August 2023

At its meeting on August 11, 2023, the Ohio Board of Building Standards adopted the rule changes identified as Amendments Group 100. These rule amendments were adopted with an **effective date of March 1, 2024.**

Amendments Group 100 includes the amended Ohio Mechanical Code (OMC) rules shown below. The complete text of each rule follows this coversheet, and a summary of the significant changes can be found at the end of the rule pages.

Rule Number	OBC Chapter	Chapter Title	Effective date
4101:2-1-01	1	Administration.	March 1, 2024
4101:2-2-01	2	Definitions.	March 1, 2024
4101:2-3-01	3	General regulations.	March 1, 2024
4101:2-4-01	4	Ventilation.	March 1, 2024
4101:2-5-01	5	Exhaust systems.	March 1, 2024
4101:2-6-01	6	Duct systems.	March 1, 2024
4101:2-7-01	7	Combustion air.	March 1, 2024
4101:2-8-01	8	Chimneys and vents.	March 1, 2024
4101:2-9-01	9	Specific appliances, fireplaces, and solid fuel-burning equipment.	March 1, 2024
4101:2-10-01	10	Boilers, water heaters and pressure vessels.	March 1, 2024
4101:2-11-01	11	Refrigeration.	March 1, 2024
4101:2-12-01	12	Hydronic piping.	March 1, 2024
4101:2-13-01	13	Fuel oil piping and storage.	March 1, 2024
4101:2-14-01	14	Solar thermal systems.	March 1, 2024
4101:2-15-01	15	Referenced standards.	March 1, 2024

Reason for Changes: The Board amended the Ohio Administrative Code Chapters 4101:2-1 to 4101:2-15 (rescind and adopt new) to comply with the five-year rule review and to update the current Ohio Mechanical Code to incorporate the 2021 edition of the "International Mechanical Code" by reference with Ohio amendments.

Please contact the Board with any questions at (614) 644-2613 or BBS@com.ohio.gov

4101:2-1-01 Administration.

Section 101
General

101.1 Incorporation by Reference, Title and Rules of Construction. Except as provided in Chapters 4101:2-1 to 4101:2-15 of the Administrative Code, the International Mechanical Code 2021 edition, Chapters 2 through 15, as published by the "International Code Council, Inc." including all subsequently published errata and printings, and readily available at **https://www.iccsafe.org**, are hereby incorporated by reference in accordance with sections 121.71 to 121.74 of the Revised Code as if set out at length herein.

101.1.1 Rules of Construction. The following rules of construction are to be applied to Sections 4101:2-1 to 4101:2-15 of the Administrative Code:

1. All references to the International Building Code, International Mechanical Code, International Plumbing Code, and International Residential Code mean the Ohio Building Code, Ohio Mechanical Code, Ohio Plumbing Code, and Residential Code of Ohio, respectively, unless otherwise noted. References to "this code" in Chapters 4101:2-1 to 4101:2-15 of the Administrative Code mean the "Ohio Mechanical Code." References to "mechanical code" in divisions 4101:1, 4101:2, 4101:3 and 4101:8 of the Administrative Code mean "Ohio Mechanical Code."
2. The phrase "applicable energy conservation code referenced in Chapter 13 of the building code" is substituted for "International Energy Conservation Code."
3. Except as otherwise noted, "Chapter 34 of the building code" is substituted for "International Existing Building Code."
4. The terms "approval" or "approvals" are substituted for "permit" or "permits," respectively, when referring to documentation indicating compliance with this code.
5. The phrase "owner's representative" is substituted for "owner's authorized agent."
6. Except as otherwise noted, "building official" is substituted for "fire code official."
7. The phrase "building official" is substituted for "code official."
8. The provisions of this code are mandatory whether or not the term "shall" is used.

101.2 Scope. The provisions of this code apply to the design, installation, maintenance, alteration, repair, relocation, replacement, addition to, use and inspection of mechanical systems within buildings. This code also applies to those

systems, system components, equipment and appliances specifically addressed herein.

101.3 Administrative and enforcement. For administrative and enforcement provisions of this code, refer to sections 101.2 to 114 of the building code.

101.4 Referenced standards. When a reference is made within the building, mechanical, or plumbing codes to a federal statutory provision, an industry consensus standard, or any other technical publication, the specific date and title of the publication as well as the name and address of the promulgating agency are listed in Chapter 35 of the building code, Chapter 15 of the mechanical code, or Chapter 15 of the plumbing code.

The codes and standards referenced in the building, mechanical, and plumbing codes are considered part of the requirements of these codes as though the text were printed in this code, to the prescribed extent of each such reference. Where differences occur between provisions of these codes and the referenced standards, the provisions of these codes apply.

Replaces:	4101:2-1-01
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4101:2-2-01 Definitions.

Chapter 2 of the International Mechanical Code, 2021 edition, as incorporated by reference and modified in Section 101.1.1 of this code, is further modified as follows:

Modify section 202 to replace or add the following definitions:

ABOVE-GROUND STORAGE TANK. A vessel, intended for fixed installation above grade, at grade, or below grade without backfill, used for the purpose of bulk storage, dispensing, handling or processing of hazardous, flammable or combustible liquids or gases and not connected to and utilized for the operation of building service equipment.

APPLIANCE, EXISTING. Any appliance regulated by this code that has been installed and for which a certificate of occupancy has been issued or can be issued in accordance with section 111.4 of the building code.

APPROVED. Determined to be in compliance by the authority having jurisdiction in accordance with the rules of the board.

APPROVED AGENCY. An established and accredited testing laboratory, listing agency, inspection body, or field evaluation body recognized by the board of building standards providing services consistent with their accreditation and the code section requiring the approved agency service.

BOILER: A closed vessel in which water is heated, steam is generated, steam is superheated, or any combination thereof, under pressure or vacuum for use externally to itself by the direct application of heat from the combustion of fuels, or from electricity or nuclear energy. The term boiler includes fired units for heating or vaporizing liquids other than water where these units are separate from processing systems and are complete within themselves. Low-pressure boilers operate at pressures less than or equal to 15 pounds per square inch (psi) (103 kPa) for steam and 160 psi (1103 kPa) or temperatures not exceeding 250 °F for water. High-pressure boilers operate at pressures exceeding those pressures and temperatures.

BUILDING. Any structure utilized or intended for supporting or sheltering any occupancy, function, or activity. This includes, but is not limited to, structures built or used for the shelter, occupancy, enclosure or support of

persons, animals, or chattels. For the purposes of this code, the term "building" is to be construed as followed by the words "or portion thereof."

BUILDING CODE. The "Ohio Building Code".

BUILDING OFFICIAL. The superintendent of the division of industrial compliance of the Ohio department of commerce or the person appointed by the superintendent to enforce this code in that division or the designated authority charged with the administration and enforcement of this code, approved by the board in accordance with section 103 of this code, in a municipal corporation, township or county having a building department, certified by the board pursuant to section 3781.10 of the Revised Code, or the health commissioner or the authorized representative in health districts, whichever one has jurisdiction.

BUILDING SERVICE EQUIPMENT. Equipment, appliances, materials, devices, and systems integrated into a building that provide space heating, air conditioning, ventilation, fire protection, lighting, electricity, sanitation, water, water heating, cooking, medical gas, medical vacuum, and clothes drying. Building service equipment begins from the connected stored source of liquid or gas fuel or electrical power supplying the equipment or the utility service point/point of delivery and extends through the point of use but does not include process equipment that may also be connected to the same source.

BUILDING SERVICES PIPING. All piping systems and their component parts that are part of a building system and that promote the safe, sanitary, and energy efficient occupancy of a building. Building services piping includes, but is not limited to, cold and hot potable water distribution for plumbing fixtures; sanitary lines from plumbing fixtures; nonflammable medical gas systems; medical oxygen systems; medical vacuum systems; fire protection piping systems and compressed air in dry systems; refrigeration, chilled water, condenser and cooling tower water, brine, and water/antifreeze systems; steam, steam condensate, and hot water piping systems; and fuel oil piping and fuel gas piping for heating, cooling, and cooking applications. See division (A) of section 4104.41 of the Revised Code.

CODE. Those rules contained in Chapters 4101:2-1 to 4101:2-15 of the Administrative Code.

CODE OFFICIAL. See "BUILDING OFFICIAL".

COMMERCIAL COOKING APPLIANCES. Appliances listed as commercial cooking appliances and used in a commercial food service establishment for heating or cooking food and which produce grease vapors, steam, fumes, smoke or odors that are required to be removed through a local exhaust ventilation system. Such appliances include deep fat fryers; upright broilers; griddles; broilers; steam-jacketed kettles; hot-top ranges; under-fired broilers (char-broilers); ovens; barbecues; rotisseries; and similar appliances.

COMMERCIAL FOOD SERVICE ESTABLISHMENT. A building or portion thereof that is frequently used for the preparation and/or serving of food using listed commercial cooking appliances, or, depending upon the duration, frequency, and purposes of the cooking operations, establishments that utilize listed household or domestic cooking appliances for the preparation and/or serving of large quantities of food may also be considered commercial food service establishments. Such establishments include, but are not limited to, food processing facilities and food service operations typically found in restaurants, hotels, clubs, banquet halls, school cafeterias, hospital cafeterias, and catering businesses. (Establishments that utilize listed household or domestic cooking appliances in a manner similar to a typical residential setting such as fire stations, office break rooms, day care facilities, church halls, and dwelling units are not commercial food service establishments.)

CONDITIONED SPACE. An area, room or space that is enclosed by, but not within, the building thermal envelope assembly and that is directly heated or cooled or that is indirectly heated or cooled. Spaces are indirectly heated or cooled where they communicate through openings with conditioned spaces, where they are separated from conditioned spaces by uninsulated walls, floors, or ceilings, or where they contain uninsulated ducts, piping or other sources of heating or cooling.

CONSTRUCTION DOCUMENTS. The written, graphic and pictorial documents prepared or assembled for describing the design, location and physical characteristics of the elements of a project necessary for obtaining plan approval in accordance with section 106 of the building code.

COOKING APPLIANCE. See "COMMERCIAL COOKING APPLIANCES", "DOMESTIC COOKING APPLIANCES", and "HOUSEHOLD COOKING APPLIANCES".

DOMESTIC COOKING APPLIANCES. Appliances listed as domestic or household cooking appliances and designed to heat or cook food for human consumption in a manner similar to a typical residential or household application. Domestic cooking appliances have built-in safety features such as child safe knobs and insulated oven doors which make them appropriate for use in a residential occupancy.

DWELLING. Any building that exclusively contains one, two, or three dwelling units, each of which may be occupied by a family and no more than five lodgers or boarders, intended, or designed to be built, used, rented, leased, let or hired out to be occupied, or that is occupied for living purposes, physically separated from adjacent structures, and with an independent exit from each dwelling unit.

DWELLING, ONE-, TWO-, OR THREE- FAMILY. See "DWELLING".

DWELLING UNIT. A single unit providing complete, independent living facilities for one or more persons, including permanent provisions for living, sleeping, eating, cooking and sanitation. The unit may include any accessory space intended for the exclusive use of the occupants of an individual dwelling unit such as a private garage, greenhouse, etc.

ENGINE-MOUNTED TANK. A fuel tank furnished by the engine manufacturer or the emergency power system supplier and mounted on the engine, the engine-frame, or under as a subbase.

EQUIPMENT, EXISTING. Any equipment regulated by this code that has been installed and for which a certificate of occupancy has been issued or can be issued in accordance with section 111.4 of the building code.

EXHAUSTED ENCLOSURE. An appliance or piece of equipment which consists of a top, a back and two sides providing a means of local exhaust for capturing gases, fumes, vapors and mists. Such enclosures include laboratory hoods, exhaust fume hoods and similar appliances and equipment used to retain and exhaust locally the gases, fumes, vapors and mists that could be released. Rooms or areas provided with general ventilation, in themselves, are not exhausted enclosures.

FIRE CODE. "Ohio Fire Code".

FLAMMABLE SOLID. A solid, other than a blasting agent or explosive, that is capable of causing fire through friction, absorption of moisture, spontaneous chemical change, or retained heat from manufacturing or processing, or which has an ignition temperature below 212°F (100° C) or which burns so vigorously and persistently when ignited as to create a serious hazard. A chemical is to be considered a flammable solid as determined in accordance with the test method of CPSC 16CFR; Part 1500.44, if it ignites and burns with a self-sustained flame at a rate greater than 0.1 inch (2.5 mm) per second along its major axis.

FLASH POINT. The minimum temperature in degrees Fahrenheit at which a liquid will give off sufficient vapors to form an ignitable mixture with air near the surface or in the container, but will not sustain combustion. The flash point of a liquid is to be determined by the appropriate test procedures and apparatus as specified in ASTM D56, ASTM D93 or ASTM D3278.

FLOOR AREA, NET. The actual occupied area, not including unoccupied accessory areas such as corridors, stairways, toilet rooms, mechanical rooms, closets, or thicknesses of walls.

FUEL TANK. A tank containing fuel for an engine(s) or appliance.

GAS CABINET. A fully enclosed, noncombustible enclosure used to provide an isolated environment for compressed gas cylinders in storage or use. Doors and access ports for exchanging cylinders and accessing pressure-regulating controls are allowed to be included.

GAS ROOM. A separately ventilated, fully enclosed room in which only compressed gases and associated equipment and supplies are stored or used.

HAZARDOUS PRODUCTION MATERIAL (HPM). A solid, liquid, or gas associated with semiconductor manufacturing that has a degree-of-hazard rating in health, flammability or reactivity of Class 3 or 4 as ranked by NFPA 704 and which is used directly in research, laboratory or production processes which have as their end product materials that are not hazardous.

HOUSEHOLD COOKING APPLIANCES. See "DOMESTIC COOKING APPLIANCES."

INCOMPATIBLE MATERIALS. Materials that, when mixed, have the potential to react in a manner which generates heat, fumes, gases or byproducts which are hazardous to life or property.

INFORMATION TECHNOLOGY EQUIPMENT. Any electronic digital or analog computer, along with all peripheral, support, memory, programming, or other directly associated equipment, records, storage, and activities.

INFORMATION TECHNOLOGY EQUIPMENT AREA. An area of a building where the information technology equipment room is located, including support rooms served by the same special air-conditioning/air-handling equipment as the information technology equipment room.

INFORMATION TECHNOLOGY EQUIPMENT ROOM. An enclosed area, with one or more means of entry, that contains computer based business and industrial information technology equipment.

JOINT, MECHANCAL.

1. A connection between pipes, fittings, or pipes and fittings, that is not welded, brazed, caulked, soldered, solvent cemented, or heat fused.

2. A general form of gas or liquid-tight connections obtained by the joining of parts through a positive holding mechanical construction such as, but not limited to, flanged, screwed, clamped, push-fit, press-connect, or flared connections.

JURISDICTION. The authority to enforce this code by municipal corporations, townships or counties certified by the board in accordance with 3781.10 of the Revised Code or the division of industrial compliance in the department of commerce.

LABEL. An identification applied on a product by the manufacturer that contains the name of the manufacturer, the function and performance characteristics of the product or material, and the name and identification of an approved agency and that indicates that the representative sample of the product or material has been tested and evaluated by an approved agency (see building code section 1703.5 and building code definitions of "Manufacturer's Designation" and "Mark").

LIMITED SPRAYING SPACE. An area in which spraying operations for touch-up or spot painting of a surface area of nine square feet (0.84 m2) or less are conducted.

LIQUID STORAGE ROOM. A room classified as a Group H-3 occupancy used for the storage of flammable or combustible liquids in a closed position.

LIQUID STORAGE WAREHOUSE. A room classified as a Group H-3 occupancy used for the storage of flammable or combustible liquids in an unopened condition. The quantities of flammable or combustible liquids stored are not limited.

LISTED. Equipment, appliances, materials, products or services included in a directory published by an approved agency whose listing states either that the equipment, appliance, material, product or service meets identified standards listed in this code or have been tested and found suitable for use in a specified manner.

LOWER EXPLOSIVE LIMIT (LEL). See "LOWER FLAMMABLE LIMIT (LFL)"

MACHINERY ROOM. As used in Chapter 11 of this code means "REFRIGERATION MACHINERY ROOM".

MECHANICAL JOINT. See "Joint, Mechanical."

PLUMBING CODE. The "Ohio Plumbing Code".

POWER PIPING. Piping systems and their component parts that are not building services piping systems, and that may be installed within electric power generating stations, industrial and institutional plants, utility geothermal heating systems, and central and district heating and cooling systems. Power piping includes, but is not limited to, piping used in the distribution of plant and process steam at boiler pressures greater than fifteen pounds per square inch gauge, high temperature water piping from high pressure and high temperature boilers, power boiler steam condensate piping, high pressure and high temperature water condensate piping, and compressed air and hydraulic piping upstream of the first stop valve off a system distribution header. See division (B) of section 4104.41 of the Revised Code.

PROCESS PIPING. Piping systems and their component parts that are not building services or power piping systems and that may be installed in petroleum refineries; chemical, pharmaceutical, textile, paper, semiconductor, and cryogenic plants; and related processing plants and terminals. See division (C) of section 4104.41 of the Revised Code.

REFRIGERATION MACHINERY ROOM. See Machinery room. A room meeting prescribed safety requirements and in which refrigeration systems or components thereof are located. Referred to as "Machinery Room" in Chapter 11 of this code.

REGISTERED DESIGN PROFESSIONAL. Any architect holding a certificate issued under section 4703.10 of the Revised Code, any landscape architect holding a certificate issued under section 4703.36 of the Revised Code, or any engineer holding a certificate issued under section 4733.14 of the Revised Code.

SPRAY BOOTH. A mechanically ventilated appliance of varying dimensions and construction provided to enclose or accommodate a spraying operation and to confine and limit the escape of spray vapor and residue and to exhaust it safely.

SPRAY ROOM. A room designed to accommodate spraying operations constructed in accordance with the building code and separated from the remainder of the building by a minimum one-hour fire barrier.

SPRAYING SPACE. An area in which dangerous quantities of flammable vapors or combustible residues, dusts or deposits are present due to the operation of spraying processes. The building official is authorized to define the limits of the spraying space in any specific case.

STORY. That portion of a building included between the upper surface of a floor and the upper surface of the floor or roof next above (see "BASEMENT", "BUILDING HEIGHT", "GRADE PLANE", and "MEZZANINE" as defined in the building code). It is measured as the vertical distance from top to top of two successive tiers of beams or finished floor surfaces and, for the topmost story, from the top of the floor finish to the top of the ceiling joists or, where there is not a ceiling, to the top of the roof rafters.

TESTED. The procedure by which a product, material or system is determined to conform to specified requirements.

THIRD-PARTY CERTIFICATION AGENCY. Deleted.

THIRD-PARTY CERTIFIED. Deleted.

THIRD-PARTY TESTED. Deleted.

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4101:2-3-01 General regulations.

Chapter 3 of the International Mechanical Code, 2021 edition, as incorporated by reference and modified in Section 101.1.1 of this code, is further modified as follows:

(A) **Modify Section 301.1 as follows:**
Change the word 'approval' to 'design'.

(B) **Modify Section 301.3 as follows:**
Add "and any markings required by the applicable referenced standard." to the end of the paragraph.

(C) **Modify Section 301.4 as follows:** Replace "third party certified" with "listed".

(D) **Replace Section 301.5 with the following:**
301.5 Approved agency testing and certification. Piping, tubing and fittings are to be either tested or listed by an approved agency as complying with the applicable referenced standards, specifications and performance criteria of this code and are to be identified in accordance with Section 301.3.

(E) **Modify section 301.6 as follows:**
Change the word 'approval' to 'design' and add the following exception:
Exception: Section 4104.44 of the Revised Code governs the requirements for welding and brazing of metallic *building services piping* systems referenced by this code, including fuel gas piping.

(F) **Modify section 301.7 as follows:**
Change "Section 105" to "Section 114 of the building code".

(G) **Replace section 310.1 with the following:**
310.1 Required. Structures occupied for purposes involving explosion hazards are to be provided with explosion control where required by the building code or the International Fire Code. Explosion control systems are to be designed and installed in accordance with Section 911 of the International Fire Code.

(H) **Replace section 311.1 with the following:**

311.1 Required. Approved smoke and heat vents are to be installed in the roofs of one-story buildings where required by the building code. Smoke and heat vents are to be designed and installed in accordance with the building code.

(I) Replace section 312.1 with the following:

312.1 Load calculations. Heating and cooling system design loads for the purpose of sizing systems, appliances and equipment are to be determined in accordance with the procedures described in the ASHRAE/ACCA Standard 183. Alternatively, design loads are to be determined by an approved equivalent computation procedure, using the design parameters specified in the applicable energy conservation code referenced in Chapter 13 of the building code.

(J) Add new section 313 to read as follows:

SECTION 313 WELDING AND BRAZING

313.1 General. Section 4104.44 of the Revised Code governs the requirements for welding and brazing of metallic *building services piping* systems referenced by this code.

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4101:2-4-01 Ventilation.

Chapter 4 of the International Mechanical Code, 2021 edition, as incorporated by reference and modified in Section 101.1.1 of this code, is further modified as follows:

(A) Modify section 401.2 as follows:

The second sentence is to read: "Dwelling units complying with the air leakage requirements of the applicable energy conservation standard referenced in chapter 13 of the building code is to be ventilated by mechanical means in accordance with Section 403."

(B) Modify section 403.2 as follows:

Change the word "Exception" to "Exceptions", add "1." before the first exception and add a new exception that reads:

2. The registered design professional may use ASHRAE 62.1 or ASHRAE 62.2, as applicable, as an alternative engineered ventilation system design provided that the registered design professional demonstrates compliance with all applicable sections of the ASHRAE standard.

(C) Modify table 403.3.1.1 as follows:

Add reference to footnote "i" to the table column titled OCCUPANT DENSITY header to read as "#/1000 $FT^{2\ a,\ i}$.

(D) Modify table 403.3.1.1 to add footnote "i" to read as follows:

i. The occupant load is not to be greater than that determined by Section 1004 of the building code.

(E) Replace section 403.3.2.1 exception 2 with the following:

2. The minimum mechanical ventilation rate determined in accordance with Equation 4-9 may be reduced by up to 30 percent provided that both of the following conditions apply:
   - 2.1. A ducted system supplies ventilation air directly to each bedroom and to one or more of the following rooms:
     - 2.1.1. Living room.
     - 2.1.2. Dining room.
     - 2.1.3. Kitchen.
   - 2.2. The whole-house ventilation system is a balanced ventilation system.

Replaces:	4101:2-4-01
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4101:2-5-01 Exhaust systems.

Chapter 5 of the International Mechanical Code, 2021 edition, as incorporated by reference and modified in Section 101.1.1 of this code, is further modified as follows:

(A) **Replace section 502.7 to read as follows:**
502.7 Application of flammable finishes. Mechanical exhaust, as required by this section and the International Fire Code, is to be provided for operations involving the application of flammable finishes.

(B) **Replace exception #1 of section 502.9.5 with the following:**
1. Flammable and combustible liquids that are exempt from Section 5701.2 of the International Fire Code.

(C) **Add new exceptions to section 502.9.5 as follows:**
3. Fuel oil and diesel oil tanks and containers connected to oil- burning or fuel-burning equipment. Such storage and use is to be in accordance with chapter 13.
4. Underground storage tanks installed in accordance with the fire code and rules adopted by the state fire marshal and enforced by the fire official, in accordance with section 3737.87 to 3737.89 of the Revised Code.

(D) **Modify section 502.9.5.2 as follows:**
Change “International Fire Code” to “building code”.

(E) **Replace section 502.10.3 with the following:**
502.10.3. Treatment systems. Treatment systems for highly toxic and toxic gases are to comply with Section 6004.2.2.7 of the International Fire Code.

(F) **Modify section 502.20.1 as follows:**
Change “when the space is occupied” to “during chemical application”.

(G) **Modify Section 504.4.1 as follows:**
Change “including openings in” to “except”.

(H) **Modify section 507.2 as follows:**
Change the first sentence to read “Type I hoods are to be installed where commercial cooking appliances produce grease or smoke as a result of the cooking process.”

(I) **Modify section 507.2 as follows:**
Change the word "Exception" to "Exceptions", add "1." before the existing exception, and add new exception that reads:
2. A Type II hood is permitted to be installed in lieu of a Type I hood over conveyor pizza ovens where grease laden vapors or smoke are generated in quantities that do not constitute a hazard.

(J) **Modify section 513.5 as follows:**
Add **"**Where provided," at the beginning of the first sentence and change "smoke" to lower case.

(K) **Modify section 513.10.4 as follows:**
Change "approved recognized standards" with "Section 607.3".

(L) **Modify section 513.12.3 as follows:**
Delete "or the International Fire Code".

(M) **Modify section 513.12.4 as follows:**
Change "International Fire Code" to "building code".

(N) **Modify section 513.15 as follows:**
Change "International Fire Code" to "building code".

(O) **Modify section 513.16 as follows:**
Change "International Fire Code" to "building code".

(P) **Modify section 513.17 as follows:**
Change "International Fire Code" to "building code".

(Q) **Modify section 513.18 as follows:**
Change "International Fire Code" to "building code".

(R) **Modify section 513.19 as follows:**
Change "International Fire Code" to "building code".

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4101:2-6-01 Duct systems.

Chapter 6 of the International Mechanical Code, 2021 edition, as incorporated by reference and modified in Section 101.1.1 of this code, is further modified as follows:

(A) Modify section 602.2.1.1 to add exception to read as follows:

Exception: Wiring methods installed in accordance with Section Article 645 of NFPA 70 are permitted for electrical installations in plenums of information technology equipment areas and information technology equipment rooms that comply with the construction requirements of NFPA 75 and Article 645 of NFPA 70. The information technology equipment area is required to be separated from other areas of the building by a minimum of a one-hour fire barrier construction in accordance with the building code. The information technology equipment room is required to be separated from other areas of the building and the information technology equipment area by a minimum of one-hour fire barrier constructed in accordance with the building code.

(B) Modify section 603.8.2 as follows:

The last sentence is to read "Ducts are to be leak tested as required by the applicable energy conservation code referenced in Chapter 13 of the building code".

(C) Modify section 606.2.1 as follows:

Change "International Fire Code" to "building code".

(D) Modify section 606.4.1 as follows:

Change "International Fire Code" to building code".

(E) Modify section 607.5.2 exceptions 3.1 and 3.2 as follows:

Delete the word "Nonmetallic" from the beginning of each exception.

(F) Modify section 607.5.3 by adding a sentence at the end and adding 2 exceptions to read as follows:

Flexible air connectors are not to be prohibited in fully ducted sheet steel duct systems where the installation meets either of the following:

1. Flexible air connectors are installed to connect ducts to air handling equipment and such connectors are located entirely within the mechanical room that contains the air handling equipment.
2. Flexible air connectors are installed to connect an overhead metal duct to a ceiling diffuser and such connector is located entirely within the same room as the ceiling diffuser. The flexible air connectors are not to pass through any walls, floors or ceilings.

(G) Modify section 607.5.5, exception 2 to read as follows.

2. Deleted.

(H) Modify section 607.5.5 by adding a new exception that reads as follows:

6. Smoke dampers are not required where the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 of the building code.

Replaces:	4101:2-6-01
Effective:	3/1/2024
Five Year Review (FYR) Dates:	03/01/2029

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Certification

08/11/2023

Date

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Rule Amplifies:	3781.10, 3781.11, 3791.04
Prior Effective Dates:	01/01/2002, 03/01/2005, 03/01/2006, 07/01/2007, 11/01/2011, 11/01/2017, 08/01/2018

4101:2-7-01 Combustion air.

Chapter 7 of the International Mechanical Code, 2021 edition, is incorporated by reference and modified in Section 101.1.1 of this code.

Replaces:	4101:2-7-01
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Prior Effective Dates:	07/01/2007, 11/01/2011, 11/01/2017

4101:2-8-01 Chimneys and vents.

Chapter 8 of the International Mechanical Code, 2021 edition, as incorporated by reference and modified in Section 101.1.1 of this code, is further modified as follows:

Modify Section 801.1 to add an exception that reads as follows:

Exception: Section 501.8 of the "International Fuel Gas Code" permits certain gas fired appliances to be installed without venting. This section should not be construed as permitting the installation of portable unvented heaters in locations otherwise prohibited by section 3701.82 of the Revised Code or rules adopted by the state fire marshal pursuant to 3701.82 of the Revised Code.

Replaces:	4101:2-8-01
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4101:2-9-01 Specific appliances, fireplaces and solid fuel-burning equipment.

Chapter 9 of the International Mechanical Code, 2021 edition, as incorporated by reference and modified in Section 101.1.1 of this code, is further modified as follows:

(A) Modify section 901.1 to add exception to read as follows:

Exception: Section 501.8 of the "International Fuel Gas Code" permits certain gas fired appliances to be installed without venting. This section should not be construed as permitting the installation of portable unvented heaters in locations otherwise prohibited by section 3701.82 of the Revised Code or rules adopted by the state fire marshal pursuant to 3701.82 of the Revised Code.

(B) Replace section 908.3 with the following:

908.3 Location. Cooling towers, evaporative condensers and fluid coolers are to be located to prevent the discharge of vapor plumes from entering occupied spaces or outdoor public areas. Plume discharges are to be not less than 5 feet (1524 mm) above or 25 feet (7620 mm) away from any ventilation inlet to a building including operable windows.

Note: See ASHRAE Guideline 12 Minimizing the Risk of Legionellosis Associated with Building Water Systems.

(C) Modify section 915.1 as follows:

Replace the phrase "NFPA 37" with "this section".

(D) Add new sections 915.2.1, 915.2.1.1, 915.2.1.2, 915.2.2, and 915.3 to read as follows:

Section 915.2.1 Fuel tanks connected to engine-driven building services equipment. Fuel tanks piped to and supplying fuel for engine-driven building service equipment may be engine-mounted, located inside of a building, outside of a building, or on a roof in accordance with NFPA 37 or NFPA 30 and as modified by Section 1308 of the mechanical code for fuel oil and diesel oil tank installations.

Section 915.2.1.1 Engine-mounted tanks. Engine-mounted tanks located outdoors may be located in accordance with Section 4.1.4 of NFPA 37 and are to be vented in accordance with NFPA 30. Engine-mounted tanks are to be provided with adequate clearance to enable filling, maintenance, and testing, are to be safeguarded against public access, and are to be protected from impact.

Section 915.2.1.2 Other fuel tanks. Fuel tanks, other than engine-mounted tanks, piped to and supplying the engine are to be located, installed, and vented in accordance with the applicable sections of NFPA 37 or located, installed, and vented in accordance with NFPA 30.

Section 915.2.2 Gaseous fuel supply. Where an internal combustion engine supplied with gaseous fuel powers building service equipment, the fuel gas storage and piping system are to comply with NFPA 37 and the "International Fuel Gas Code".

Section 915.3 Engine-driven Stationary generators. Stationary emergency and standby power generator assemblies are to be listed in accordance with UL 2200 and are to comply with Section 2702.1 of the building code.

(E) Replace section 917.2 to read as follows:

917.2 Domestic cooking appliances. Cooking appliances installed within dwelling units and within areas where domestic-type cooking operations occur are to be listed and labeled as domestic or household-type appliances for domestic use.

(F) Modify section 920.1 to add a new paragraph that reads as follows:

This section should not be construed as permitting the installation of portable unvented heaters in locations otherwise prohibited by section 3701.82 of the Revised Code or rules adopted by the state fire marshal pursuant to 3701.82 of the Revised Code.

(G) Modify section 922.1 to add a new paragraph that reads as follows:

This section should not be construed as permitting the installation of portable unvented heaters in locations otherwise prohibited by section 3701.82 of the Revised Code or rules adopted by the state fire marshal pursuant to 3701.82 of the Revised Code.

(H) Replace section 923.1 with the following:

923.1 General. Kilns are to be listed and labeled unless otherwise approved in accordance with Sections 106.5 or 114 of the building code. Electric kilns are to comply with UL 499.

Replaces:	4101:2-9-01
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Rule Amplifies:	3781.10, 3781.11, 3791.04
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4101:2-10-01 Boilers, water heaters and pressure vessels.

Chapter 10 of the International Mechanical Code, 2021 edition, as incorporated by reference and modified in Section 101.1.1 of this code, is further modified as follows:

(A) Modify the first paragraph of section 1001.1 to read as follows:

1001.1 Scope. This chapter is to govern the installation, *alteration* and *repair* of boilers in Group R occupancy buildings with 4 or 5 dwelling units, water heaters and pressure vessels.

(B) Add exceptions 8 and 9 to section 1001.1 to read as follows:

8. Potable water heaters are to comply with the "Ohio Boiler and Pressure Vessel rules", Chapters 4101:4-1 to 4101:4-10 of the Administrative Code, when any of the following limitations are exceeded:

- **a.** Heat input of two hundred thousand BTU per hour;
- **b.** Water temperature of two hundred ten degrees Fahrenheit;
- **c.** Nominal water containing capacity of one hundred twenty gallons.

9. Any boiler, water heater, or unfired pressure vessel within the scope of Chapters 4101:4-1 to 4101:4-10 of the Administrative Code entitled "Ohio Boiler and Pressure Vessel Rules".

(C) Add section 1001.2 to read as follows:

1001.2 Enforcement. The superintendent of the division of industrial compliance is to enforce all provisions of rules 4101:4-1-01 to 4101:4-10-01 and rules 1301:3-5-01 to 1301:3-5-10 of the Administrative Code relating to the design, construction, repair, alteration, and maintenance of boilers, pressure vessels, and potable hot water heaters not within the scope of this chapter.

(D) Modify Section 1004.1 to read as follows: Standards. Boilers are to be designed, constructed and certified in accordance with the ASME Boiler and Pressure Vessel Code, Section I or IV. The boiler is to be provided with safety devices and controls as required in the applicable section of the "ASME Boiler and Pressure Vessel Code". Alternatively, controls and safety devices for boilers with fuel input ratings of less than 12,500,000 Btu/hr (3,662,500 W) are to meet the requirements of ASME CSD-1. Controls and safety devices for boilers with inputs greater than or equal to 12,500,000 Btu/hr (3,662,500 W) are to meet the requirements of NFPA 85. Packaged oil-fired boilers are to be listed and labeled in accordance with UL 726. Packaged electric boilers are to

be listed and labeled in accordance with UL 834. Solid-fuel-fired boilers are to be listed and labeled in accordance with UL 2523.

Replaces:	4101:2-10-01
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Prior Effective Dates:	03/01/1998, 01/01/2002, 03/01/2005, 07/01/2007, 11/01/2011, 11/01/2017

4101:2-11-01 Refrigeration.

Chapter 11 of the International Mechanical Code, 2021 edition, is incorporated by reference and modified in Section 101.1.1 of this code.

Replaces:	4101:2-11-01
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Prior Effective Dates:	03/01/1998, 01/01/2002, 01/01/2004, 03/01/2005, 07/01/2007, 11/01/2007, 11/01/2011, 11/01/2017

4101:2-12-01 Hydronic piping.

Chapter 12 of the International Mechanical Code, 2021 edition, is incorporated by reference and modified in Section 101.1.1 of this code.

Replaces:	4101:2-12-01
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Statutory Authority:	3781.10(A)(1), 4104.43 (A)(1)
Rule Amplifies:	3781.10, 3781.11, 3791.04
Prior Effective Dates:	01/01/2002, 01/01/2003, 01/01/2004, 03/01/2005, 07/01/2007, 01/01/2009, 11/01/2011, 11/01/2017

4101:2-13-01 Fuel oil piping and storage.

Chapter 13 of the International Mechanical Code, 2021 edition, as incorporated by reference and modified in Section 101.1.1 of this code, is further modified as follows:

(A) Replace section 1301.1 with the following:

1301.1 Scope. This chapter is to govern the design, installation, construction and repair of fuel oil and diesel oil storage and piping systems supplying and piped to building services equipment. The storage of fuel oil and flammable and combustible liquids not associated with building service equipment is to be in accordance with Chapters 6 and 57 of the International Fire Code as enforced by the fire official.

(B) Replace section 1301.2 with the following:

1301.2 Storage and piping systems. Fuel oil and diesel oil storage systems supplying and piped to building service equipment is to comply with Section 1308. Fuel oil and diesel oil piping systems are to comply with the requirements of this chapter.

(C) Replace section 1308 with the following:

SECTION 1308

FUEL OIL AND DIESEL OIL STORAGE

1308.1 Fuel oil and diesel oil storage systems. Fuel oil and diesel oil storage systems supplying and piped to building service equipment, including emergency and standby generators, are to be installed in accordance with one of the following:

1. NFPA 30;
2. NFPA 31 for fuel-oil burning heating appliances;
3. NFPA 37 for diesel-oil burning stationary combustion engines; or
4. Sections 1308.2 to 1308.4, as applicable.

1308.2 Fuel oil and diesel oil storage in outside, above-ground tanks. Where connected to a fuel oil or diesel oil piping system, the maximum amount of fuel oil or diesel oil storage allowed outside above ground without additional protection is to be 660 gallons (2498 L). The outside, above ground storage of fuel oil or diesel oil in quantities exceeding 660 gallons (2498 L) and

connected to and serving building service equipment is to comply with chapter 22 of NFPA 30.

1308.3 Fuel oil and diesel oil storage inside buildings. Fuel oil storage inside of buildings are to comply with sections 1308.3.1 to 1308.3.5.

1308.3.1 Quantity limits. One or more fuel oil or diesel oil storage tanks containing a Class II or III combustible liquid are to be permitted in a building. The aggregate capacity of all such tanks are to not exceed 660 gallons (2498 L).

Exception: The aggregate capacity limit is to be permitted to be increased to 3,000 gallons (11 356 L) of a Class II or III liquid for storage in protected aboveground tanks listed in accordance with UL 2085 when all of the following conditions are met:

1. The entire 3,000 gallon (11 356 L) quantity is to be stored in protected aboveground tanks listed in accordance with UL 2085;

2. The 3,000 gallon (11 356 L) capacity is to be permitted to be stored in a single tank or multiple smaller tanks;

3. Normal and emergency venting is to be provided in accordance with NFPA 30 except that the vent capacity reduction factors is to not be allowed;

4. Flame arrestors or pressure vacuum breather valves are to be installed in normal vents;

5. Secondary containment, drainage control or diking are to be provided in accordance with section 2704.2 of the International Fire Code;

6. An overfill prevention system that prevents the tank from being filled in excess of 95 percent of its capacity is to be provided for each tank. Filling procedure information is to be available and accessible to the person filling the tanks;

7. The fill pipe is to be provided with a means for making a direct connection to the fuel delivery hose so that the delivery of fuel is not exposed to the open air during the filling operation;

8. A noncombustible fixed spill container having a capacity of not less than 5 gallons (19 L) is to be provided for each fill connection. The spill container is to be equipped with a manual drain valve that drains into the primary tank;

9. Approved anti-siphon devices are to be installed in each external pipe connected to the protected above-ground tank when the pipe extends below the level of the top of the tank; and

10. The tanks are to be located in a room protected by an automatic sprinkler system complying with Section 903.3.1.1 of the building code.

1308.3.2 Restricted use and connection. Tanks installed in accordance with Section 1308.3 of this rule is to be used only to supply fuel oil to fuel-burning or generator equipment installed in accordance with Section 1308.3.4. Connections between tanks and equipment supplied by such tanks are to be made using closed piping systems.

1308.3.3 Applicability of maximum allowable quantity and control area requirements. The quantity of combustible liquid stored in tanks complying with Section 1308.3 of this rule is to not be counted towards the maximum allowable quantity set forth in Table 307.1(1) of the building code, and such tanks are to not be required to be located in a control area.

1308.3.4 Installation. Tanks and piping systems are to be installed and separated from other uses in accordance with one of the applicable compliance paths prescribed in Section 1308.1.

Exception: Protected aboveground tanks listed in accordance with UL 2085 and complying with Section 1308.3.1 are to not be required to be separated from surrounding areas.

1308.3.5 Tanks in basements. Tanks in basements are to be located not more than two stories below grade plane.

1308.4 Underground storage of fuel oil. The design, installation, registration, and inspection of regulated underground storage tanks are to be in accordance with the fire code and rules adopted by the state fire marshal and enforced by the fire official, in accordance

with sections 3737.87 to 3737.89 of the Revised Code. Underground storage tanks not regulated by the state fire marshal's Bureau of Underground Storage tanks are to comply with NFPA 30.

(D) Add new section 1309 to read as follows:

1309

TESTING

1309.1 Testing required. Fuel oil piping is to be tested in accordance with NFPA 31.

Replaces:	4101:2-13-01
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Rule Amplifies:	3781.10, 3781.11, 3791.04
Prior Effective Dates:	03/01/1998, 01/01/2002, 03/01/2005, 07/01/2007, 11/01/2011, 01/01/2016, 11/01/2017

4101:2-14-01 Solar thermal systems.

Chapter 14 of the International Mechanical Code, 2021 edition, as incorporated by reference and modified in Section 101.1.1 of this code, is further modified as follows:

Replace section 1401.1 with the following:

1401.1 Scope. This chapter governs the design, construction, installation, *alteration* and repair of solar thermal systems, *equipment* and *appliances* intended to utilize solar energy for space heating or cooling or domestic hot water heating.

Replaces:	4101:2-14-01
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Rule Amplifies:	3781.10, 3781.11, 3791.04
Prior Effective Dates:	07/01/2007, 11/01/2011, 11/01/2017

4101:2-15-01 Referenced standards.

Chapter 15 of the International Mechanical Code, 2021 edition, as incorporated by reference and modified in Section 101.1.1 of this code, is further modified as follows:

(A) Add new section 1501.1 to read as follows:

1501.1 General. This chapter lists the standards that are referenced in various sections of the mechanical code. The standards are listed herein by the promulgating agency of the standard, the standard identification, the effective date and title. The application of the referenced standards is to be as specified in Section 102.5.

(B) Add new section 1501.2 to read as follows:

1501.2 Referenced codes. When indicated in this code, the following codes refer to provisions in the listed chapters of the administrative code:

Referenced Code	**Ohio Administrative Code Chapters**
Building Code	4101:1-1 to 4101:1-35
Fire Code	1301:7-1 to 1301:7-7
Ohio Boiler and Pressure Vessel Rules	4101:4-1 to 4101:4-10
Plumbing Code	4101:3-1 to 4101:3-15

(C) Modify Chapter 15 to change the editions or titles of the following referenced standards:

ASHRAE

Standard Referenced	**Title**
15-2022	Safety Standard for Refrigeration Systems.
34-2022	Designation and Safety Classification of Refrigerants.
170-2021	Ventilation of Health Care Facilities

ASME

Standard Referenced	Title
BPVC-the edition as referenced in rule 4101:4-3-01 of the Administrative Code	ASME Boiler and Pressure Vessel Code.
CSD-1 – the edition as referenced in rule 4101:4-3-01 of the Administrative Code	Controls and Safety Devices for Automatically Fire Boilers.

NBBI

Standard Referenced	Title
BPVC-the edition as referenced in rule 4101:4-3-01 of the Administrative Code	National Board Inspection Code, Part 3.

NFPA

Standard Referenced	Title
37-21	Standard for the Installation and Use of Stationary Combustion Engines and Gas Turbines
70-23	National Electrical Code (except that section 210.8(F) Exception No. 2 does not expire)
72-22	National Fire Alarm and Signaling Code.
80-22	Standard for Fire Doors and Other Opening Protectives
85 - the edition as referenced in rule 4101:4-3-01 of the Administrative Code	Boiler and Combustion Systems Hazards Code

UL

Standard Referenced	Title

UL/CSA 60335-2-40-22	Household and Similar Electrical Appliances – Safety- Part 2-40: Particular Requirements for Electrical Heat Pumps, Air-Conditioners and Dehumidifiers
UL/CSA 60335-2-89-21	Household and Similar Electrical Appliances-Safety-Part 2-89: Particular Requirements for Commercial Refrigerating Appliances with an Incorporated or Remote Refrigerant Unit or Compressor

(D) Modify Chapter 15 to delete the following referenced standards:

Identify as (Not Referenced)

ASHRAE

Standard Referenced	**Title**
90.1-19 (Not referenced)	Energy Standard for Buildings Except Low-rise Residential Buildings.

ICC

Standard Referenced	**Title**
IBC – 21 (Not referenced)	International Building Code
IECC – 21 (Not referenced)	International Energy Conservation Code
IPC – 21 (Not referenced)	International Plumbing Code
IRC – 21 (Not referenced)	International Residential Code

(E) Modify Chapter 15 to add the following referenced standards:

ASHRAE

Standard Referenced	**Title**
62.2-19	Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings.

CSA

Standard

Referenced	Title
CSA C22.2 No. 60335-2-40-22	Household and Similar Electrical Appliances – Safety- Part 2-40: Particular Requirements for Electrical Heat Pumps, Air-Conditioners and Dehumidifiers
CSA C22.2 No. 60335-2-89-21	Household and Similar Electrical Appliances-Safety-Part 2-89: Particular Requirements for Commercial Refrigerating Appliances with an Incorporated or Remote Refrigerant Unit or Compressor

NFPA

Standard Referenced	Title
30-21	Flammable and Combustible Liquids Code
75-20	Protection of Information Technology Equipment

UL

Standard Referenced	Title
2085-10	Protected Above-Ground Tanks for Flammable and Combustible Liquids

Replaces:	4101:2-15-01
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Ohio Mechanical Code Summary of Significant Changes - 2017 to 2024 May 2023

Ohio Administrative Code Rule Number	2024 OMC Section	Source of Change (2018 IMC, 2021 IMC, or BBS)	Description of Change
4101:2-1-01	101.1	BBS	Formal adoption by reference of the International Mechanical Code (IMC)
	101.1.1	BBS	"Rules of construction" are universal edits of the IMC
4101:2-2-01	Ch 2	2018	Removes all definition lists found at the beginning of each chapter and italicizes defined terms throughout the code
	Appliance, existing	2021	Modified definition
	Balanced Ventilation	2018	New definition for dwelling units 403.3.2.1
	Building	BBS	Revised definition
	Ceiling Radiation Damper	2018	Modified definition to add two sentences and coordinate with UL 555C testing requirements
	Direct Evaporative Cooling	2018	New Definition to differentiate between direct vs indirect evaporative cooling process as used in 602.2 and 603.5.1
	Dwelling, One-, Two-, or Three-Family	BBS	Added definition
	Flammability classification (refrigerant)	2018	Modified definition
	Indirect Evaporative Cooling	2018	New definition to differentiate between direct vs indirect evaporative cooling process as used in 602.2 and 603.5.1
	Large-diameter ceiling fan	2018	Modified definition to align with DOE definitions
	Press-Connect Joint	2018	Modified definition to recognize use of bite ring joint.
	Refrigerant Safety Group Classification	2018	Modified definition to coordinate with ASHRAE 34.
	Registered Design Professional	BBS	Clarifies that landscape architects are also registered design professionals
	Toxicity Classification (Refrigerant)	2018	Modified definition to remove code requirements and better coordinate with the ASHRAE 34
	Unvented Alcohol Fuel-Burning Decorative Appliance	2018	New definition to recognize a newer type of decorative appliance listed in Section 929
4101:2-3-01	301.6	BBS	Modified Exception to refer to ORC 4104.44 -Requirements for welding and brazing.
	301.18	2018	Modification to include 'anchorage and bracing' to scope of seismic

			resistance design with Ch 16 of building code
	304.11	2018	Increases guardrail extension requirements for added safety at roof edge for roof hatch
	307.1.1	2018	New section to require what concealed piping is to be identified (marked)
	307.2.1.1	2021	Added how condensate drain is to be terminated.
	307.2.2	2021	Modified section to include PE-RT and PVDF pipe
	307.2.3.3	2021	New section to require identification of concealed piping and to clarify what is to be identified
4101:2-4-01	401.2	2021	Modified section to reference both the IECC and the ASHRAE 90.1, deleted Ohio change
	401.4	2021	Added the last sentence to condition #3 to recognize factory-built termination fittings
	403.1	2021	Deleted the restriction that limits application to Group R three stories of less in height; result is all Group R will require mechanical ventilation
	403.2	BBS	Added Exception 2 to use either ASHRAE 62.1, or 62.2 as an alternative engineered design for compliance
	403.2.1	2021	Added the last sentence to condition #2 to reference the ACCA 10 Manual SPS
	Table 403.3.1.1	2021	Modification to footnote ‘g’, to address ERV technology and coordinates ventilation rates with ASHRAE 62.1 for commercial laundries and private dwellings
	403.3.1.3	2021	Modification to add the last sentence to clarify when demand-controlled ventilation controls are used, the required minimum amount of outdoor air shall be provided when occupied
	403.3.1.5	2021	Deleted balancing Section 403.3.1.5, and moved to Section 608.1 with modifications
	403.3.2.1	2021	Added exception 2 to provide incentive for whole- house outdoor air ventilation system rather than exhaust-only systems for dwelling units. See new definition of ‘balanced ventilation systems’

	403.3.2.4	2018	Added new section for labeling controls for whole house-dwelling ventilation systems
	403.3.2.5	2018	Added new requirement for testing exhaust fans in dwelling units
	404.1	2018	Modification to clarify intent regarding intermittent operation and added 2 options of modes of operation.
	404.2	2018	Deleted 'Minimum Ventilation requirements and reassigned section 404.2 for 'Occupied spaces accessory to public garages'
	407.1	2021	Modification to add requirement to comply with NFPA 99 in addition to the IMC to coordinate with federal healthcare facility requirements
4101:2-5-01	501.2	2021	Clarification to consolidate independence requirements regarding domestic kitchen and hazardous exhaust and commercial kitchen exhaust requirements
	501.3.1	2021	Added last sentence to Condition 3 to recognize factory-built termination fittings
	502.9.5	2021 /BBS	Retains model codes language and adds reference to IFC Section 5701.2 as exception
	502.9.5	2021/BBS	Added exceptions 3 for Fuel and diesel oil tanks connected to fuel burning equipment & 4 for underground storage tanks in accordance with ORC 3737.87-.89
	502.20.1	2021/BBS	Added new section for requirement for controls that exhaust system must operate at all times "during chemical application."
	504.4	2018	Modification to add last sentence to seal ducts per Section 603.9.
	504.4.1	2018/2021/BBS	Modified 2018 new section that clarifies dryer exhaust termination requirements must meet dryer manufacturer's instructions or as prescribed in the section. Added revised language to last sentence after 'buildings' to read as 'Except ventilated soffits.
	504.6	2021	New section that clarifies that booster fans are not permitted in dryer exhaust systems; however, dryer exhaust duct power ventilators are permitted per 504.5.

	504.8.2 (504.9.2-2021)	2018	Modification to add Sentence after main paragraph to address dryer exhaust ducts in wall/ceiling cavities
	506.3.7	2021	New exception that allows manufacturer's slope for grease ducts
	506.3.9	2021	Adds a new requirement #7 for a cleanout within 3 ft of a horizontal fan
	506.3.13.2	2018	Modification to clarify locations and clearance to openings per 506.3.13.3 and not located within 3' of any opening in the exterior wall
	506.5.2	2018	New code section further refines and add flexibility to the requirements for pollution control units and adds certification to UL 8782 which manufacturers are already doing
	507.1	2021	Adds new hood exception for smoker ovens with integral exhaust
	507.2.6	2018	Adds new Exception 2 to recognize Type 1 hoods listed for clearances less than 18" from combustibles.
	507.6	2021	Clarification to replace end of last sentence with 'such as that by smoke generators.'
	501.2 (510.4)	2021	Moved independence requirement from 510.4 to Section 501.2 to consolidate independence requirements.
	510.4	2021	Renumbered existing 510.5, a result of the deletion of 510.4 information consolidated in 501.2
	510.5- 510.8.3	2021	Renumbered all existing sections because of the deletion of 510.4
	510.5.5	2021	Editorial modifications regarding make up air 'from all sources' for hazardous exhaust systems and their operation
	511.1.5	2021	Modified section name and the section to clarify intent
	514.2	2021	Modification removes Type II hoods from prohibited location item #4 thus allowing ERV systems
4101:2-6-01	602.2.1.8	2018/ 2021	Modification for new addition in 2018, 2021 adds last sentence to clarify intent that the entire assembly must be tested, not just the individual components
	603.5.1	2021	Modification to last sentence to clarify intent for 'supply' air ducts …utilizing 'direct' evaporative 'cooling systems'. Coordinates with new definitions

	603.5.2	2018	Added new section on new type of non-metallic ducts. (phenolic duct).
	603.8.2	2018	Modification for testing of underground ducts. (Sealing requirements, Section C403 -IECC)
	603.9	2018	Modification to exception to indicate exception for closure systems is not applicable for 'snap' and 'button' lock type joints and seams located outside conditioned spaces
	604.3 Exceptions	2021	Adds new exceptions and flexibility in design by allowing foam plastic insulation in more circumstances
	607.2	2021	Clarifies intent and coordinates subsections with new definition
	607.2.3	2021	New section clarifies intent and coordinates with new definition
	607.3.1	2018	Modification to clarify that dynamic-type ceiling radiation dampers are required where subject to continuous air flow from HVAC fans.
	607.3.3.1	2021	Clarifies intent and coordinates terminology with UL 555
	607.4 (607.4.1, 607.4.1.1, 607.4.1.2)	2021 & Petition #17-01	Separates single charging paragraph into multiple subsections and coordinates code with NFPA 80 requirements
	607.5.2	2021/BBS	Modification adds conditions where flexible air connectors are permitted to be installed; like Ohio language already adopted. 'Non-metallic' is deleted from beginning of each exception.
	607.5.5 Exception 1, condition 1.1	2021	Adds a requirement for standby power for subduct exception to ensure continuous upflow
	607.5.5.1	2021	New subsection that clarifies subduct exception for continuous upflow condition
	607.5.5.2 (607.5.5.1)	2021	Section renumber for new exception
	607.6.2.1.1, 607.6.2.1.2 and exceptions	2021	Added new sections to clarify intent of ceiling radiation dampers for dynamic and static conditions and coordinates with new definitions
	608.1	2021	Added new section to relocate deleted balancing Section 403.3.1.5, with modifications.
4101:2-7-01	No significant changes		
4101:2-8-01	801.21	2021	New section requires controls to shut off appliance burner when vent is obstructed

4101:2-9-01	905.2	2021	Adds last sentence recognizing clean wood-burning hydronic heaters
	908.1	2021	Adds UL/CSA 60335-2-40 which will eventually replace UL 1995
	908.3	Petition #19-02	Location expanded to include 'outdoor public areas' affected by vapor plumes. Distance from plume discharges are increased from 20' to 25' away from any ventilation inlet and adds 'including operable windows. Added note to refer to ASHRAE 12-2000.
	916.1 / 918.1 / 918.2	2021	Adds UL/CSA 60335-2-40 which will eventually replace UL 1995
	920.2	2021	New section prohibits unit heaters in certain locations of Group I-2 buildings
	929	2021	New section recognizing 'Unvented alcohol fuel-burning decorative appliances'
	930	2018 / 2021	Renumbered new section for HVLD fans as a result of new Section 929
4101:2-10-01	1004.1	2021	Clarifies scopes for fuel input ratings of ASME CSD-1 'less than' 12,500,000 Btu/hr, and NFPA 85 greater 'or equal to' 12,500,000 Btu/hr.
4101:2-11-01	1101.1	2021	Deleted second sentence regarding refrigerant piping design
	1101.1.1	2021	New section differentiating most refrigerants from ammonia shall comply with ASHRAE 15 for piping design and installation
	1101.1.2	2021	New section for refrigeration systems using ammonia to comply with IIAR 2 through IIAR 5 and are not required to comply with this chapter
	1101.2	2021	Added UL 1995, UL/CSA 60335-2-40, and UL 60335-2-89 and amended paragraph for references to new Table 1101.2 for equipment and applicable standards by equipment type
	1101.6	2021	1101.6 'General' is deleted and incorporated into 1101.1 Scope. [former 1101.7-1101.10 renumbered accordingly].
	T 1103.1	2021	Modifications to the table include removing R717 ammonia, deleting note c (outdoor installations), and moving note f to note c. Added new refrigerants to the table to coordinate with ASHRAE 34

	1104.2.2	2021	Delete exception dealing with ammonia from condition 3 and removed ammonia from condition 5
	T 1104.3.2	2021	Adds the word “Public” to ‘Assembly’ column of Table to be consistent with Section 1103.2 occupancy classifications
	1104.3.3	2021	Deleted reference to ‘other than R717 ammonia,’ after refrigerants
	1104.3.4	2021	Deleted ‘R717 ammonia’ from the exception, condition 1
	1105.6.3	2018 / 2021	Modified first sentence and deleted second sentence referencing ‘ammonia’
	1105.8	2021	Deleted previous Section 1105.8 dealing with ammonia discharge.
	1105.8 (new)	2021	Renumbered after deleting previous section 1105.8 and completely referred to IFC for Emergency pressure control system.
	1105.9	2021	New section pointing to required means of egress/doors from refrigerant machinery room. (Duplicated from IBC requirements)
	1106.3 / 1106.4	2021	Deleted Section 1106.3 dealing with ammonia and renumbers remaining sections, deletes old section 1106.4 exception dealing with ammonia,
	1106.3 (Exception)	2021	Added missing phrase “provided with ventilation” in sentence
	1106.4	2021	Reworked section to address the ventilation and electrical classification relationship
	1106.4.3	2021	Deleted Section 1106.3 dealing with ammonia and renumbers remaining sections thru 1106.6
	Sections 1107-1110	2021	All sections are reorganized and completely updated for Sections 1107-1110 and excluding ammonia. Tables 1107.4, 1107.5, and 1107.5.1 for piping, fittings, and copper brazed swaged cup depths. Additional testing requirements have been added.
	1107.1	2021	New subsection for scoping of refrigerant piping to comply with this section, excluding Ammonia.
	1107.2	2018/ 2021	Modification for used material piping to be approved for reuse.
	1107.3	2021	Add third sentence for clarification of materials ratings and prohibition of

			magnesium alloys with halogenated refrigerants.
	1107.5	2021	Pipe fittings are to comply with Table 1107.5 *or* be listed and labeled with UL 207
	1107.5.1	2021	New section and table for copper brazed swaged cup depths for in field fabrication.
	1107.6	2021	Section addresses compatibility of valve materials that are consistent with pipe materials.
	1107.7	2021	Section indicates that flex connectors and expansion and vibration compensators are to be listed and labeled for use in refrigerant systems.
	Section 1108	2021	Section changed from 'Field Test' to 'Joints and Connections'
	1108.3.1	2021	Brazing requires use of inert gas in piping to prevent oxidation on the interior of the piping. Excessive oxidation could result in obstruction of small piping or components including system chemistry degradation, requiring future repair work. Reducing frequency of opening refrigerating systems for repair reduces the exposure to numerous hazards/risks
	Section 1109	2021	Section changed from 'Periodic Testing' to 'Refrigerant Pipe Installation'
	1109.2.2	2021	New section requiring refrigerant piping to be concealed within the building elements. (Previously 1107.3)
	1109.2.3	2021	Clarification of prohibited locations for refrigerant piping. (Previously/similar to Section 1107.2) Allows piping to be installed in the ceiling of a corridor, If the RCL (refrigerant classification limits) requirements are met
	1109.2.5	2021	New section regulating the requirements for shaft containing refrigerant piping. A FR-rated shaft is required when piping connects three or more stories. Other utilities can be located in shaft. Three exceptions 1. water is use, (R718 refrigerant), 2. use of Group A1 refrigerants provided the smallest space if pipe meets the RCL requirements, 3. Piping installed on building exterior where leak vent to atmosphere.

	1109.2.6	2021	New section to protect an individual from directly contacting a hot or cold refrigerant pipe with insulation
	1109.3	2021	New section regulating the installation of piping using Group A2L or B2L refrigerants
	1109.3.1	2021	New section regulating pipe protection for the installation of piping using Group A2L or B2L refrigerants.
	1109.5	2021	New section for building envelope penetrations.
	Section 1110	2021	New section basis is the current Section 1108. Significant differences relate to test medium, test equipment, and pressure and vacuum test.
	Section 1111	2021	Renumbered from previous section 1109 with no changes.
4101:2-12-01	Section 1202 and Tables	2021	Modifications to recognizes CPVC/AL/CPVC pipe and fittings for hydronic applications, new standards for cross-linked PEX fittings, and CPVC fittings
	1203.3.4	2021	Modification to recognize CPVC/AL/CPVC pipe and fittings for hydronic application
	1203.7	2021	Modification to recognize mechanical joints for CPVC
	1203.8	2021	Adds new section recognizing CPVC/AL/CPVC pipe and fittings for hydronic applications
	1203.10.3	2021	Addresses the appropriate fittings for PEX
	1203.16	2021	Addresses fittings for PE-RT tubing
	Table 1210.4	2021	Modifications to recognize new standard for PEX for ground-source loop pipe, new standard for PE-RT, and new standard for PEX
	Table 1210.5	2021	Modifications to recognize new standard for PEX for ground-source loop pipe, new standard for PE-RT, and new standard for PEX
	1210.6.2	2021	Modification to remove requirement to chamfer and ream, and refer to manufacturer's installation instructions
	1210.8	2021	Modification to require all ground source piping installation to meet CSA C448 and refer to manufacturer's installation instructions
4101:2-13-01	1301.4 and Table 1302.3	2021	Adds fuel fittings to the scope of the chapter

	1302.8 and 1309	2021	Modification requires that all fuel oil piping be listed and labeled
	1303.3.5 – 1303.84	2021	Adds fuel fittings to the scope of the chapter
4101:2-14-01	1401.4, 1401.4.1, 1402.1	2018	Modifications to address application of Chapter 14 for 'solar thermal' applications only, and for consistency with current terminology, and to reference solar product standards (ICC900/SRCC300 and ICC901/SRCC100)
	1408.1.2	2021	Clarifies that the sleepers, curbs, and stanchions used for mounting solar arrays are required to be noncombustible
	1404.1	2021	Clarifies solar thermal collectors are to be identified with SRCC OG-100 labels
4101:2-15-01	ASHRAE	Petition #20-05 & Daikin request	Updated standards 15 and 34 to the 2022 edition
	*ASHRAE	Request from Jeremy Fauber of Heapy Eng.	*Updates standard 170 to the 2021 edition
	CSA	Petition #20-05 & Daikin request	Adds standards C22.2 No. 60335-2-40 (2022 edition) and C22.2 No. 60335-2-89 (2021 edition)
	NFPA	Petition #22-01 & BBS	Updates standard 70 to the 2023 edition (with one amendment) and updates standards 37, 72, 80, and 85
	UL	Petition #20-05 & Daikin request	Updates standard 60335-2-40 to the 2022 edition and standard 60335-2-89 to the 2021 edition

*Indicates a change after the stakeholder comment period