard 62-2001, Addendum N when accompanied with the approved ASHRAE spreadsheet.

RBC101.4.25 Table 403.3. Insert a footnote to the end of the table as follows:

- h. For intermittent or variable occupancy, where peak occupancies of less than three (3) hours duration occur, the outdoor airflow rate may be determined on the basis of average occupancy for the spaces for the duration of operation of the system, provided the average occupancy used is not less than one half the maximum.

RBC101.4.26 Table 403.3. Apply footnote "h" to the following occupancy classifications:

- Education** – Auditoriums ^h
- Hotels, Motels, Resorts, Dormitories** - Assembly rooms ^h and Conference rooms ^h
- Offices** - Conference rooms ^h and Reception areas ^h
- Theaters** - Lobbies ^h and Stages, studios ^h
- Transportation** - Waiting rooms ^h

RBC101.4.27 Table 403.3. Delete "20" and replace with "15" under the "outdoor air" column for the following occupancy classifications:

- Hotels, Motels, Resorts, Dormitories** - Conference rooms

Offices - Conference rooms

RBC101.4.28 Table 403.3. Insert a new occupancy classification to the beginning of the table as follows:

Churches -

Activities unit ^h	120	15
Worship places ^h	120	15

RBC101.4.29 Section 403.3.2.1. Insert a new section as follows:

403.3.2.1 Enrichment. For multiple spaces served by a common space conditioning system or multiple systems interconnected by a common return air plenum, required outdoor air quantity delivered by the space conditioning system(s) may be determined by the sum of the required outdoor air flows to each space using the full occupant loading in Table 403.3 of the International Mechanical Code, 2003 Edition for each space provided:

1. The total amount of outdoor air delivered by the space conditioning system(s) to all spaces is at least as large as the sum of the space design quantities.
2. Each space always receives supply airflow, including re-circulated air and/or transfer air, no less than the calculated outdoor airflow.
3. When using transfer air, none of the spaces from which air is transferred can have any unusual sources of contaminants.

This section may not be used in conjunction with footnote "h" of Table 403.3 of the International Mechanical Code, 2003 Edition.

RBC101.4.30 Section 403.3.3.1. Insert a new section as follows:

403.3.3.1 outdoor air at any given time may vary from the flow required by Section 403.3 of the International Mechanical Code, 2003 Edition, provided that a CO₂ sensor in the main return air duct, located upstream of the outside air intake and after connection of all air inlets, maintains an indoor concentration of not greater than 800 PPM.

Exception: An engineered system designed to ensure the indoor CO₂ concentration is not greater than 700 PPM above the outdoor CO₂ concentration, provided that the system is equipped with a device to monitor the CO₂ concentration differential. **Sensors.** For constant or variable air volume systems, the flow of

RBC101.4.31 Section 403.3.4. Delete the last sentence and add the following:

Balancing shall be performed by a certified test and balance contractor and verify that the ventilation system is supplying the airflow rates

required by Section 403 of the International Mechanical Code, 2003 Edition.

RBC101.4.32 Section 403.3.4. Add the following exception:

Exception: Dwelling units

~~**RBC101.4.33 Section 404.2.** Add the following exception:~~

~~**Exception:** The Building Official may approve an alternate ventilation system designed to exhaust a minimum of 14,000 cubic feet per minute (396,461 L/m) for each operating vehicle. This system shall be based on the anticipated instantaneous movement rate of vehicles, but not less than two and one half percent (2.5%) (or one vehicle) of the garage capacity. Automatic carbon monoxide sensing devices may be employed to modulate the ventilation system to maintain a maximum average concentration of carbon monoxide of 50 PPM during any eight (8) hour period, with a maximum concentration not greater than 200 PPM for a period not exceeding one hour.~~

RBC101.4.34 Section 501.2. Add the following:

Bathroom moisture exhaust ducts shall be insulated with a minimum insulating value of R-6 when located outside the building envelope and be limited to a maximum of 25 feet (7620 mm) in length.

RBC101.2.34 Section 501.2.1. Delete items 1,2,3,4 and replace with the following:

1. For ducts conveying explosive or flammable vapors, fumes or dusts: 30 feet (9144mm) from property lines; 10 feet (3048 mm) horizontally from or 3 feet (914mm) above operable openings into buildings; 6 feet (1829mm) from exterior walls and roofs; 30 feet (9144mm) from combustible walls and operable openings into buildings which are in the direction of the exhaust discharge; 10 feet (3048 mm) above adjoining grade.
2. For other product- conveying outlets: 10 feet (3048 mm) from property lines; 3 feet (914mm) from exterior walls and roofs; 10 feet (3048 mm) horizontally from or 3 feet (914mm) above operable openings into buildings; 10 feet (3048 mm) above adjoining grade.
3. For environmental air duct exhaust 3 feet (914mm) from property lines; 3 feet (914mm) from operable openings into buildings for all occupancies other than Group U.

RBC101.4.35 Section 504.3. Delete.

RBC101.4.36 Section 504.5. Delete the last sentence and replace with the following:

Where a closet is designed for the installation of a clothes dryer, an opening having a net free area of not less than 100 square inches (645 cm²) shall be provided in the closet enclosure communicating with an area of at least 500 square feet (46.5 m²).

RBC101.4.37 Section 504.6.1. Delete and replace with the following:

Maximum Length. The maximum length of a clothes dryer exhaust duct shall not exceed 35 feet (10668 mm) from the dryer location to the outlet terminal. The maximum length of the duct shall be reduced 2 ½ feet (762 mm) for each 45 degree (0.79 rad) bend and 5 feet (1524 mm) for each 90 degree (1.6 rad) bend. The maximum length of the exhaust duct does not include the transition duct.

RBC101.4.38 Section 506.3.8.1. Delete the first sentence and replace with the following:

Where ductwork exceeds 9 square feet (8,361 cm²) in cross-sectional area, and the least dimension is 36 inches (914.4 mm) or greater, not less than one approved or listed opening have dimensions not less than 20 inches (508 mm) shall be provided in horizontal sections and in the top of vertical risers.

RBC101.4.39 Section 506.3.10. Delete the last two sentences and replace with the following:

Clearance from the duct to the interior surface of enclosures of noncombustible construction or gypsum wall board attached to noncombustible structures shall be not less than 3 inches (76 mm). The interior dimensions of the duct enclosure shall not be increased more than 6 inches (152 mm) on each side, than the duct enclosure shall only serve a single grease exhaust duct system and shall not contain any other ducts, piping, wiring or systems.

~~**RBC101.4.40 Section 506.3.10.** Add the following:~~

~~The interior dimensions of the duct enclosure shall not be increased more than 6 inches (152.4 mm) on each side, than the dimensions stated above.~~

RBC101.4.41 Section 506.3.10. Delete Exception 3.

RBC101.4.42 Section 507.2.2. Add an exception as follows:

3. Non-grease or smoke producing cooking appliances that do not exceed 20,000 BTU (5,860 W) input.

RBC101.4.43 Section 507.2.3.1. Insert a new section as follows:

507.2.3.1 Non-food service establishment. Domestic cooking appliances used in non-food service establishments shall be provided with a domestic style hood vented to the exterior.

RBC101.4.44 Section 507.3. Delete and replace with the following:

507.3 Fuel-burning appliances. Vented fuel-burning and vented wood-burning appliances shall not be located in the same room or space with a Type I or Type II hood.

Exception: This section shall not apply to any of the following appliances:

1. Direct vent appliances that obtain all combustion air directly from the outdoors;
2. Fuel -burning appliances provided that the room is not a confined space and the building is not of unusually tight construction; or
3. Fuel-burning appliances installed in a dedicated enclosure in which all combustion air is taken directly from the outdoors, in accordance with Section 304.6 of the International Fuel Gas Code, 2006 Edition. Access to this enclosure shall be through a solid door, weather-stripped in accordance with the exterior door air leakage requirements of the International Energy Conservation Code and equipped with an approved self-closing device.

RBC101.4.45 Section 507.16. Delete the second sentence and replace with the following:

The test shall be performed by a certified test and balance contractor and verify that the rate of exhaust air flow required by Section 507.13 of the International Mechanical Code, 2006 Edition, makeup airflow required by Section 508 of the International Mechanical Code, 2006 Edition, and proper operations as specified in this chapter. The permit holder or certified test and balance contractor shall furnish the necessary test equipment and device required to perform the tests.

~~**RBC101.4.46 Section 507.16.1.** Delete.~~

RBC101.4.47 Section 508.1.1. Delete "10 °F (-12.2 °C)" and replace with "20 °F (-6.6 °C)".

~~**RBC101.4.48 Section 508.2.** Add the following:~~

~~A non-listed compensating hood shall extract at least 20 percent of the required exhaust air flow from the kitchen area.~~

RBC101.4.49 Section 512.1. Add the following exception: **ON HOLD, NEED REVIEW BY COMMITTEE.**

Exception: Radon Systems.

RBC101.4.50 Section 601.4 Add the following exception after the first paragraph:

Exception: Environmental air exhaust ducts may extend into or through ducts or plenums if they meet one of the following requirements:

1. The exhaust duct is constructed without joints; or
2. The exhaust duct is serving a fan rated at 150 cfm (2,124 L/m) or less.

~~RBC101.4.51 Section 601.3.1.~~ Insert a new section as follows:

~~601.3.1.~~ Separate environmental exhaust fans may use a common duct system provided each exhaust fan is equipped with a back-draft damper.

~~RBC101.4.52 Section 602.2.1. Exception 3.~~ Delete and replace with the following:

~~3.~~ This section shall not apply to materials exposed within plenums in dwelling units.

~~RBC101.4.53 Section 602.3. Item 1.~~ Delete Item 1 and replace with the following:

~~1.~~ Cavities or spaces shall not be utilized as a plenum for supply air except for cavities between solid floor joists within dwelling units.

~~RBC101.4.54 Section 603.2. Duct sizing.~~

RBC101.4.55 Section 603.6. Delete the last sentence and replace with the following:

Flexible air connectors are prohibited.

RBC101.4.56 Section 603.6.2. Delete.

RBC101.4.57 Section 603.6.3. Delete the words "and flexible air connectors."

RBC101.4.58 Section 603.6.4. Delete the words "and air connector(s)" in both the heading and the section.

RBC101.4.59 Section 603.12. Add an exception as follows:

Exception: Ducts located within dwelling units.

RBC101.4.60 Section 604.2. Delete "120 °F (48.9 °C)" and replace with "140 °F (60 °C)" in both locations.

~~RBC101.4.61 Section 604.7.~~ Delete the first sentence and replace with the following:

~~External duct insulation and factory-insulated flexible duct shall be legibly printed or identified with the name of the manufacturer, the thermal resistance R-value at the specified installed thickness and the flame spread at smoke developed indexes of the composite materials.~~

RBC101.4.62 Section 604.8. Delete the last sentence and replace with the following:

Metal nosings or sleeves shall be installed over exposed duct liner edges that face opposite the direction of airflow immediately downstream of the equipment connection.

Exception: All other exposed edges that face opposite the direction of airflow may be covered with an approved finish.

~~RBC101.4.63 Section 606.4.1. Exception 1.~~ Delete.

RBC101.4.64 Section 607.7. Delete the words "and air connector(s)" in both the heading and the section.

~~RBC101.4.65 Section 607.8.~~ Insert a new section as follows:

607.8 Shaft enclosures. Ducts and air transfer openings shall not penetrate a shaft serving as an exit enclosure except as permitted by Section 1020.5 of the International Building Code, 2003 Edition.

607.8.1. Penetrations of shaft enclosures.

Shaft enclosures that are permitted to be penetrated by ducts and air transfer openings shall be protected with approved fire and smoke dampers installed in accordance with their listing.

Exceptions:

~~1.~~ Fire dampers are not required at penetrations of shafts where:

~~1.1.~~ Steel exhaust sub-ducts extended at least 22 inches (558.8 mm) vertically in exhaust shafts provided there is a continuous airflow upward to the outside; or

~~1.2.~~ Penetrations are tested in accordance with ASTM E 119 as part of the rated assembly; or

~~1.3.~~ Ducts are used as part of an approved smoke control system designed and installed in accordance with Section 909 of the International Building Code, 2003 Edition, and where the fire damper will interfere with the operation of the smoke control system; or

~~1.4.~~ The penetrations are in parking garage exhaust or supply shafts that are separated from other building shafts by not less than 2-hour fire-resistance-rated construction.

~~2.~~ In Group B occupancies, equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 of the International Building Code, 2003 Edition, smoke dampers are not required at penetrations of shafts where:

~~2.1.~~ Bathroom and toilet room exhaust openings with steel exhaust sub-ducts, having a wall thickness of at least 0.019 inches (483 µm) that extend at least 22 inches (558.8 mm) vertically and the exhaust fan at the upper terminus, powered continuously in

accordance with the provisions of Section 909.11 of the International Building Code, 2003 Edition, maintains airflow upward to the outside; or

~~2.2. Ducts are used as part of an approved smoke control system, designed and installed in accordance with Section 909 of the International Building Code, 2003 Edition, and where the smoke damper will interfere with the operation of the smoke control system; or~~

~~3. Smoke dampers are not required at penetration of exhaust of supply shafts in parking garages that are separated from other building shafts by not less than 2-hour fire-resistance-rated construction.~~

RBC101.4.66 Section 701. Delete and replace with the following:

701 Scope. The requirement for combustion and dilution air for fuel burning appliances shall be in accordance with Section 304 of the International Fuel Gas Code, 2006 Edition.

RBC101.4.67 Section 801.10, 801.10.1, 801.10.2 and 801.10.3 Delete.

RBC101.4.68 Section 901.1. Delete “and factory built fireplaces” from end of first sentence.

RBC101.4.69 Sections 901.3 through 905.2. Delete.

RBC101.4.70 Section 910. Delete and replace with the following:

910 Floor furnaces. Floor furnaces are prohibited.

RBC101.4.71 Section 918.2. After the last sentence insert the following:

The net free area of return air openings located in an enclosed basement shall not exceed the net free area of all supply openings located in the same space.

~~**RBC101.4.72 Section 918.6.** Add a new item as follows:~~

~~**7.** Return air shall not be located within 10 feet (3,048 mm) of any fuel-burning appliances~~

Table 1002.1^{1, 3}

Number of bathrooms	1 to 1.5			2 to 2.5				3 to 3.5			
	1	2	3	2	3	4	5	3	4	5	6
Number of bedrooms											
First Hour Rating ²	42	54	54	54	67	67	80	67	80	80	80

Footnotes:

¹The first hour rating is found on the “Energy Guide” label.

²Non-storage and solar water heaters shall be sized to meet the appropriate first hour rating as shown in the table.

³On demand type water heaters shall be sized per manufacturer’s instructions, site specific.

⁴This table only applies to new dwelling units.

firebox or draft hood located in any portion of a building. This distance shall be measured along any path that air may travel such as doors, openings or transfer grilles.

Exception: Buildings constructed prior to the adoption of this Code.

~~**RBC101.4.73 Section 923.1.1.** Delete and replace with the following:~~

~~**923.1.1 Installation.** Kilns shall be listed and installed in accordance with the manufacturer’s listing and installation instructions and the provisions of this Code.~~

RBC101.4.74 Section 1001.1. Exception 7. Delete.

RBC101.4.75 Section 1002.1. Delete and replace with the following:

1002.1 General. The regulations of this chapter shall govern the construction, location and installation of water heaters heating potable water, together with all chimneys, vents and their connectors. The minimum capacity for water heaters shall be in accordance with the first hour rating listed in Table 1002.1 below. The size/capacity of water heaters installed in commercial food processing establishments shall be determined by the El Paso County Health Department. All design, construction and workmanship shall be in conform with to accepted engineering practices, manufacturer’s installation instructions and applicable standards and shall be of such character as to secure the results sought to be obtained by this Code. No water heater shall be hereinafter installed which does not comply in all respects with the type and model of each size thereof approved by the Administrative Authority. The potable water connections and relief valves for all water heaters shall conform to the applicable requirements of Chapter 5 of the International Plumbing Code, 2006 Edition. All water heaters shall be capable of being removed without first removing a permanent portion of a building structure or other installed equipment and appliances.

~~RBC101.4.76 Section 1002.4. Insert a new section as follows:~~

~~1002.4 Clearances. Clearance of listed water heaters from combustible materials shall be as specified in the listing or on the rating plate.~~

RBC101.4.77 Section 1002.5. Insert a new section as follows:

1002.5 Protection from Damage. All water heaters installed in areas where they may be subjected to mechanical damage shall be suitably guarded against damage by being installed behind adequate barriers or by being elevated or located out of the normal path of a vehicle using the garage.

1002.5.1 Support. A water heater supported from the ground shall rest on level concrete or other approved base extending not less than 3 inches (76.2 mm) above the adjoining ground level.

1002.5.2 Pans. When a water heater is located in an attic, attic-ceiling assembly, floor-ceiling assembly, floor-sub-floor assembly, or any wood floor where damage may result from a leaking water heater, a watertight pan of corrosion resistant materials shall be installed beneath the water heater with a minimum 1 ¼" diameter drain to an approved location.

RBC101.4.78 Section 1002.6. Insert a new section as follows:

1002.6. Access and Working Space. Every water heater installation shall be accessible for inspection, repair or replacement, in accordance with this Section and Section 306 of the International Mechanical Code, 2006 Edition. Every attic, roof, mezzanine, or platform more than 8 feet (2,438.4 mm) above the ground or floor level shall be made accessible by a stairway or ladder permanently fastened to the building. This ladder or stairway shall not be more than 18 feet (5,486.4 mm) in length between landings and not less than 14 inches (355.6 mm) in width. The ladder shall have rungs spaced not more than 14 inches (355.6 mm) on center and not less than 6 inches (152.4 mm) from the face of the wall. Each stile is to extend 30 inches (762 mm) above the surface to be reached, or as high as possible, if height is limited. Permanent ladders for water heater access need not be provided at parapets or walls less than 30 inches (762 mm) in height.

Exception: A permanent ladder is not required for water heaters 10 gallons (37.85 L) or less in size, or for water heaters located above a suspended acoustical ceiling when the water heater is supported from the structure above.

RBC101.4.79 Section 1004.1. Add the following exception:

Exception: Listed and approved potable water heaters with a nominal capacity of 120 gallons (454 L) or less, and having a heat input of less than 200,000 BTU/hr (58,600 W) used for hot water supply at pressure of less than 160 pounds per square inch (1.1 MPa) and at temperatures not exceeding 210° F (98.8° C) as regulated by Section 1002 of the International Mechanical Code, 2003 Edition.

RBC101.4.80 Section 1004.3. Delete the last two sentences and replace with the following:

When boilers are installed or replaced, an 18 inch (457.2 mm) minimum clearance, or more as required by the mfg. shall be provided on all sides requiring inspection, maintenance and repair of the boiler.

RBC101.4.81 Section 1006.6. Delete and replace with the following:

~~1006.6 Safety and relief valve discharge. The discharge from relief valves serving boilers with an operating temperature in excess of 212° F (100° C) shall be equipped with a splash shield or centrifugal separator. When the discharge from safety valves would result in a hazardous discharge of steam inside the boiler room, the discharge shall be extended outside the boiler room. A valve of any description shall neither be placed between the safety or relief valve and the boiler, nor on the discharge pipe between the safety valve and the atmosphere. Relief valves shall be provided with a drainpipe, not smaller than the relief valve outlet, of galvanized steel, hard drawn copper piping and fittings, CPVC, or listed relief valve drain tube with fittings which will not reduce the internal bore of the pipe or tubing (straight lengths as opposed to coil) and shall extend from the valve with the end of the pipe not more than 24 inches (609.6 mm) nor less than 6 inches (152.4 mm) above the flood level of the area receiving the discharge and pointing downward. Such drains may terminate at other approved locations. No part of the drainpipe shall be trapped or subject to freezing. The terminal end of the drainpipe shall not be threaded.~~

Requirements for discharge piping. The discharge piping serving a pressure relief valve, temperature relief valve or combination thereof shall:

1. Not be directly connected to the drainage system.
2. Discharge through an air gap located in the same room as the water heater.

3. Not be smaller than the diameter of the outlet of the valve served and shall discharge full size to the air gap.
4. Serve a single relief device and shall not connect to piping serving any other relief device or equipment.
5. Discharge to the floor, to an indirect waste receptor or to the outdoors. Where discharging to the outdoors in areas subject to freezing, discharge piping shall be first piped to an indirect waste receptor through an air gap located in a conditioned area.
6. Discharge in a manner that does not cause personal injury or structural damage.
7. Discharge to a termination point that is readily observable by the building occupants.
8. Not be trapped.
9. Be installed so as to flow by gravity.
10. Not terminate more than 6 inches (152 mm) above the floor or waste receptor.
11. Not have a threaded connection at the end of such piping.
12. Not have valves or tee fittings.
13. Be constructed of those materials listed in Section 605.4 of the 2006 IPC, or materials tested, rated and approved for such use in accordance with ASME A112.4.1.

~~RBC101.4.82 Section 1007.1. Add the following exception:~~

~~**Exception:** A coil-type boiler or a water-tube boiler which requires force circulation to prevent overheating of the coils or tubes shall have a flow sensing device installed in the outlet piping in lieu of a low water cutoff.~~

~~RBC101.4.83 Section 1105.6.3. Item 2. Delete and replace with the following:~~

~~2.—A volume required to limit the room temperature to 104° F (40° C) taking into account the ambient heating effect of all machinery in the room.~~

RBC101.4.84 Section 1108.1 Add Exception 4.

4. Refrigeration systems serving dwelling units, not exceeding 5 tons of refrigeration capacity, field piped using approved factory-charged line sets without joints concealed within building construction, and terminating within 5 feet (1,524 mm) of the coil/condenser.

RBC101.4.85 Section 1109.1. Delete.

~~RBC101.4.86 Section 1205.1. Delete "Shut-off valves" and replace with "Full-way valve."~~

RBC101.4.87 Section 1206.11. Add the following exception:

Exception: Piping located within a dwelling unit.

RBC101.4.88 Section 1208.1. Delete the first sentence and replace with the following:

Hydronic piping systems, other than ground source heat pump loop systems, shall be tested with liquid or air to at least 50 pounds per square inch (345 kPa) greater than the operating pressure.

RBC101.4.89 Section 1208.1.1. Delete the second sentence and replace with the following: **Except for a dwelling,** flow and pressure loss testing shall be performed by a certified test and balance contractor and the actual flow rates and pressure drops shall be compared to the calculated design values.

RBC109.2.4 Mechanical Inspections. The following inspections shall be completed by a mechanical inspector:

1. **Vent.** After all the vents are installed and the roof is in place so that the structure is dried in and before the vents are concealed.
2. **Gas Piping.** After all gas piping has been installed and tested and before it is covered or concealed.
3. **Hydronic Piping.** After all hydronic piping has been installed and tested and before it is covered or concealed.
4. **Refrigeration Piping.** After all refrigeration piping, except for a single line set, has been installed and tested and before it is covered or concealed.
5. **Process Steam and Water Piping.** After the steam and water piping systems that are a part of a heating or cooling system have been installed, tested and before it is covered and concealed.
- ~~6. **Refrigeration Piping.** After all piping and tubing that conveys refrigeration gas has been installed, tested and before it is concealed.~~
7. **LPG (Liquefied Petroleum Gas) Drain.** After the piping is in place and run to daylight, prior to being covered.
8. **Duct.** On all occupancies except one- and two- family dwellings and accessory structures, after the ductwork is in place and before it is concealed.
9. **Residential Rough.** Encompasses all the rough mechanical work within a one- and two- family dwelling and accessory structures. Includes, but is not limited to all gas appliance vents as well as all supply, return and exhaust duct systems. To be accomplished after all work has been completed and the roof is in place so that the structure is dried in and before any work is concealed.

