

510-RICR-00-00-4

## **TITLE 510 – BUILDING CODE COMMISSION**

### **CHAPTER 00 – N/A**

### **SUBCHAPTER 00 – N/A**

#### **PART 4 – RISBC-4 Rhode Island Mechanical Code**

### **4.1 Authority**

The Building Code Standards Committee, in accordance with the rulemaking authority of R.I. Gen. Laws §§ [23-27.3-109.3](#)(a) through (c) inclusive, has formally adopted and promulgated as the Rhode Island State Building Code, the provisions of the International Mechanical Code, 2018<sub>edition</sub>, as published by the International Code Council, Inc. (ICC), together with amendments thereto hereinafter set forth to the articles and sections of this code:

### **4.2 Incorporated Materials**

- A. The provisions of R.I. Gen. Laws Chapter 23-27.3 establishing administration and enforcement are hereby incorporated by reference. § 4.3 of this Part (Chapter 1) immediately follows and is supplemental to the General Laws. Editorial Note: Code users please note:
1. When purchasing or using the International Mechanical Code [2018](#), please take note of the particular printing edition. Errata to that printing edition is available online directly at no charge at [www.iccsafe.org/cs/codes/pages/errata.aspx](http://www.iccsafe.org/cs/codes/pages/errata.aspx) or call the office of the State Building Code Commissioner at [401-889-5550](tel:401-889-5550) for further information.
  2. Printed copies of the administrative and enforcement provisions of R.I. Gen. Laws Chapter 23-27.3 are available at the Office of the State Building Code Commission or online at <http://www.rilin.state.ri.us/Statutes/TITLE23/23-27.3/INDEX.HTM>.
  3. The International Mechanical Code, [2018](#) Edition, is protected by the copyright that has been issued to the ICC. As a result, the State Building Code is not available in complete form to the public in an electronic format. The International Mechanical Code [2018](#) edition that is referred to within is contained in a printed volume and is also in an electronic format that have been published by the ICC under an exclusive license.

## 4.3 Chapter 1

Delete IMC section 101.1, Title, and substitute the following:

101.1 Title. This part shall be known as Rhode Island Mechanical Code Regulation (SBC-4 2021), hereafter referred to as "this code".

Add the following new section 101.1.1 Referenced Codes:

- 101.1.1 Referenced Codes. The other codes referenced elsewhere in this code shall be considered part of the requirements of this code to the prescribed extent of each such reference.
1. Electrical. The provisions of Rhode Island State Electrical Code SBC-5 2021, ([Part 5 of this Subchapter](#)), shall apply wherever referenced in this code as the ICC Electrical Code, and shall apply to the installation of electrical systems, including alterations, repairs, replacement, equipment, appliances, fixtures, fittings, and appurtenances thereto.
  2. Gas. The provisions of the Rhode Island State Fuel Gas Code SBC-19 2021, ([Part 19 of this Subchapter](#)), shall apply wherever referenced in this code as the International Fuel Gas Code, and shall apply to the installation of gas piping from the point of delivery, gas appliances and related accessories as covered in this code. These requirements apply to gas piping systems extending from the point of delivery to the inlet connections of appliances and the installation and operation of residential and commercial gas appliances and related accessories.
  3. Building. The provisions of the Rhode Island State Building Code SBC-1 2021, ([Part 1 of this Subchapter](#)), shall apply wherever referenced in this code as the International Building Code.
  4. Plumbing. The provisions of Rhode Island State Plumbing Code SBC-3 2021, ([Part 3 of this Subchapter](#)), shall apply wherever referenced in this code as the International Plumbing Code, and shall apply to the installation, alteration, repair and replacement of plumbing systems, including equipment, appliances, fixtures, fittings and appurtenances, and where connected to a water or sewage system and all aspects of a medical gas system.
  5. Property Maintenance. The provisions of the Rhode Island State Property Maintenance Code SBC-6 2021, ([Part 6 of this Subchapter](#)), provides requirements for continued use and maintenance buildings and property, and of related plumbing, mechanical, electrical and fire protection systems in existing residential nonresidential structures.

6. Fire Prevention Code. Wherever and whenever provisions of the International Fire Code 2018 editions are referenced, the appropriate Rhode Island Fire Code ([450-RICR-00-00-1 through 10](#)) requirement shall apply.
7. Energy. The provisions of the Rhode Island State Energy Code SBC-8 2021, ([Part 8 of this Subchapter](#)), shall apply wherever referenced in this code as International Energy Conservation Code, and shall apply to the installation, alteration repair and replacement of energy systems and all matters governing the design and construction of buildings for energy efficiency.
- 8 Swimming Pool and Spa Code

The Provisions of the Rhode Island Swimming Pool and Spa Code SBC-14-2021 (Part [14](#) of this Subchapter) shall apply whenever referenced in this code the International Swimming Pool and Spa Code and shall apply to matters governing the design and construction of swimming pools and spas.

Any and all such references to the various International Code Council family of codes shall be substituted for the appropriate state code as indicated above.

All other Administrative provisions shall remain in effect. To the extent that there is an apparent conflict between the provisions of these administrative sections and R.I. Gen. Laws § 23-27.3-101.0 *et al.*, the provisions of State law shall prevail. Where other provisions of this code refer to provisions of § 4.3 of this Part (Chapter 1 Administration) or R.I. Gen. Laws Chapter 23-27.3 shall apply as appropriate.

Delete IMC sections 102.8 Exception, 102.10, 102.11, 103, 104, 106.4 through 106.5.3, 108 and 109 and refer to the appropriate sections of [Part 1 of this Subchapter](#) and R.I. Gen. Laws Chapter 23-27.3.

102.1.1 Contractor's responsibilities. It shall be the duty of every contractor who enters into contracts for the installation or repair of mechanical systems for which a permit is required to comply with adopted State and local Rules and Regulations concerning licensing.

Any building owner, authorized agent, person or contractor who installs, modifies or repairs mechanical systems for which a permit is required shall comply with all State laws and Regulations regarding licensing.

## **4.4 Chapter 3**

307.2 Exception: Deleted in Rhode Island.

307.3 Deleted in Rhode Island.

## **4.5 Chapter 5**

504.8.5 Length Identifications The maximum length of dryer duct may exceed thirty-five feet (35') when a permanent placard, measuring a minimum five inches (5") wide, three inches (3") high, and one eighth of one inch (1/8") thick, and constructed of either wood, metal, or rigid plastic, and bearing raised or embossed lettering stating the following: "WARNING: THE EFFECTIVE LENGTH OF THIS DRYER DUCT IS xxx FEET. ANY DRYER CONNECTED TO THIS EXHAUST DUCT MUST BE RATED TO USE AN EXHAUST DUCT OF THIS LENGTH, PER THE MANUFACTURERS SPECIFICATIONS; SEVERE RISK OF FIRE MAY RESULT FOR NONCOMPLIANCE WITH THIS NOTICE."

The provisions of table 504.6.4.1 shall be used in establishing the effective length of the ductwork installed and noted on the placard. The placard shall be permanently attached to the wall or floor within six inches (6") of the terminus of the duct.

## **4.6 Chapter 6**

603.2 Duct sizing Delete and substitute the following:

603.2 Duct sizing ducts installed within a single dwelling unit shall be sized in accordance with ACCA Manual D or other approved methods. Ducts installed within all other buildings shall be sized in accordance acceptable methods.

606.2.1 Delete and substitute the following:

606.2.1 Return air systems smoke detectors listed for use in air distribution systems shall be located as follows:

- (1) Downstream of the air filters and ahead of any branch connections in air supply systems having a capacity greater than 944 L/Sec (2000 ft<sup>3</sup>/min)
- (2) At each story prior to the connection to a common return and prior to any recirculation or fresh air inlet connection in air return systems having a capacity greater than 7080 L/sec (15,000 ft<sup>3</sup>/min) and serving more than one (1) story.

Revise section 607.5.5 as follows:

607.5.5 Shaft Enclosures: Shaft enclosures in use group I and in high-rise structures 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. All other use group shaft enclosure penetrations

shall be protected with approved fire dampers installed in accordance with their listing.

Retain sections 1, 1.1, 1.2, 1.3, 1.4 and delete exceptions 2, 3, 4 and 5.

## **4.7 Chapter 10**

Add Exception #8 to IMC section 1001.1 as follows:

8. Permits for steam and water boiler installation and repairs of boilers over 200,000 BTUs for commercial uses and 400,000 BTUs for private residences or apartments shall be issued by the Department of Labor, Division of Occupational Safety, Boiler Unit.

1003.1 General delete and substitute:

1003.1 General All pressure vessels shall bear the label of an approved agency and shall be installed in accordance with the manufacturer's installation instruction.

## **4.8 Chapter 11**

Add the following new section 1101.1:

1101.1 "Prohibited Connections" The uses of potable water as an open loop, single pass heat exchange fluid for the refrigeration cycle of HVAC equipment is prohibited.

Delete IMC section 1105.3 and substitute the following:

1105.3 Refrigerant detector: Machinery rooms shall contain a refrigerant detector with an audible and visual alarm. The detector, or a sampling tube that draws air to the detector, shall be located in an area where refrigerant from leak will concentrate. The alarm shall be actuated at value not greater than the corresponding TLV-TWA values shown for the refrigerant classification. Detectors and alarms shall be placed in approved locations.

Delete IMC section 1105.3 and substitute the following:

1105.9 Emergency pressure control system. Refrigeration systems containing more than 6.6 pounds (93kg) of flammable, toxic or highly toxic refrigerant or ammonia shall be equipped with an emergency pressure control system in accordance with sections 1105.8.1.1 and 1105.8.2.

1105.9.1 Automatic crossover valves. Each high and intermediate pressure zone in a refrigeration system shall be provided with a single automatic valve providing a crossover connection to a lower pressure zone. Automatic crossover valves shall comply with sections 1105.8.1.1 through 1105.8.1.3.

1105.9.1.1 Overpressure light setpoint. Automatic crossover valves shall be arranged to automatically relieve excess system pressure to a lower pressure zone if the pressure in a high-or intermediate-pressure zone rises to within fifteen (15) psi (108.4 kPa) of the setpoint for emergency pressure-relief devices.

1105.9.1.2 Manual operation. When required by the fire code official, automatic crossover valves shall be capable of manual operation.

1105.9.1.3 System design pressure. Refrigeration system zones are connected to a higher-pressure zone by an automatic crossover valve shall be designed to safely contain the maximum pressure that can be achieved by interconnection of the two (2) zones.

1105.9.2 Automatic emergency stop. An automatic emergency stop feature shall be provided in accordance with section 1105.9.2.1 and 1105.9.2.2

1105.9.2.1 Operation of an automatic crossover valve. Operation of an automatic crossover valve shall cause all compressors on the effected system to immediately stop. Dedicated pressure-sensing devices located immediately adjacent to crossover valves shall be permitted as a means for determining operation of a valve. To ensure that the automatic crossover valve system provides a redundant means of stopping compressors in an over pressure condition, high-pressure cutout sensors associated with compressors shall not be used as a basis for determining operation of a crossover valve.

1105.9.2.2 Overpressure in low-pressure zone. The lowest pressure zone in a refrigeration system shall be provided with a dedicated means of determining a rise in system pressure to within fifteen (15) psi (103.4 kPa) of the setpoint for emergency pressure-relief devices. Activation of the overpressure sensing device shall cause all compressors on the effected system to immediately stop.

## **4.9 Chapter 12**

Table 1202.4 Delete without substitution:

Lead Pipe FS WW-P-325B

Delete IMC section 1208.1.1 and substitute the following:

1208.1.1 Ground source heat pump loop systems. Before connection (header) trenches are backfilled, the assembled loop system shall be pressure tested with water at one hundred (100) psi (689 kPa) for thirty (30) minutes with no observed leaks. Flow pressure loss testing shall be performed, and the actual flow rates and pressure drops shall be compared to the calculated design values. If actual flow rate or pressure differs from calculated design values, the designer of record shall identify the problem and order corrections as required.

## **4.10 Chapter 13**

Add the following new section 1301.2.1:

1301.2.1 Maximum inside fuel oil storage. Where connected to a fuel-oil piping system, the maximum amount of fuel oil allowed inside any building shall be 1,320 gallons and the maximum amount of oil connected to any one (1) appliance shall be 660 gallons. Where the amount of fuel oil stored inside a building exceeds 1,320 gallons the storage area shall be in compliance with the R.I. Fire Prevention Code and the State Building Code.

Add the following new section 1305.8:

1305.8 Fuel Oil Supply and Vent Piping: Fill and vent lines for above ground fuel storage tanks shall be permitted to be a minimum of one and one quarter inch (1 ¼") in diameter for a single storage tank up to 500 gallon capacity.

## **4.11 Chapter 15**

Referenced Standards

Delete without substitution:

ASHRAE-2013- ASHRAE Fundamentals handbook- 603.2

## **4.12 APPENDIX B**

Delete APPENDIX B in its entirety.

**510-RICR-00-00-4**

**TITLE 510 - BUILDING CODE COMMISSION**

**CHAPTER 00 - N/A**

**SUBCHAPTER 00 - N/A**

**PART 4 - RISBC-4 RHODE ISLAND MECHANICAL CODE**

Type of Filing: Amendment

**Agency Signature**

---

Agency Head Signature

---

Agency Signing Date

**Department of State**

---

Regulation Effective Date

---

Department of State Initials

---

Department of State Date