City of Phoenix
PLANNING & DEVELOPMENT DEPARTMENT

BUILDING CONSTRUCTION CODE CHANGE PROPOSAL

Amendment to 2024 International Mechanical Code (IMC)
Section 101.1

Submitted by: International Mechanical Code Committee

Chapter 1 Scope and administration

Notes:

1. For reserved sections herein, refer to the amendments and requirements in Chapter 1 of the International Building Code for these code requirements.
2. For sections that remain unchanged from base code, the term "see this section of the 2024 IMC" shall refer to the unchanged base code.

101.1 Title
These regulations shall be known as the International Mechanical Code as amended by the City of Phoenix ~~*Building Code* of [NAME OF JURISDICTION]~~, hereinafter referred to as "this code." These regulations are one document of the overall Phoenix Building Construction Code as defined by the adopting ordinance.

101.2 Scope. - see this section of the 2024 IMC

101.2.1 Appendices. - see this section of the 2024 IMC

101.3 Purpose. - see this section of the 2024 IMC

101.4 Severability. - Reserved.

102.1 General. - Reserved.

102.2 Existing installations. - see this section of the 2024 IMC

102.2.1 Existing buildings. - see this section of the 2024 IMC

102.3 Maintenance. - see this section of the 2024 IMC

102.4 Additions, alterations or repairs. - see this section of the 2024 IMC

102.5 Change in occupancy. - see this section of the 2024 IMC

102.6 Historic buildings. - see this section of the 2024 IMC

102.7 Moved buildings. - see this section of the 2024 IMC

102.8 Referenced codes and standards. - Reserved
Exception: Where enforcement of a code provision would violate the conditions of the listing of the *equipment* or *appliance*, the conditions of the listing and the manufacturer's installation instructions shall apply.

102.8.1 Conflicts. - Reserved.

102.8.2 Provisions in referenced codes and standards. - Reserved.

102.9 Requirements not covered by this code. - see this section of the 2024 IMC

102.10 Other laws. - Reserved.

102.11 Application of references. - Reserved.

Section 103 Code compliance agency - Reserved.

Section 104 Duties and powers of the code official - Reserved.

Section 105 Permits - Reserved.

Section 106 Construction documents - Reserved.

Section 107 Notice of approval - Reserved.

Section 108 Fees - Reserved.

Section 109 Service utilities - Reserved.

Section 110 Temporary uses, equipment and systems - Reserved.

Section 111 Inspections and testing - Reserved.

Section 112 Means of appeals - Reserved.

Section 113 Board of appeals - Reserved.

Section 114 Violations - Reserved.

Section 115 Stop work order - Reserved.

Justification: All the adopted and amended building code documents taken together are known as the Phoenix Building Construction Code. Each code document is a separate document of the Phoenix Building Construction Code. This document is the International Mechanical Code as Amended by the City of Phoenix. This document is intended to apply where a code or referenced standard identifies the International Mechanical Code as being applicable.

The reserved provisions are contained in the Phoenix Building Construction Code – Administrative Provisions (Chapter 1 of the International Building Code).

Cost Impact: No cost impact.

Approved in previous 2018 Code Adoption process: ☐ **YES** ☒ **NO**

ACTION TAKEN:

2024 Code Committee	Date: 01/28/2025
☒ Approved as submitted ☐ Modified and approved ☐ Denied	☐ No action taken
Development Advisory Board (DAB) Subcommittee	Date: 02/13/2025
☒ Approved as submitted ☐ Modified and approved ☐ Denied	☐ No action taken
Development Advisory Board (DAB)	Date: 04/22/2025
☒ Approved as submitted ☐ Modified and approved ☐ Denied	☐ No action taken
Transportation, Infrastructure and Planning Subcommittee	Date:
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City Council Action	Date:
☐ Approved as submitted ☐ Modified and approved ☐ Denied	☐ No action taken

City of Phoenix
PLANNING & DEVELOPMENT DEPARTMENT

BUILDING CONSTRUCTION CODE CHANGE PROPOSAL

Amendment to 2024 International Mechanical Code (IMC)
Section 307.2.2

Submitted by: International Mechanical Code Committee

307.2.2 Drain pipe materials and sizes.
Nonmetalic piping shall not be installed in exposed locations. Components of the condensate disposal system shall be ABS, cast iron, copper and copper alloy, CPVC, cross-linked polyethylene, galvanized steel, PE-RT, polyethylene, polypropylene, PVC or PVDF pipe or rigid tubing. Components shall be selected for the pressure and temperature rating of the installation. Joints and connections shall be made in accordance with the applicable provisions of Chapter 7 of the *International Plumbing Code* relative to the material type. Condensate waste and drain line size shall be not less than 3/4-inch pipe size and shall not decrease in size from the drain pan connection to the place of condensate disposal. Where the drain pipes 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.

Justification: Due to our extreme weather conditions, it is recommended that all nonmetallic condensate piping be prohibited from areas of direct sunlight, such as roofs. Nonmetallic piping subject to extreme heat will soften and sag between supports. This causes low spots in the drainage system and prevents gravity flow to the point of disposal. In addition, exposure to UV rays from the sun causes the pipe to become brittle and subject to fracture when placed under stress or strain. Both of these conditions lead to condensate disposal failure with the likely result of water ponding on the roof.

Cost Impact: Minor cost impact. Increase in cost of materials. This item is in the current 2018 code.

Approved in previous 2018 Code Adoption process: ☒ **YES** ☐ **NO**

ACTION TAKEN:

2024 Code Committee	Date: 11/24/2024
☒ Approved as submitted ☐ Modified and approved ☐ Denied	☐ No action taken
Development Advisory Board (DAB) Subcommittee	Date: 02/13/2025
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Development Advisory Board (DAB)	Date: 04/22/2025
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City of Phoenix
PLANNING & DEVELOPMENT DEPARTMENT

BUILDING CONSTRUCTION CODE CHANGE PROPOSAL

Amendment to 2024 International Mechanical Code (IMC)
Section 309.1

Submitted by: International Mechanical Code Committee

[BG] 309.1 ~~Space-heating systems~~. Heating and cooling systems.
Interior spaces intended for human occupancy shall be provided with active or passive ~~space-~~ heating and cooling systems capable of maintaining an indoor temperature ~~of not less than 68°F (20°C)~~ between 70°F (21°C) and 82°F (28°C) (if cooled by air conditioning, and 86°F (30°C) if cooled by evaporative cooling), measured at a point 3 feet (914mm) above the floor in the center of the room. ~~on the design heating day.~~ The installation of ~~portable~~ space heaters or coolers shall not be used to achieve compliance with this section.

Exceptions:

1. Space heating and cooling systems are not required for interior spaces where the primary purpose is not associated with human comfort.
2. Group F, H, S, and U occupancies.

Justification: This amendment requires newly constructed buildings to comply with City of Phoenix Neighborhood Preservation Ordinance Sec. 39-5(B)(1)(b), which deals with buildings that are rented. All newly constructed buildings may be rented at some point in their life.

Cost Impact: Significant cost impact; this amendment requires cooling in all interior spaces intended for human occupancy, which the base code does not.

Approved in previous 2018 Code Adoption process: ☒ **YES** ☐ **NO**

ACTION TAKEN:

2024 Code Committee	Date: 01/08/2024
☒ Approved as submitted ☐ Modified and approved ☐ Denied	☐ No action taken
Development Advisory Board (DAB) Subcommittee	Date: 02/13/2025
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City of Phoenix
PLANNING & DEVELOPMENT DEPARTMENT

BUILDING CONSTRUCTION CODE CHANGE PROPOSAL

Amendment to 2024 International Mechanical Code (IMC)
Section 402.1

Submitted by: International Mechanical Code Committee

402.1 Natural ventilation.
Natural ventilation ~~of an occupied space~~ in a residential dwelling unit within a commercial building shall be through windows, doors, louvers or other openings to the outdoors. The operating mechanism for such openings shall be provided with *ready access* so that the openings are readily controllable by the *building* occupants. Natural ventilation of all other occupied spaces within commercial buildings shall be through permanently fixed openings to the outdoors.

Justification: Natural ventilation in a residential dwelling unit within a commercial building depends on operable openings such as doors, windows, louvers, or other openings to the outdoors. Whenever a dwelling unit within a commercial building has occupants and the qualifying window or door is open to the outdoors, then the ventilation requirement of IMC 401.3 is met All other spaces within a commercial building with space cooling and heating requirements would rarely leave windows or doors in the open position. Openings such as windows and doors in a commercial building cannot be reliably depended upon to remain open whenever occupants are present.

Cost Impact: Minimal cost impact.

Approved in previous 2018 Code Adoption process: ☒ **YES** ☐ **NO**

ACTION TAKEN:	
2024 Code Committee	Date: 11/16/2024
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City of Phoenix
PLANNING & DEVELOPMENT DEPARTMENT

BUILDING CONSTRUCTION CODE CHANGE PROPOSAL

Amendment to 2024 International Mechanical Code (IMC)
Section 407.1.1

Submitted by: International Mechanical Code Committee

407.1 General.
Mechanical ventilation for ambulatory care facilities and Group I-2 occupancies shall be designed and installed in accordance with this code and ASHRAE 170.

407.1.1
Mechanical systems designed and installed in accordance with IMC 407.1 and ASHRAE 170 shall be verified by a qualified third party Special Inspector. The Special Inspector/testing agency shall be an independent third party individual or firm and shall not be the installing contractor. A report shall be generated by the third party individual or firm showing compliance. Special inspections shall be as specified in Chapter 17 of the *International Building Code* as amended.

Justification
The ventilation systems for Group I-2 and ambulatory facilities face the possibility of communicating and perpetuating airborne diseases. Special inspections are required to ensure that life safety systems and public health standards are met. It is imperative that the ventilation systems required by IMC 407.1 are designed to control the spread of disease and operate as designed. This can only be accomplished by verification through proper testing. The Registered Design Professional in Responsible Charge shall follow the guidelines set forth in the 2024 IBC as specified in Chapter 17.

Cost Impact: No cost impact. Currently Arizona Department of Health Services (ADHS) requires that the ventilation systems are balanced and tested.

Approved in previous 2018 Code Adoption process: ☒ **YES** ☐ **NO**

ACTION TAKEN:

2024 Code Committee	Date: 01/08/2025	
☒ Approved as submitted	☐ Modified and approved	☐ Denied ☐ No action taken
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City of Phoenix
PLANNING & DEVELOPMENT DEPARTMENT

BUILDING CONSTRUCTION CODE CHANGE PROPOSAL

Amendment to 2024 International Mechanical Code (IMC)
Section 408

Submitted by: International Mechanical Code Committee

408 MARIJUANA RELATED OCCUPANCIES

408.1 General.
Any building used to cultivate, produce, infuse or dispense marijuana shall be designed such that there shall be no emission of dust, fumes, vapors, or odors into the environment from the premise. A ventilation system shall be designed to prevent the distribution of odors to other occupied parts of the building or adjacent properties. Design of the odor control system shall be based on accepted engineering practices. All equipment and filter media shall be listed and labeled for the application. Exhaust systems used in odor control systems shall meet the requirements of Section 501.

408.1.1 Exhaust outlets.
The termination point for exhaust outlets shall be in accordance with Section 501.3. Exhaust from cultivation and production facilities shall be in accordance with Section 501.3.1(2) and for dispensaries in accordance with Section 501.3.1(3).

Justification: This is a current amendment to the 2018 IMC. This new section provides design guidance for required odor control systems, per City of Phoenix Zoning Ordinance.

Cost Impact: Moderate cost impact due to additional equipment necessary to comply with air quality requirements mandated by the Authority Having Jurisdiction (AHJ).

Approved in previous 2018 Code Adoption process: ☒ **YES** ☐ **NO**

ACTION TAKEN:

2024 Code Committee	Date: 11/16/2024	
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City of Phoenix
PLANNING & DEVELOPMENT DEPARTMENT

BUILDING CONSTRUCTION CODE CHANGE PROPOSAL

Amendment to 2024 International Mechanical Code (IMC)
Section 502.14

Submitted by: International Mechanical Code Committee

502.14 Motor vehicle operation.
In areas where motor vehicles operate, mechanical ventilation shall be provided in accordance with Section 403 Additionally, areas in which stationary motor vehicles are operated shall be provided with a *source capture system* that connects directly to the motor vehicle exhaust systems. Makeup air for the required exhaust systems in areas where motor vehicles operate shall be provided through permanent unobstructed openings to the outdoors, such as louvers and grills. Mechanical equipment and louvers used for makeup air purposes shall be electrically interlocked with the exhaust system. Such system shall be engineered by a *registered design professional* or shall be factory-built *equipment* designed and sized for the purpose.

Exceptions:
1. This section shall not apply where the motor vehicles being operated or repaired are electrically powered.
2. This section shall not apply to one- and two-family dwellings.
3. This section shall not apply to motor vehicle service areas where engines are operated inside the *building* only for the duration necessary to move the motor vehicles in and out ot the *building*.

Justification: Motor vehicle operation in a building depletes oxygen and causes a build-up of carbon monoxide and other products of combustion which could be fatal to occupants. It is critical to the health of occupants to remove these emissions from the occupied space. From IMC section 403, an exhaust rate of 0.75 cfm/ft^2 is specified for both repair garages and enclosed parking garages. Repair garages that have stationary vehicle operation, such as engine tune-up services, radiator or transmission flushing, etc. require dedicated exhaust systems. This proposal adds specific requirements to provide permanent building openings for makeup air or use mechanical makeup air units. This eliminates the use of open doors, which cannot be reliable. It also requires any mechanical equipment or mechanical louvers used for makeup air to be electrically interlocked with the dedicated exhaust system.

Cost Impact: Minimal cost impact.Minimal cost increase to install openings. This requirement is also an amendment carried forward from the 2018 IMC.

Approved in previous 2018 Code Adoption process:	☒ **YES** ☐ **NO**
ACTION TAKEN:	
2024 Code Committee	Date: 11/16/2024
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Development Advisory Board (DAB) Subcommittee	Date: 02/13/2025
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City of Phoenix
PLANNING & DEVELOPMENT DEPARTMENT

BUILDING CONSTRUCTION CODE CHANGE PROPOSAL

Amendment to 2024 International Mechanical Code (IMC)
Section 502.21

Submitted by: International Mechanical Code Committee

502.21 Storage and use of liquid carbon dioxide (CO_2) systems.
Indoor or outdoor areas that contain liquid carbon dioxide (CO_2) stored in ASME pressure vessels in new and existing facilities shall be provided with mechanical exhaust ventilation in accordance with this section.

Exception: Outdoor storage areas in non-enclosed spaces designed to prevent the collection of vapors when approved by the *Fire Marshal*.

502.21.1 System requirements.
Exhaust ventilation systems for liquid carbon dioxide CO_2 tanks shall comply with all of the following:

1. The installation shall be in accordance with this code and the *Phoenix Fire Code,* PFC Chapter 53 Compressed Gases, Section 5307.2.2, Gas Ventilation Requirements.
2. Mechanical ventilation shall be provided at a rate of not less than 1 cfm per square foot [0.00508 $m^3/(s \cdot m^2)$] of floor area over the storage area.
3. The system shall operate continuously unless alternate designs are approved by the *Fire Marshal.*
4. A manual start control shall be provided outside of the room in a position adjacent to the access door to the room or in another approved location. The switch shall be a break-glass or other approved type and shall be labeled: VENTILATION SYSTEM EMERGENCY ON-ONLY.
5. Exhaust ventilation shall be designed to consider the density of the potential vapors released. For liquid **Co_2** systems, exhaust shall be taken from a point within 12 inches (305 mm) of the floor.
6 Makeup air shall be provided. The location of both the exhaust and makeup air openings shall be designed to provide air movement across all portions of the floor or room to prevent the accumulation of vapors.
7. Exhaust air shall not be recirculated to occupied areas. Exhaust termination shall be located where it will not allow for a dangerous accumulation of vapors and in accordance with Section 501.3.1 (2).
8. Sensors, controls, alarms, piping and all accessory components as prescribed by the *Phoenix Fire Department*.

Justification: This amendment determines the requirement for a mechanical ventilation system for liquid carbon dioxide (CO_2) bulk storage systems regardless of quantity. Businesses that provide carbonated drinks have been increasingly switching from dry to liquid CO_2 storage systems. Liquid CO_2 storage systems have been deemed potentially hazardous to human health by the Phoenix Fire Department. Separate Fire Department permits are also required for CO_2 systems. This requirement is also an amendment carried forward from the 2018 IMC.

Cost Impact: Additional costs are due to the requirement for installation of dedicated mechanical exhaust system in the area of liquid CO_2 tanks.
Approved in previous 2018 Code Adoption process: ☒ **YES** ☐ **NO**
ACTION TAKEN:
2024 Code Committee Date: 11/16/2024 ☒ Approved as submitted ☐ Modified and approved ☐ Denied ☐ No action taken
Development Advisory Board (DAB) Subcommittee Date: 02/13/2025 ☒ Approved as submitted ☐ Modified and approved ☐ Denied ☐ No action taken
Development Advisory Board (DAB) Date: 04/22/2025 ☒ Approved as submitted ☐ Modified and approved ☐ Denied ☐ No action taken
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City Council Action Date: ☐ Approved as submitted ☐ Modified and approved ☐ Denied ☐ No action taken

City of Phoenix
PLANNING & DEVELOPMENT DEPARTMENT

BUILDING CONSTRUCTION CODE CHANGE PROPOSAL

Amendment to 2024 International Mechanical Code (IMC)
Section 606.2.1

Submitted by: International Mechanical Code Committee

606.2 Where required.
Smoke detectors shall be installed where indicated in Sections 606.2.1 through 606.2.3.

Exception: Smoke detectors shall not be required where air distribution systems are incapable of spreading smoke beyond the enclosing walls, floors and ceilings of the room or space in which the smoke is generated.

606.2.1 ~~Return air systems.~~ Air distribution systems.
Smoke detectors shall be installed in ~~return air systems with~~ air distribution systems downstream of the filters and ahead of any branch connections in systems having a design capacity greater than 2,000 cfm (0.9 m^3/s). ~~in the return air duct or *plenum* upstream of any filters, *exhaust air* connections, outdoor air connections, or decontamination *equipment* and *appliances*.~~

Exception: Smoke detectors are not required ~~in the return air system~~ where all portions of the *building* served by the air distribution system are protected by area smoke detectors connected to a fire alarm system in accordance with the *International Fire Code*. The area smoke detection system shall comply with Section 606.4.

Justification: Committee recommends that this section be revised to correlate with NFPA 90A Installation of Air-Conditioning and Ventilating Systems. The 2024 IMC references NFPA 72 National Fire Alarm Code, which in turn references NFPA 90A for installation of smoke detectors. These NFPA Standards are generally recognized as the national standards for smoke detector installation. A large amount of air distribution systems installed in Phoenix utilize a filtered grill for return air, typically installed in a ceiling or wall. In order to place a duct detector in front of this filter without having it attached to the grill, an additional length of plenum or duct is required. This leads to added construction costs and space restraints. The duct smoke detector may also be subjected to a higher frequency of false alarms from contaminants in the room. The committee reasons that any appreciable amount of smoke entering the return air system will pass through the filtered grill and reach the probe for the smoke detector. This proposed amendment will help to keep down the design costs while still providing an equivalent level of life safety based on the national standard. This amendment is carried forward from the 2018 IMC.

Cost Impact: Saves cost of additional duct work.

Approved in previous 2018 Code Adoption process: ☒ **YES** ☐ **NO**

ACTION TAKEN:	
2024 Code Committee	Date: November 16, 2024
☒ Approved as submitted ☐ Modified and approved ☐ Denied	☐ No action taken
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Transportation, Infrastructure and Planning Subcommittee	Date:
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City Council Action	Date:
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City of Phoenix
PLANNING & DEVELOPMENT DEPARTMENT

BUILDING CONSTRUCTION CODE CHANGE PROPOSAL

Amendment to 2024 International Mechanical Code (IMC)
Section 606.5

Submitted by: International Mechanical Code Committee

606.5 Testing.
Smoke detectors shall be tested by an approved testing agency or a qualified third party Special Inspector. The Special Inspector/ testing agency shall be an independent third party and shall not be the installing contractor. Special inspections shall be as specified in Chapter 17 of the *International Building Code* as amended.

Justification: Smoke detectors can save lives when they operate correctly. The Mechanical code requires that these devices be installed at specific locations in the building air distribution systems. Testing of the operation of each smoke detector is required to be completed by a special inspector that is independent of the installer. Such special inspector must also be qualified to complete the work. Special Inspections is covered in the International Building Code and has been extended in the City of Phoenix to include several life safety items related to Mechanical design. Due to the importance of these life safety devices, it is recommended by the committee that a Special Inspector submit a final report certifying that all devices operate as designed and the Registered Design Professional in Responsible Charge signs the certificate. To maintain consistency with the Special Inspections program, the testing agency and the registrant shall follow the guidelines set forth in the 2024 IBC, as specified in Chapter 17.

Cost Impact: Increase costs associated with hiring a Special Inspector. However, this amendment is carried forward from the 2006 IMC and has been in place for the past eighteen years.

Approved in previous 2018 Code Adoption process: ☒ **YES** ☐ **NO**

ACTION TAKEN:	
2024 Code Committee	Date: 11/21/2024
☒ Approved as submitted ☐ Modified and approved ☐ Denied	☐ No action taken
Development Advisory Board (DAB) Subcommittee	Date: 02/13/2025
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City Council Action	Date:
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City of Phoenix
PLANNING & DEVELOPMENT DEPARTMENT

BUILDING CONSTRUCTION CODE CHANGE PROPOSAL

Amendment to 2024 International Mechanical Code (IMC)
Section 607.2

Submitted by: International Mechanical Code Committee

[BF] 607.2 Installation.
Fire dampers, smoke dampers, combination fire/smoke dampers and ceiling radiation dampers located within air distribution and smoke control systems shall be installed in accordance with the manufacturer's instructions, the dampers' listing and Sections 607.2.1 through 607.2.3. Dampers shall be tested by an approved testing agency or a qualified third party special inspector. The special Inspector/testing agency shall be an independent third party individual or firm and shall not be the installing contractor. Special inspections shall be as specified in Chapter 17 of the *International Building Code* as amended.

Justification: Fire and smoke dampers can save lives when they operate correctly. The Mechanical code requires that these devices be installed at specific locations to prevent fire and smoke from spreading throughout a building. The IMC requires all dampers to be listed and tested at the factory. This proposal will verify that the dampers operate correctly after they are installed in the building. This amendment requires that testing of dampers shall be performed by a qualified third party testing agency and all results shall be verified by the professional design engineer. Special inspection requirements are listed in the 2024 IBC and a reference is provided in this proposal.

Cost Impact: Increase costs associated with hiring a Special Inspector. However, this amendment is carried forward from the 2018 IMC and has been in place for the past twelve years.

Approved in previous 2018 Code Adoption process: ☒ **YES** ☐ **NO**

ACTION TAKEN:

2024 Code Committee		Date: 11/21/2024
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City Council Action		Date:
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City of Phoenix
PLANNING & DEVELOPMENT DEPARTMENT

BUILDING CONSTRUCTION CODE CHANGE PROPOSAL

Amendment to 2024 International Mechanical Code (IMC)
Section 608.1

Submitted by: International Mechanical Code Committee

608.1 Balancing.
Air distribution, ventilation and exhaust systems shall be provided with means to adjust the system to achieve the design airflow rates and shall be balanced by an *approved* method. *Ventilation air* distribution shall be balanced by an *approved* method and such balancing shall verify that the air distribution system is capable of supplying and exhausting the airflow rates required by Chapter 4.

The *ventilation* air distribution system shall be provided with means to adjust the system to achieve not less than the minimum ventilation airflow rate as required by sections 403.3 and 403.3.1.2. Ventilation systems shall be balanced using a nationally accepted air balancing test method. Such balancing shall verify that the ventilation system is capable of supplying and exhausting the airflow rates required by Sections 403.3 and 403.3.1.2. A final report shall be provided to the engineer of record and the mechanical inspector.

Justification: This is a current amendment to the 2018 IMC 403.1.5 and is now currently located in 2024 IMC 608.1. The proposed amendment will require an approved test and balance agency / individual to perform balancing of ventilation air systems in commercial buildings. The original code language does not define what type of “approved method” is acceptable. The proposal will further require that such agency / individual follow national standards for air balancing methods.

Cost Impact: Minimal cost impact. Minimal impact of nationally accepted air balancing test.

Approved in previous 2018 Code Adoption process: ☒ **YES** ☐ **NO**

ACTION TAKEN:	
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City of Phoenix
PLANNING & DEVELOPMENT DEPARTMENT

BUILDING CONSTRUCTION CODE CHANGE PROPOSAL

Amendment to 2024 International Mechanical Code (IMC)
Section 928.1

Submitted by: International Mechanical Code Committee

SECTION 928 EVAPORATIVE COOLING EQUIPMENT

928.1 General.
Evaporative cooling equipment shall:

1. Be installed in accordance with the manufacturer's instructions.
2. Be installed on level platforms in accordance with Section 304.10.
3. Have openings in exterior walls or roofs flashed in accordance with the *International Building Code*.
4. Be provided with an *approved* water supply, sized for peak demand. The quality of water shall be provided in accordance with the *equipment* manufacturer's recommendations. The piping system and protection of the potable water supply system shall be installed as required by the International Plumbing Code.
5. Have air intake opening locations in accordance with Section 401.4.
6. A permanent relief opening or other engineered design sufficient to assure positive airflow shall balance intake air.
7. Outside air shall be provided as specified in Section 403.2.
8. Air ducts and dampers, which are a portion of an evaporative cooling system, shall comply with Chapter 6.
9. Overflow drains shall be provided that discharge to an *approved* disposal location.

Justification: This amendment clarifies installation requirements for evaporative coolers.

Cost Impact: Minimal cost impact. Requires positive airflow design. These requirements are carried forward from the 2018 IMC.

Approved in previous 2018 Code Adoption process: ☒ **YES** ☐ **NO**

ACTION TAKEN:

2024 Code Committee				Date: 11/21/2024
☒ Approved as submitted	☐ Modified and approved	☐ Denied	☐ No action taken	
Development Advisory Board (DAB) Subcommittee				Date: 02/13/2025
☒ Approved as submitted	☐ Modified and approved	☐ Denied	☐ No action taken	
Development Advisory Board (DAB)				Date: 04/22/2025
☒ Approved as submitted	☐ Modified and approved	☐ Denied	☐ No action taken	
Transportation, Infrastructure and Planning Subcommittee				Date:
☐ Approved as submitted	☐ Modified and approved	☐ Denied	☐ No action taken	
City Council Action				Date:
☐ Approved as submitted	☐ Modified and approved	☐ Denied	☐ No action taken	

City of Phoenix
PLANNING & DEVELOPMENT DEPARTMENT

BUILDING CONSTRUCTION CODE CHANGE PROPOSAL

Amendment to 2024 International Mechanical Code (IMC)
Section 932

Submitted by: International Mechanical Code Committee

SECTION 932 WOOD STOVE/FIREPLACE INSTALLATION

DEFINITIONS. For purposes of this section, the following words and terms shall have the meaning ascribed thereto:

FIREPLACE: A built-in-place masonry hearth and fire chamber or a factory-built appliance, designed to burn solid fuel or to accommodate gas or electric log insert or similar device, and which is intended for occasional recreational or aesthetic use, not for cooking, heating, or industrial processes.

SOLID FUEL: Includes, but is not limited to, wood, coal, or other non-gaseous or non-liquid fuels, including those fuels defined by the Maricopa County Air Pollution Control Officer as "inappropriate fuel" to burn in residential wood burning devices.

WOODSTOVE: A solid-fuel burning heating appliance including a pellet stove, which is either freestanding or designed to be inserted into a fireplace.

932.1 General.

In accordance with the Phoenix City Council adopted Ordinance G-4062, on or after December 31, 1998, no person, firm or corporation shall construct or install a fireplace or a wood stove, and the Building Official shall not approve or issue a permit to construct or install a fireplace or a wood stove, unless the fireplace or wood stove complies with one of the following:

1. A fireplace which has a permanently installed gas or electric log insert;
2. A fireplace, wood stove or other solid fuel burning appliance which has been certified by the United States Environmental Protection Agency as conforming to 40 Code of Federal Regulations part 60, subpart AAA;
3. A fireplace, woodstove or other solid fuel burning appliance that has been tested and listed by a nationally recognized testing agency to meet performance standards equivalent to those adopted by 40 Code of Federal Regulations part 60, subpart AAA;
4. A fireplace, wood stove or other solid fuel burning appliance which has been determined by the Maricopa County Air Pollution Control Officer to meet performance standards equivalent to those adopted by 40 Code of Federal Regulations part 60, subpart AAA, as in effect on July 1, 1990.
5. A fireplace which has a permanently installed wood stove insert which complies with subparagraph 2, 3, or 4 above.

Exceptions: The following installations are not regulated and are not prohibited by this section: Furnaces, boilers, incinerators, kilns, and other similar space heating or industrial process equipment. Cook stoves, barbecue grills, and similar appliances designed primarily for cooking. Fire pits, barbecue grills, and other outdoor fireplaces.

Fireplace or wood stove alterations prohibited.
Fireplaces constructed or installed on or after December 31,1998, that contain a gas or electric log insert or a woodstove insert, shall not be altered to directly burn wood or any other solid fuel. On or after December 31, 1998, no person, firm, or corporation shall alter a fireplace, woodstove, or other solid-fuel burning appliance in any manner that would void its certification or operational compliance with the provisions of this section.

Fireplaces constructed or installed on or after December 31, 1998, shall not be altered without first obtaining a permit from the City to ensure compliance with this section.

Justification: Recommendation to include code language based on City Ordinance G-4062 and Maricopa County wood burning restriction ordinance. This amendment is carried over from the 2018 IMC and is also found in the 2018 IRC as Section R325.

Cost Impact: No cost impact.

Approved in previous 2018 Code Adoption process: ☒ **YES** ☐ **NO**

ACTION TAKEN:	
2024 Code Committee	Date: 11/21/2024
☒ Approved as submitted ☐ Modified and approved ☐ Denied	☐ No action taken
Development Advisory Board (DAB) Subcommittee	Date: 02/13/2025
☒ Approved as submitted ☐ Modified and approved ☐ Denied	☐ No action taken
Development Advisory Board (DAB)	Date: 04/22/2025
☒ Approved as submitted ☐ Modified and approved ☐ Denied	☐ No action taken
Transportation, Infrastructure and Planning Subcommittee	Date:
☐ Approved as submitted ☐ Modified and approved ☐ Denied	☐ No action taken
City Council Action	Date:
☐ Approved as submitted ☐ Modified and approved ☐ Denied	☐ No action taken

City of Phoenix
PLANNING & DEVELOPMENT DEPARTMENT

BUILDING CONSTRUCTION CODE CHANGE PROPOSAL

Amendment to 2024 International Mechanical Code (IMC)
Section 1105.10

Submitted by: International Mechanical Code Committee

1105.10 Dimensions.
Refrigeration machinery rooms shall be of such dimensions that all system parts are readily accessible with adequate space for service, maintenance, and operations. A minimum unobstructed walking space at least three (3) feet (914 mm) in width and six (6) feet eight (8) inches (2032 mm) in height or approved manufacturer's installation or required clearances shall be maintained throughout, allowing free access to at least two sides of all moving machinery and approaching each stop valve. Access to refrigeration machinery rooms shall be restricted to authorized personnel and posted with permanent signage.

Justification: This addition to this section is needed to ensure adequate safe working space around the equipment in a refrigeration machinery room. Previously incorporated into the 2018 IMC.

Cost Impact: Minimal cost impact.

Approved in previous 2018 Code Adoption process: ☒ **YES** ☐ **NO**

ACTION TAKEN:

2024 Code Committee	Date: 11/21/2024	
☒ Approved as submitted	☐ Modified and approved	☐ Denied ☐ No action taken
Development Advisory Board (DAB) Subcommittee	Date: 02/13/2025	
☒ Approved as submitted	☐ Modified and approved	☐ Denied ☐ No action taken
Development Advisory Board (DAB)	Date: 04/22/2025	
☒ Approved as submitted	☐ Modified and approved	☐ Denied ☐ No action taken
Transportation, Infrastructure and Planning Subcommittee	Date:	
☐ Approved as submitted	☐ Modified and approved	☐ Denied ☐ No action taken
City Council Action	Date:	
☐ Approved as submitted	☐ Modified and approved	☐ Denied ☐ No action taken

City of Phoenix
PLANNING & DEVELOPMENT DEPARTMENT

BUILDING CONSTRUCTION CODE CHANGE PROPOSAL

Amendment to 2024 International Mechanical Code (IMC)
Section 1109.2.5

Submitted by: International Mechanical Code Committee

1109.2.5 Refrigerant pipe shafts.
Refrigerant piping that penetrates two or more floor/ceiling assemblies shall be enclosed in a fire-resistance-rated shaft enclosure. The fire-resistance-rated shaft enclosure shall comply with Section 713 of the *International Building Code*.

Exceptions:
1. *Refrigeration* systems using R-718 refrigerant (water).
2. Piping in a direct refrigeration system ~~using Group A1 refrigerant~~ where the refrigerant quantity does not exceed the limits of Table 1103.1 for the smallest occupied space through which the piping passes.
3. Piping located on the exterior of the *building* where vented to the outdoors.

Justification: This amendment will make IMC 1109.2.5 consistent with ASHRAE 15-2022 which is a currently approved reference standard in the 2024 IMC. IMC 1109.2.2 still requires refrigerant piping to be protected within the building or protective enclosures. *Shaft enclosures* shall have a *fire-resistance rating* of not less than 2 hours where connecting four *stories* or more, and not less than 1 hour where connecting less than four *stories,* IBC 713.4.

This section was added to the 2021 IMC before changes were completed and implemented in ASHRAE 15-2022. It has been determined that any refrigerant meeting the maximum allowable quantities of IMC Table 1103.1 are safe to install without a shaft enclosure. This amendment proposal is consistent with AHRAE 15-22

Cost Impact: This proposal will more than minimally decrease the cost of multistory multifamily housing due to allowing construction to continue in its current practices without introducing shaft enclosure that will alter the floor plans that are already developed and require larger lots for the same number of dwellings.

Approved in previous 2018 Code Adoption process: ☐ **YES** ☒ **NO**

ACTION TAKEN:	
2024 Code Committee	Date: 01/15/2024
☒ Approved as submitted ☐ Modified and approved ☐ Denied	☐ No action taken
Development Advisory Board (DAB) Subcommittee	Date: 02/13/2025
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Development Advisory Board (DAB)	Date: 04/22/2025
☒ Approved as submitted ☐ Modified and approved ☐ Denied	☐ No action taken
Transportation, Infrastructure and Planning Subcommittee	Date:
☐ Approved as submitted ☐ Modified and approved ☐ Denied	☐ No action taken
City Council Action	Date:
☐ Approved as submitted ☐ Modified and approved ☐ Denied	☐ No action taken