CODE COUNCIL
TRAINING

2009
2012
2015

2015 Transition from the 2009: Plumbing, Mechanical, Fuel Gas

Based on the International Plumbing Code® (IPC®), the International Mechanical Code® (IMC®), and the International Fuel Gas Code® (IFGC®)

INTERNATIONAL CODE COUNCIL®

2015 Transition from the 2009: Plumbing, Mechanical, Fuel Gas

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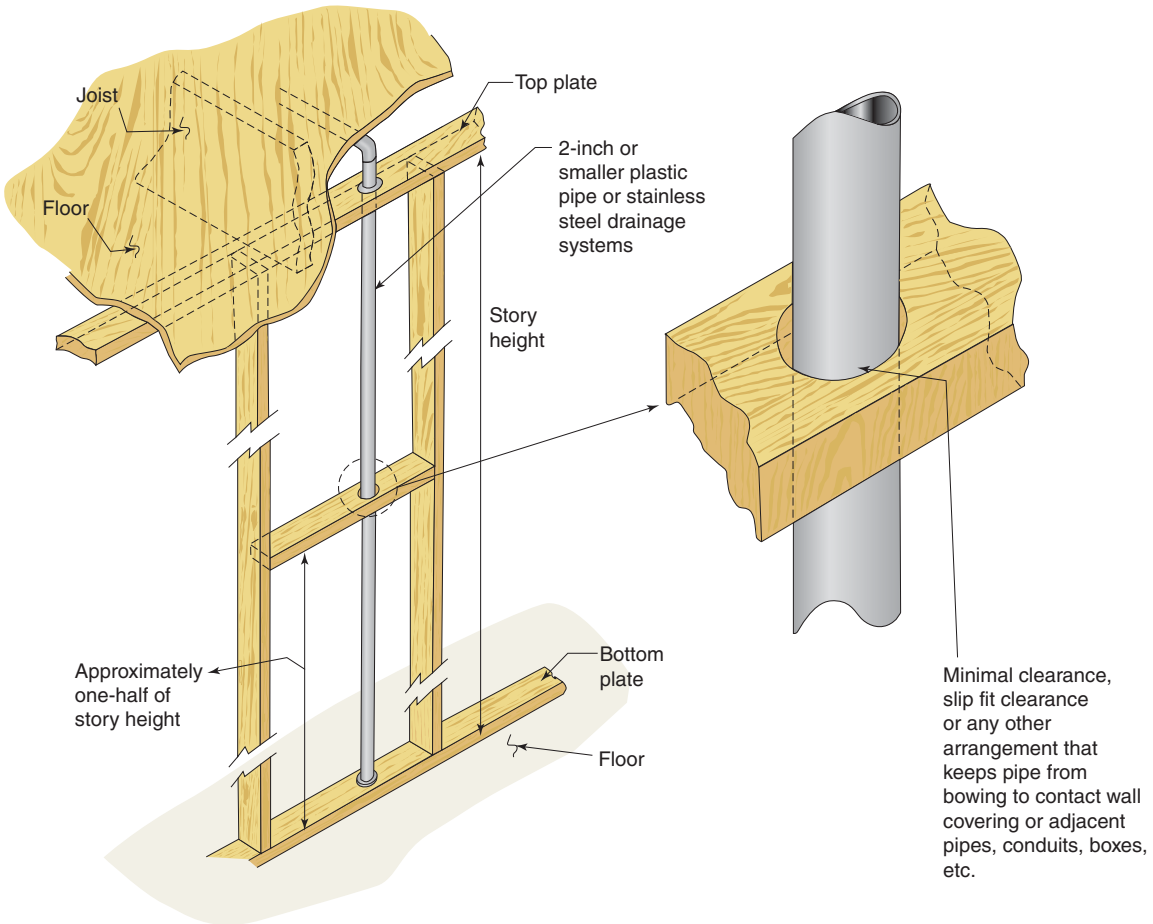
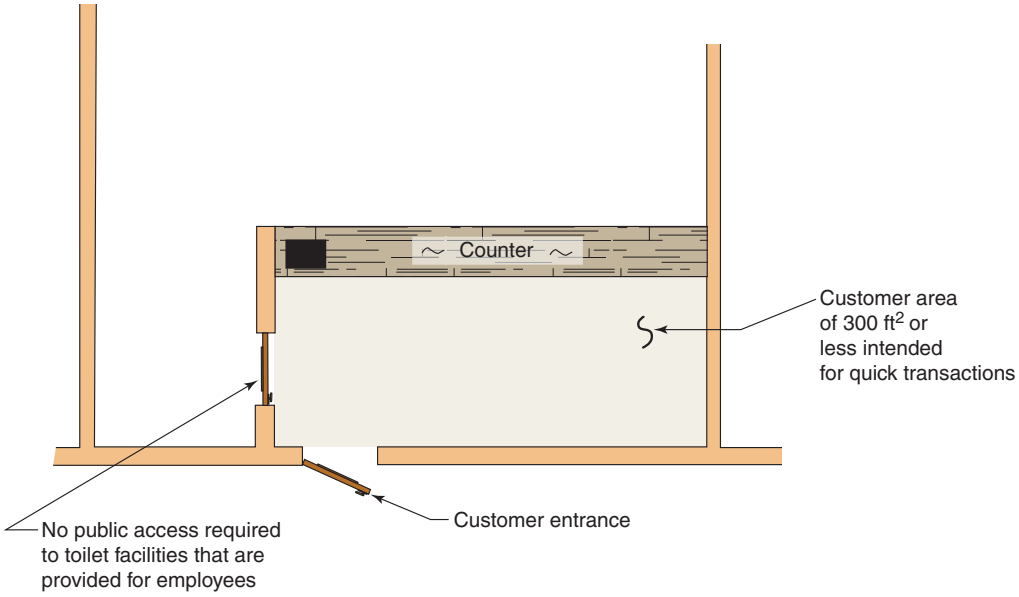
Topic	2012	2015
International Plumbing Code (IPC)		
Alternate Onsite Nonpotable Water Definition		**202** This term has been added to support a revised Chapter 13 that covers various nonpotable waters to be collected, stored and distributed. Examples include gray water, on-site reclaimed water, collected rainwater, captured condensate and rejected water from reverse osmosis systems.
Backflow Preventer Definition		**202** This definition has been made more specific about what constitutes a backflow preventer: a backflow prevention assembly, a backflow prevention device or other means or methods.
Drinking Fountain, Water Cooler and Water Dispenser Definitions; Substitution for Drinking Fountains		**202, 410.4** Definitions for drinking fountain, water dispenser and water cooler clarify Section 410 on drinking fountain requirements. The water dispenser definition expands the group of devices and apparatus that can be used as substitution for 50% of the required number of drinking fountains.
Grease Interceptor Hydromechanical Gravity Fats, Oils and Grease (FOG) Disposal Systems	**202** The definition of a "grease interceptor" has been modified for consistency with current industry terms for the two general types of grease interceptors: "hydromechanical" and "gravity".	**202** Another type of grease interceptor, the Fats, Oils and Grease (FOG) disposal system, has been added to support the revised text in Section 1003.3.4 covering grease interceptors.
Plumbing Appliance Definition	**202** The definition of "plumbing appliance" has been changed to clarify the difference between appliance and fixtures.	
Plumbing Fixture Definition	**202** The definition of "plumbing fixture" has been modified to include fixtures that are not connected to a water supply such as waterless urinals.	
Toilet Facility Definition		**202** This definition has been added to clarify that a toilet facility is a room or space that contains not less than one water closet and one lavatory.
Waste Receptor Definition		**202** This definition has been added to clarify that floor sinks, standpipes, hub drains and floor drains receiving indirect waste are considered waste receptors.
Material Identification and Third-Party Certification	**303.1, 303.4** Plumbing products and materials must be listed by a third-party certification agency and bear required identification.	

Topic	2012	2015
Mid-Story Pipe Guide		**Table 308.5** Footnote 'b' of Table 308.5 clarifies the mid-story guide requirement for plastic pipe 2 inches and smaller. The guide must restrain the pipe perpendicular to its axis at the midpoint between required vertical supports.



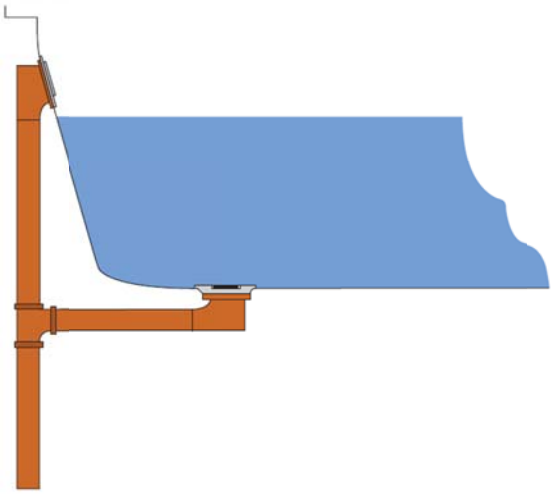
Topic	2012	2015
Parallel Water Distribution Systems	**308.9** In parallel water distribution systems, the hot and cold water piping may now be grouped in the same pipe bundle.	
Sealing of Annular Spaces at Penetrations	**315.1** The provisions for sealing any annular spaces created at piping penetrations have been revised to be consistent with the building envelope sealing requirements of the IECC.	

Topic	2012	2015
Minimum Number of Required Plumbing Fixtures	**Table 403.1** Service sinks are no longer required in Group B and M occupancies where the occupant load does not exceed 15.	**Table 403.1** The IBC occupancy classifications (A, B, M, etc) are no longer used to determine which row in Table 403.1 to use for fixture quantities. The actual use of the building or space determines which row in the table to use.



Topic	2012	2015
Separate Toilet Facilities in Group M Occupancies	**403.2** The exemption from separate plumbing facilities for each sex in Group M mercantile occupancies now applies where the occupant load of the occupancy does not exceed 100.	
Family or Assisted-Use Toilet Facilities Serving as Separate Facilities	**403.2.1** Where separate toilet facilities for each sex are required and only one water closet is mandated in each facility, two family or assisted-use toilet facilities are now permitted to satisfy the separate facilities. requirement	
Required Public Toilet Facilities Exception		**403.3** Occupancies that have limited areas for public access, such as dry cleaners, takeout only restaurants and automated teller machine lobbies, do not require public toilet facilities where the public access area is limited to 300 ft²or less.
Relationship of Toilet Rooms and Food Preparation Areas	**403.3.2** The IBC requirement prohibiting the opening of toilet rooms directly into food preparation areas is now also placed in the IPC.	
Locking of Toilet Room Doors	**403.3.6** Locking devices are now specifically prohibited on the egress doors of toilet rooms designed for multiple occupants.	

Topic	2012	2015
Directional Signage for Location of Public Toilet Facilities		**403.4.1** The provision for directional signs to public toilet facilities now requires that the signage be located at the main entrance to the building or tenant space.
Drinking Fountain Locations	**403.5** The permitted locations of drinking fountains in multi-tenant facilities are now similar to the permitted locations for required public toilet facilities: travel distance of 300 feet for a mall and 500 feet for other buildings.	
Minimum Water Closet Compartment Size	**405.3.1** The minimum depth of a water closet compartment containing a wall-hung water closet has been reduced from 60 inches to 56 inches.	
Floor and Wall Drainage Connections	**405.4** The use of a waste connector and sealing gasket is now permitted as an acceptable means to connect floor outlet plumbing fixtures, allowing for water closet installations that are provided with a gasketed waste tube outlet connection.	
Backflow Protection for Clothes Washing and Dishwashing Machines		**406.1, 409.2** This modification adds the standards designations with which air gaps must comply, so that the enforcement can be accomplished by the inspector identifying those standard numbers either on the machines or in the literature for the machines.
Bathtub Waste Outlets and Overflows	**407.2** Bathtubs are now required to be equipped with an overflow and the required stopper must be watertight.	

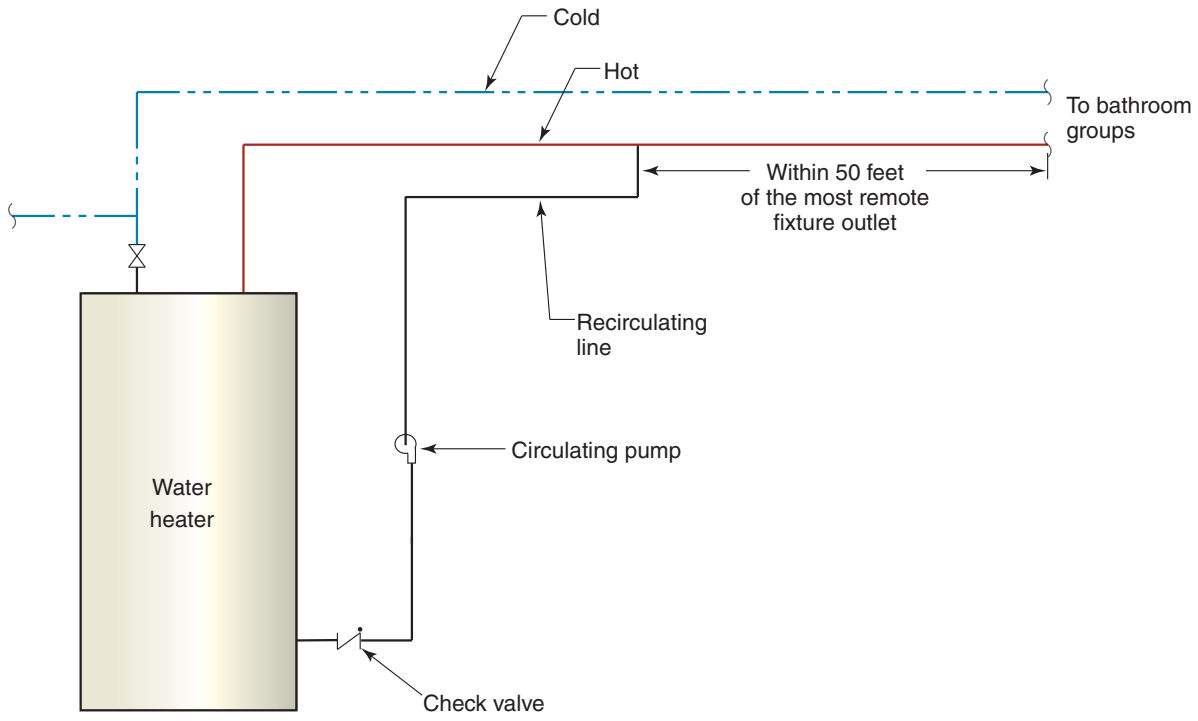


Bathtub Overflow Cross Section

Topic	2012	2015
Minimum Required Drinking Fountains	**410** The IBC provisions addressing the minimum required number of drinking fountains have been replicated in the IPC to provide clarity and consistency of application.	**410.4** Definitions for drinking fountain, water dispenser and water cooler clarify Section 410 on drinking fountain requirements. The water dispenser definition expands the group of devices and apparatus that can be used as substitution for 50% of the required number of drinking fountains.
Food Waste Disposer Approval		**413.1** Terminology for food waste grinders has been changed to a more industry-accepted term of food waste disposer. For electrical safety, domestic food waste disposers must be listed and labeled to a standard.
Walls and Floors in Bathtub and Shower Areas		**417.4.1** Bathtub floors, shower floors and the walls above those areas need to be watertight and of the material that will be durable under wet conditions. This section has been modified to make the existing requirements more clear.
Shower Pan Liner Materials	**417.5.2.6** Recognition of an acceptable shower pan liner system using liquid type, trowel-applied, load bearing, bonded waterproof material has been added to the current listing of acceptable shower floor liner methods.	
Water Closet Approval		**420.1** Dual-flush water closets have become popular in recent years. The code now has a standard that covers those types of water closets.
Whirlpool Tub Approval		**421.1** A standard for electrical safety for whirlpool tubs has been added to the code.
Footbaths, Pedicure Baths and Head Shampoo Sinks		**423.3** Water-temperature-limiting devices are required for footbaths (integral or not integral to pedicure chairs) and head shampoo sinks.
Deck-Mounted Bath/Shower Transfer Valves		**424.8** The standard to which deck-mounted bath/shower transfer valves must comply has changed.
Water Closet Personal Hygiene Devices	**424.9** The recognition of performance standard AMSE A112.4.2 now ensures the protection of the public by setting temperature limits and minimum acceptable backflow protection requirements for water closet personal hygiene devices.	
Water Heater Drain Valves		**501.3** The standard covering water heater drain valves has been discontinued by the standard promulgator. Minimum criteria for drain size and the hose connection have been added to the code for these valves.
Water Heater Storage Tank Relief Valves	**504.4.1** Water heaters with separate storage tanks shall be provided with complying temperature and pressure protection.	

Topic	2012	2015
Temperature and Pressure Relief Discharge Piping		**504.6** The temperature and pressure relief valve discharge pipe termination must have an air gap suitable to protect the potable water supply distribution system of the building.
Water Heater Pans	**504.7** It has been clarified that drain pans are only required for storage-tank-type water heaters for hot water storage tanks.	**504.7.2** In a replacement water heater installation situation, there might not be a nearby drain point for a required pan for the water heater. This code modification allows the pan to not have a drain line if one is not present.
Rehabilitation of Piping Systems by Internal Lining		**601.5** An epoxy lining system standard has been added to the code for rehabilitation of existing piping systems.
Polyethylene of Raised-Temperature (PE-RT) Plastic Tubing	**605** Polyethylene of raised-temperature (PE-RT) plastic hot and cold water tubing and distribution systems are now recognized by the IPC.	
Lead Content of Components Conveying Drinking Water		**605.2.1** The code now has a more stringent limitation of 0.25% lead content in pipe, pipe fittings, joints, valves, faucets and fixture fittings that convey water used for drinking and cooking.
Polyethylene (PE) and PEX Water Service Pipe CPVC /AL / CPVC Water Service and Water Distribution Piping Asbestos Cement Pipe	**Table 605.3** Reference standard AWWA C901, "Polyethylene (PE) Pressure Pipe and Tubing, 1/2 inch Through 3 in for Water Service," has been added to the list of standards in Table 605.3 regulating PE plastic water service pipe and tubing. Reference standard AWWA C904, "Cross-Linked Polyethylene (PEX) Pressure Pipe, ½ in. through 3 in. for Water Service," has been added to the list of standards in Table 605.3 regulating PEX water service piping.	**Tables 605.3, 605.4, Section 605.16, Tables 702.2, 702.3, 702.4, 1102.4, 1102.5** A new type of CPVC pipe has been added. References to asbestos cement pipe and applicable referenced standards have been removed from the code.
Groove and Shouldered Mechanical Joints and Press-Connect Fittings		**Table 605.5, Sections 605.14.3, 605.14.5, 605.18.3, 605.22.2, 605.23.3** Two standards for groove and shouldered mechanical drawings in a press-connect fitting standard have been added to the code.
Valve Compliance to Standards		**Table 605.7, 605.7** All types of valves that supply drinking water must now comply with NSF 61. Standards for numerous types of valves have been added to the code.
Labeling of Water Distribution Pipes in Bundles	**606.7** Water distribution piping installed in bundles must be labeled with content and direction of flow.	
Water-Temperature-Limiting Means	**607.1.1** The water heater thermostat is prohibited from being used as a temperature-limiting device where the code requires a limit for hot or tempered water.	

Topic	2012	2015
Hot or Tempered Water Supply to Fixtures	**607.2** The maximum distance between a hot water supply source and all fixtures served by the supply source has been reduced from 100 ft. to 50 ft.	
Hot Water Temperature Maintenance System Controls		**607.2.1** Changes in the commercial portion of the IECC caused changes in the IECC controlled section of the IPC. This section requires temperature maintenance systems (for maintaining hot water temperature near plumbing fixtures) to be automatically turned off when there is not the demand for hot water. The code change also makes it clear that Section 607.2.1 and its subsections 6007.2.1.1 do not apply to Group R2, R3 and R4 occupancies that are 3 stories or less in height above grade plane, because those are covered by the residential portion of the IECC.

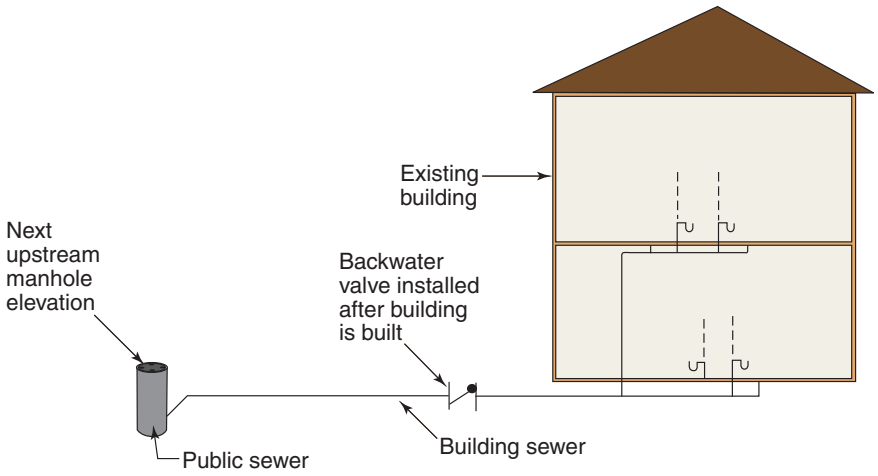


Topic	2012	2015
Hot Water Thermal Expansion Pressure Control		**607.3** The available method to control closed-system pressure increases caused by the heating of water has been limited to the use of thermal expansion tanks only.
Hot Water Piping Insulation	**607.5** The IECC requirement for insulating hot water piping in automatic temperature maintenance systems is now included in the IPC.	
Identification of Nonpotable Water	**608.8** Wherever nonpotable water systems are installed, including outside of the building, the piping must be identified.	**608.8, 608.8.1, 608.8.2** Fixtures such as water closets and urinals that utilize nonpotable water must be identified with the words and a symbol indicating that nonpotable water is being used. The color purple is established for identifying distribution piping conveying nonpotable water.

Nonpotable Water

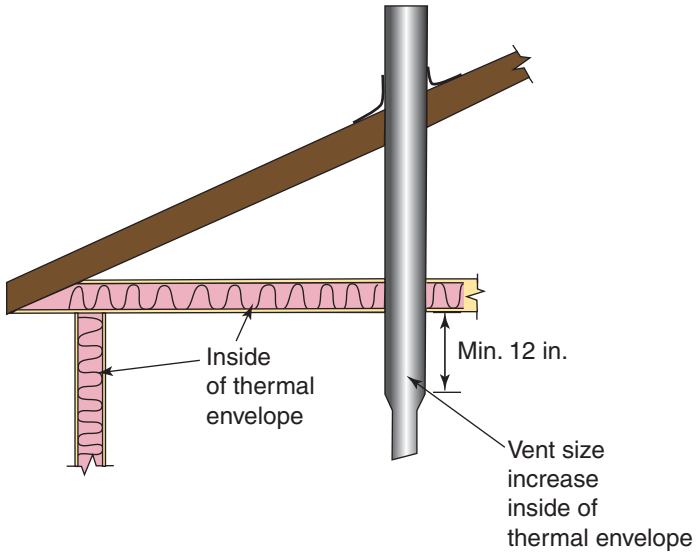
Topic	2012	2015
Temperature Rating of Drainage Piping		**702.5** Wastewater having a temperature greater than higher than 40° F does not need to be cooled before it enters the drainage system if the drainage system piping is rated for the higher temperature.
Connection to Combined Sanitary and Storm Public Sewer		**703.6** Building sanitary sewers and building storm sewers must be independent even when connecting to a combined sanitary/storm public sewer.
Horizontal Branch Connections	**704.3, 711.2.1** Horizontal branches are now permitted to connect at any point in a stack above or below the horizontal offset. In addition, horizontal branches are now allowed to connect to the base of stacks at a point located not less than 10 times the diameter of the drainage stack downstream from the stack.	
Exception of Solvent Cementing PVC Piping 4 inches and Smaller		**705.11.2** The application of a primer to drain, waste and vent PVC pipe and fitting prior to solvent cementing is not required for 4-inch pipe size and smaller.

Topic	2012	2015
Cleanouts for Drainage and Waste Systems		**708** The section on cleanouts has been completely reorganized and reworded for clarity. Brass cleanout plugs are permitted for metallic piping only. Where located at the finished wall, cleanout must be within 1½ inches of the finished surface. A cleanout is no longer required at the base of each waste or soil stack.
Drainage Fixture Units for Bathroom Groups	**Table 709.1** Where fixtures are provided in addition to those in a bathroom group, the footnote addressing additional drainage fixture unit values is now also applicable to those bathroom groups not located within dwelling units.	
Sump Pump and Ejector Discharge Pipe and Fittings	**712.3.3** Materials acceptable for use in sump pump and ejector pipe and fitting materials are now specifically listed.	
Sump Pump Connection to the Drainage System	**712.3.5** Where sump pumps connect to the drainage system, they are now allowed to connect to a building sewer, building drain, soil stack, waste stack, or horizontal branch drain.	
Fixture Protection from Sewage Backflow	**715.1** In the determination of backwater valve protection from sewage backflow, the use of the finished floor elevation where the fixtures are installed rather than the flood level rim of the fixtures provides a new point of reference.	**715.1** In existing buildings, fixtures above the elevation of the manhole cover of the next upstream manhole are now permitted to discharge through a backwater valve. Without this new exception, it is very difficult to retrofit with a backwater valve in accordance with the code in an existing building.



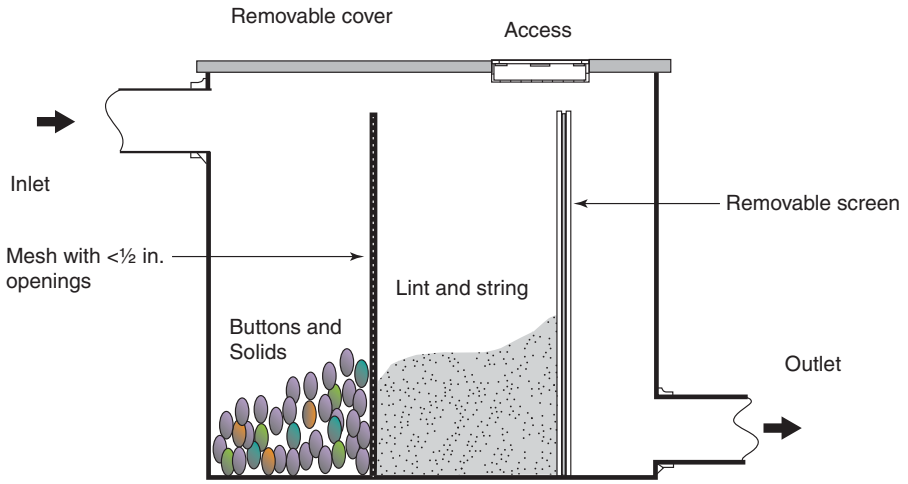
Topic	2012	2015
Vacuum Drainage Systems		**716** Vacuum drainage system provisions (as opposed to gravity drainage system provisions) have been moved from the appendix into the body of the code.
Replacement of Sewers by Pipe-Bursting Method		**717** Replacement of building sewers by the pipe-bursting method has been used for many decades and is useful especially where excavation of the existing sewer is difficult and costly because of parking lots and other items on the ground surface that would need to be removed and replaced.
Indirect Connection for Food-Handling Equipment	**802.1.8** Sinks used for food preparation and consumption purposes are no longer permitted to connect directly to the drainage system.	**802.1, 802.1.1, 802.1.8** The code has been clarified to indicate that Section 802.1 and its subsections do not apply to fixtures and equipment in dwelling units. The section was modified to indicate the types of food-handling equipment that section 802.1 through 802.1.8 covered.
Installation of Indirect Waste Piping	**802.2** The threshold at which indirect waste piping is required to be trapped has been increased and an exception has been added to address clear waste water.	
Waste Receptors	**802.3** The list of prohibited locations for waste receptors has been expanded to specifically include plenums, crawl spaces, attics and interstitial spaces above ceilings and below floors.	**802.3** The code has clarified that standpipes are waste receptors. Some limitations for where waste receptors could not be located have been removed. Hub drains now require a strainer.
Air Admittance Valves for Chemical Waste Vent Systems	**901.3, 918.8** Air admittance valves complying with reference standard ASSE 1049, "Performance Requirements for Individual and Branch-Type Air admittance Valves for Chemical Waste Systems," are now permitted to be used for venting chemical waste systems.	

Topic	2012	2015
Vent Terminations to Outdoors		**903.1, 903.2** This change clarifies vent terminations to outdoors where roofs are used for purposes other than weather protection and where very cold weather conditions occur. The vent size increase to protect against frost closure must occur at least 12 inches inside the thermal envelope.



Topic	2012	2015
Location of Vent Terminals	**903.5** The prohibited locations for vent terminals related to building openings and air intakes have been revised to provide consistency with the IMC.	
Combination Waste and Vent System Sizing	**915.2** The length of a combination waste and vent system is unlimited.	
Single-Stack Vent Systems	**917** The single-stack vent system method, similar to the Philadelphia stack drainage system, has been added as an acceptable venting system.	
Floor Drain Traps in Parking Structures	**1002.1** Floor drains in multi-level parking garages are no longer required to have individual traps, provided the drains are connected to the main trap before discharged to a combined sewer.	**1002.1** Traps are not required for parking garage floor drains where the drains are connected to a storm sewer system.
Trap Seal Protection against Evaporation		**1002.4, 1002.4.1** Trap seal protection against evaporation can now be accomplished in a variety of ways, including barrier-type trap seal protection devices.
Interceptors and Separators	**1003.1** It has been clarified that required interceptors and separators are permitted to be located downstream of the building drain.	
Alternate Grease Interceptor Locations	**1003.3.1** Grease interceptors are now permitted to be installed in series instead of requiring replacement of an existing grease interceptor that is too small.	

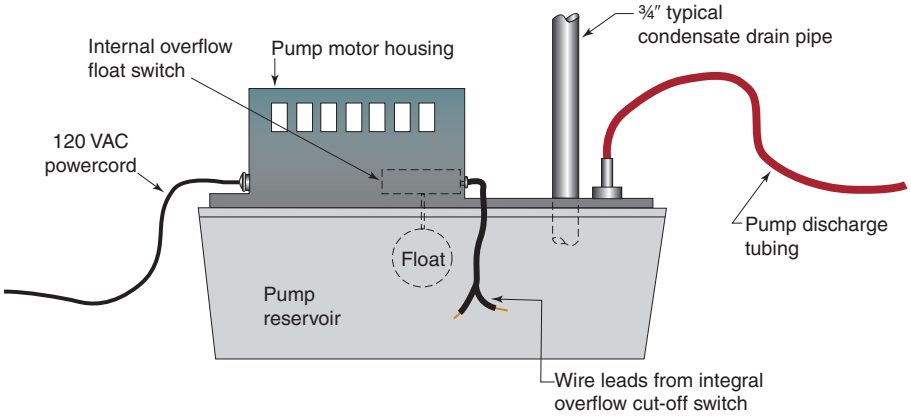
Topic	2012	2015
Hydromechanical Grease Interceptors	**1003.3.4** In regard to grease interceptors, the new term "hydromechanical" provides a clear distinction from gravity interceptors to clarify the applicable requirements for each type of interceptor.	
Gravity Grease Interceptors		**1003.3.6** A section and standard covering gravity grease interceptors have been added to the code.



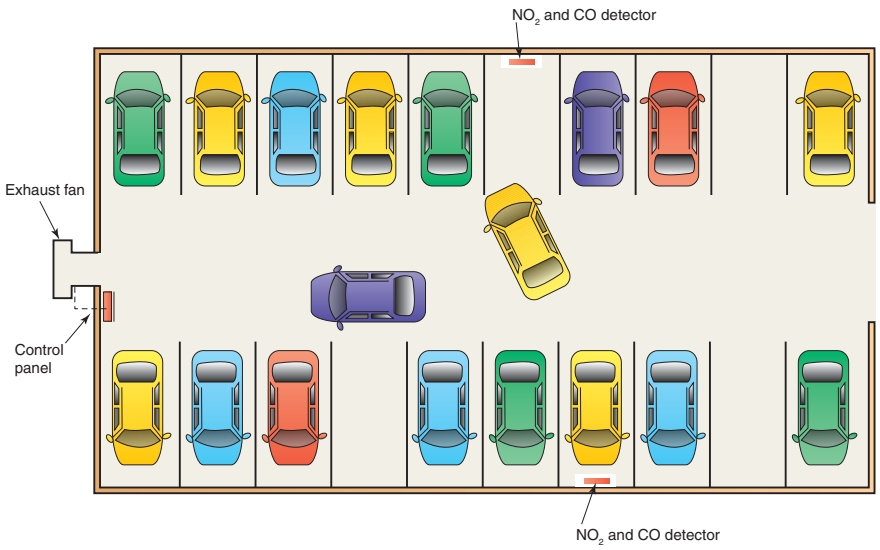
Topic	2012	2015
Direct Connection of Grease Interceptor Discharge		**1003.3.7** Grease interceptor discharge piping must connect directly to the sanitary drainage system.
Oil Separator Required		**1003.4** Section 1003.4 has been clarified to indicate where oil separators are required. An addition to the exception concerning alarm systems has been made.
Clothes Washer Discharge Interceptor		**1003.6** The requirement for interceptors for clothes washer discharges has been clarified.
Venting of Interceptors and Separators		**1003.9** Interceptors and separators must be vented.
Roof Drains	**1105** Outdated code requirements have been replaced with new provisions that address installation and sizing of roof drains.	
Sizing of Roof Drains, Vertical and Horizontal Storm Drain Piping		**1105.2, 1106.2** Testing of many different sizes and configurations of roof drains from a variety of manufacturers indicated that the roof drain assembly is the limiting factor in the design of storm drain systems. Storm drainage piping must now be sized based on the published roof drain flow rate and anticipated ponding at the roof drain.

Topic	2012	**2015**
Sizing of Gutters and Leaders		**1106.3, 1106.6** The 2012 table 1106.2(2), which covered the vertical leader sizing requirements, has been replaced by the simplified table 1106.3. The 2012 Table 1106.6, which covered horizontal gutter sizing requirements, has been replaced by the simplified Table 1106.6. The sizing methods correspond with American Society of Plumbing Engineers' (ASPE) sizing tables.
Siphonic Roof Drainage Systems	**1107** New requirements have been added to address the design of siphonic roof drainage systems by referencing the standard ASPE 45 for design of the system and ASME A112.6.9 for use of the roof drain.	
Nonpotable Water Systems	**Chapter 13** The provisions addressing gray-water recycling systems have been relocated from appendix C to Chapter 13 in the body of the code.	**Chapter 13** Chapter 13 has been expanded to include various types of systems for the collection, storage and distribution of nonpotable water. Examples include gray water, on-site reclaimed water, collected rainwater, captured condensate and rejected water from reverse osmosis systems.
Subsurface Landscape Irrigation Systems		Chapter 14 Provisions for subsurface landscape irrigation systems using gray water have been relocated from Chapter 13 to a new Chapter 14 and expanded to include connection to any nonpotable water from on-site water reuse systems.

Topic	2012	2015
International Mechanical Code (IMC)		
Maintenance	**102.3** ASHREA/ACCA/ANSI Standard 180 is now specified for inspection for maintenance of an HVAC system.	
Environmental Air	**202** The definition of *environmental air* has been expanded through the addition of parking garage exhaust.	
Fall-Arresting Restraint Systems		**304.11** The exception allows for fall-arresting restraint systems to be employed instead of guards on roofs.
Access		**306.1** In addition to appliances, access is also required for controls devices, heat exchangers and HVAC system components for inspection, service, replacement and repair.
Equipment and Appliances on Roofs or Elevated Structures	**306.5** Permanent access is required to equipment and appliances on a roof or elevated structure higher than 16 feet above grade.	
Condensate Drain Line Maintenance		**307.2.5** The code requires that condensate drains be configured or equipped to allow maintenance of the drain without the drain pipe or tubing being cut.
Condensate Pumps in Uninhabitable Spaces		**307.3** Condensate pumps located in uninhabitable spaces and used with condensing fuel-fired appliances and cooling equipment must be connected to the appliance or equipment served by the pump to prevent water damage in the event of pump failure.

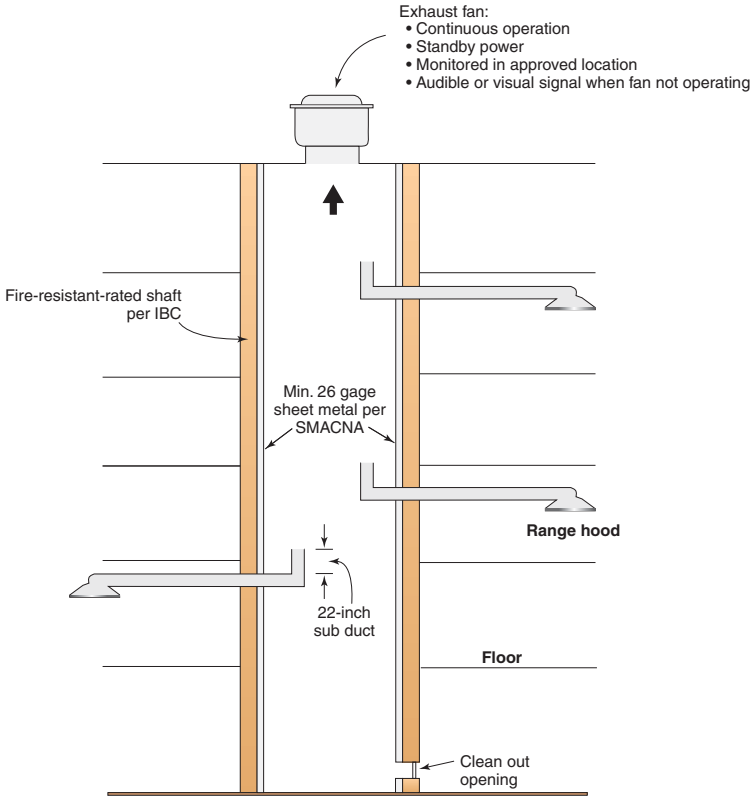


Topic	2012	2015
Labeled Assemblies	**308.4.1 (308.5)** Allowable clearance reductions must now be based on listed and labeled reduced-clearance protective assemblies in accordance with UL 1618.	
Ventilation Required		**401.2, 407.1, Table 403.3.1.1** Occupancies including hospitals, nursing homes, detoxification facilities and ambulatory care facilities must be ventilated in accordance with a new standard, ASHRAE 170.
Intake Opening Location	**401.4** Minimum clearance between an air intake opening and any public way is measured from the opening to the lot line, not the centerline of the public way.	
Recirculation of Air		**403.2.1, Table 403.3.1.1** The revisions to Section 403.2.1 and notes b and g of Table 403.3.1.1 clarify that recirculation of air within a space is permitted.
Outdoor Air and Local Exhaust Airflow Rates		**403.3** The new text introduces the basic requirements of ASHRAE 62.2 related to mechanical ventilation for Group R-2, R-3 and R-4 buildings three stories or less in height.
Minimum Ventilation Rates for Nail Salons (Manicure and Pedicure Stations)	**Table 403.3.1.1 (Table 403.3)** Nail stations in nail salons must now each be provided with a source capture system.	**Table 403.3.1.1** The revised note h to Table 403.3.1.1 recognizes new Section 502.20 for the design of manicure and pedicure station exhaust systems and also specifies the applicability to both. Note h addresses the relationship between the source capture system exhaust-flow rate and the exhaust-flow rate specified within the table for nail salons.
Intermittent Operation of Mechanical Ventilation Systems for Enclosed Parking Garages	**404.1** Mechanical ventilation systems in parking garages are now permitted to be operated automatically by carbon monoxide detectors in conjunction with nitrogen dioxide detectors.	**404.1** For enclosed parking garages, the ventilation system must operate continuously or must be automatically controlled for intermittent operation utilizing both carbon monoxide and nitrogen dioxide detectors. The option to detect vehicle operation or occupant presence has been deleted.



Topic	2012	2015
Mechanical Exhaust System Discharge		**501.3** Mechanical exhaust cannot create a public nuisance. The adjective "public" was added to "nuisance" to make this requirement more enforceable. The new exception correlates with Section 505.1, exception 1.
Independent Exhaust Systems Required	**501.2** Those locations where an independent exhaust system is required are now established in a single code provision.	
Manicure and Pedicure Station Exhaust System		**502.20** New text specifically covers manicure and pedicure stations and states exhaust requirements in addition to those in Table 403.3.1.1. In previous editions of the code, pedicure stations were not specifically called out, as the text in Table 403.3.1.1 referred only to nail salons generically.
Dryer Exhaust Duct Power Ventilators		**504.5, 504.8.4.3** New text recognizes the use of dryer exhaust duct power ventilators (DEDPVs) for installations that exceed the allowable exhaust duct length for clothes dryers.
Dryer Exhaust Duct Installation		**504.8.2** Instead of prohibiting all duct fasteners such as screws and rivets, the code now limits the penetration of fasteners where installed to secure dryer duct joints.
Domestic Kitchen Exhaust Systems	**505.1** Domestic kitchen exhaust ducts are now required to be independent of all other exhaust systems.	**505.1, 505.4** The scope of domestic kitchen hoods coverage has been expanded to beyond dwellings units. Domestic hoods are mandated for other than Group R occupancies in new Section 505.4.

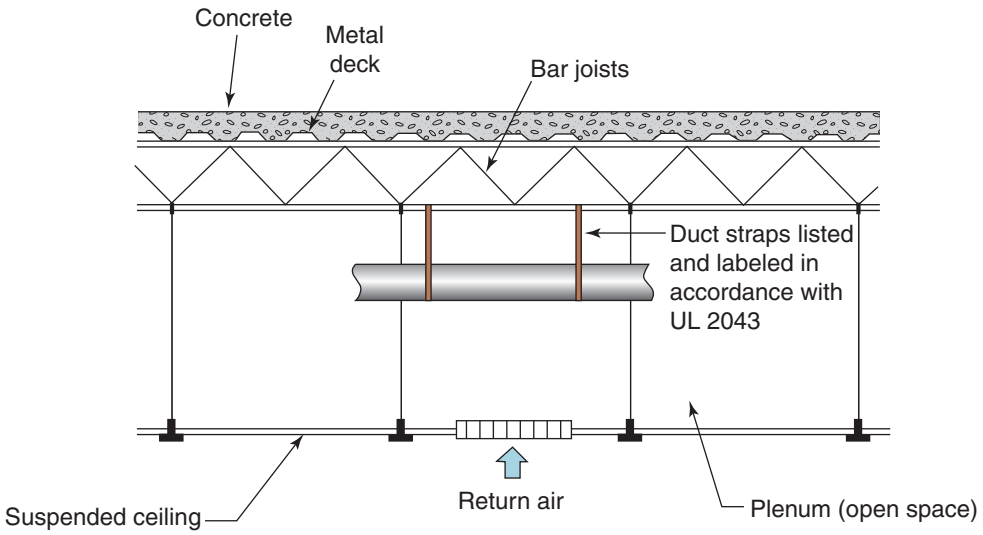
Topic	2012	2015
Domestic Kitchen Exhaust Systems in Multistory Buildings		**505.3** New text regulates the design and construction of exhaust shafts that serve domestic kitchen exhaust systems in multistory buildings.



Topic	2012	2015
Grease Duct Reservoirs	**506.3.7.1** Criteria are now provided for the construction of a grease reservoir in a grease duct system.	**506.3.7.1** A grease duct reservoir must now be the full width of the duct in all cases, and the reservoir must be provided with a drain opening.
Grease Duct Cleanouts and Openings	**506.3.8** For grease duct cleanouts, gasket and sealing materials on grease duct doors must be rated at a min. of 1500°F	**506.3.8** The cleanout spacing provisions have been added to be consistent with Section 506.3.9 for horizontal ducts.
Grease Duct Horizontal Cleanouts	**506.3.9** Criteria for cleanouts for horizontal grease ducts have been rearranged and several technical provisions have been added.	
Underground Grease Duct Installations	**506.3.10** Underground grease ducts are now regulated based on new provisions.	
Grease Duct Enclosures		**506.3.11** The code specifically prohibits the installation of fire and smoke dampers in grease ducts.
Field-Applied Grease Duct Enclosures	**506.3.11.2** Field-applied grease duct enclosure systems are specifically prohibited from being used to reduce clearance from combustibles.	

Topic	2012	2015
In-Line Fan Location in Exhaust Ducts Serving Commercial Kitchen Hoods		**506.5.1.2** New text addresses the enclosure requirements for in-line exhaust fans located in kitchen hood exhaust ducts, in effect treating them the same as ducts.
Hinged Up-Blast Fans for Type I Hoods		**506.5.3** The code now requires that hinged exhaust fans be provided with a means to limit the travel of the fan assembly to prevent injury to personnel and damage to the building and fan.
Type I Hood Installation		**507.1** A requirement has been added for Type I hood installations to comply with all aspects of a Type I exhaust system, whether the Type I hood is required by the code or installed by choice.
Commercial Kitchen Exhaust Hood System Operation		**507.1.1** The requirement for automatic activation of the exhaust system has been revised to provide the intended performance requirements and to clarify that an interlock arrangement is an alternative to automatic hood operation.
Heat Sensors for Multiple Commercial Kitchen Hoods		**507.1.1.1** New text prohibits the use of a single sensor mounted in the common ductwork for commercial kitchen hood systems having multiple hoods manifolded together.
Type I or Type II Hood Required	**507.1 (507.2)** Type I or Type II commercial kitchen hoods are not required for appliances with integral downdraft exhaust systems.	
Type I Hoods	**507.2 (507.2.1)** Type I hoods are no longer required for complying electric appliances.	
Operation of Type I Hoods	**507.1.1 (507.2.1.1)** The kitchen exhaust fan interlock is not permitted to shut off the pilot burners.	
Exhaust Flow Rate Label of Type I Hoods	**507.2.2 (507.2.1.2)** Type I commercial cooking hoods require a label with the minimum exhaust air flow rate based on the appliance classification.	
Type I Hood Grease Filters		**507.2.8** The code now recognizes the use of disposable grease filters.
Type II Hoods	**507.3 (507.2.2)** Where the HVAC system or a separate exhaust system is used in lieu of a Type II hood, the code now specifies the exhaust rate.	
Air Balance for Commercial Kitchen Ventilation Systems		**508.1.2** This new section requires that an air balance schedule be submitted with the design plans for commercial kitchen ventilation systems.
Hazardous Exhaust Systems		**510.4, 510.5** The code clarifies that hazardous exhaust systems must always be independent of other systems. New Section 510.5 clarifies the conditions for laboratory exhaust systems with a common shaft.

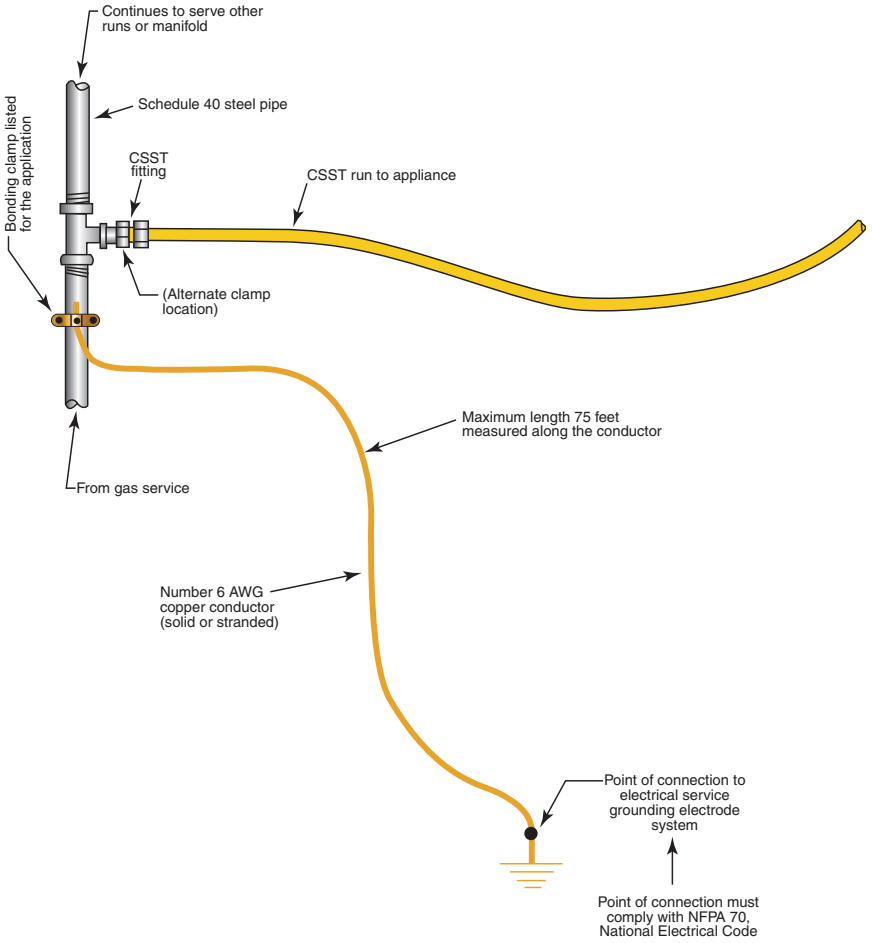
Topic	2012	2015
Hazardous Exhaust Duct Penetrations of Shafts		**510.7.1.1** The code adds a pointer to the *International Building Code* (IBC) provisions for hazardous exhaust duct penetrations of shafts.
Fire Suppression Required for Hazardous Exhaust Ducts	**510.8 (510.7)** Automatic fire suppression is no longer required in exhaust ducts in semiconductor fabricated facilities	
Energy Recovery Ventilation Systems		**514.2** Energy recovery ventilation (ERV) systems of the coil-type heat exchanger (run-around coils) are no longer limited in their application.
Return Air Openings		**601.5** The provisions for return air have been relocated from a section specific to forced-air/warm-air furnaces in Chapter 9 to a more generic section in Chapter 6. The provisions have been clarified and streamlined to capture the desired intent.
Contamination Prevention in Plenums	**601.4** Chimneys and vents are now permitted to pass through a plenum where in compliance with one of three new allowances.	
Plenums Limited to One Fire Area		**602.1** The revision clarifies that a plenum in a fire area cannot be connected to a plenum in an adjoining fire area by means of transfer ducts or openings, regardless of the presence of fire dampers.
Plenum Construction		**602.2** Materials enclosing plenums must be noncombustible or must meet the 25/50 flame spread/smoke-developed limits.



Topic	2012	2015
Materials within Plenums	**602.2.1** Any material or assembly within a plenum must be noncombustible, gypsum board, or listed and labeled.	**602.2.1.5** The code now addresses those products that in previous editions of the code did not fall under the category of piping, wiring, ductwork, tubing, insulation and other continuous large surface area materials installed in plenums. A definition has been added to describe what is meant by discrete products.
Duct Construction Minimum Sheet Metal Thickness for Single Dwelling Units		**Table 603.4** The table for duct gages for dwelling units has been replaced with thicknesses consistent with the SMACNA sheet metal construction standard.
Rigid Duct Penetrations	**603.7** Ducts that penetrate a wall or ceiling between the dwelling and adjacent private garage must be continuous and constructed of minimum 26 gage steel.	
Duct Joints, Seams and Connections	**603.9** Unlisted duct tape is no longer permitted as a sealant on nonmetallic ducts	**603.9** Duct sealant tapes used on sheet-metal ducts must be listed to UL 181 B as is required for sealing tapes and mastics for flexible ducts. Snap-lock and button-lock seams are no longer exempt from the sealing requirements.
Air Dispersion Systems	**603.17, 202** Air dispersion systems listed and labeled to UL 2518 are now permitted.	
Dampered Openings		**701.2** Where dampers are installed on combustion air openings, the code now requires an interlock with the appliance to prevent operation of the appliance when the damper is closed. Manual dampers are prohibited on combustion air openings.
Door Clearance to Vent Terminals		**802.9** To prevent damage to the vent, door or surrounding materials, doors are not permitted to swing within 12 inches of an appliance vent terminal.
Factory-Built Chimney Offsets	**805.3** The maximum offset in a factory-built chimney is 30 degrees from vertical and the number of elbows is limited to 4.	
Gasketed Fireplace Doors		**903.4** Gasketed (sealed) doors are prohibited on factory- built fireplaces except where the fireplaces are listed for use with such doors.
Evaporative Cooling Equipment	**928** Requirements for the installation of evaporative coolers have been added to the IMC in a new Section 928.	
Locking Access Port Caps	**1101.10** Locking caps are no longer required on refrigerant access ports if the equipment is located in a secure location.	

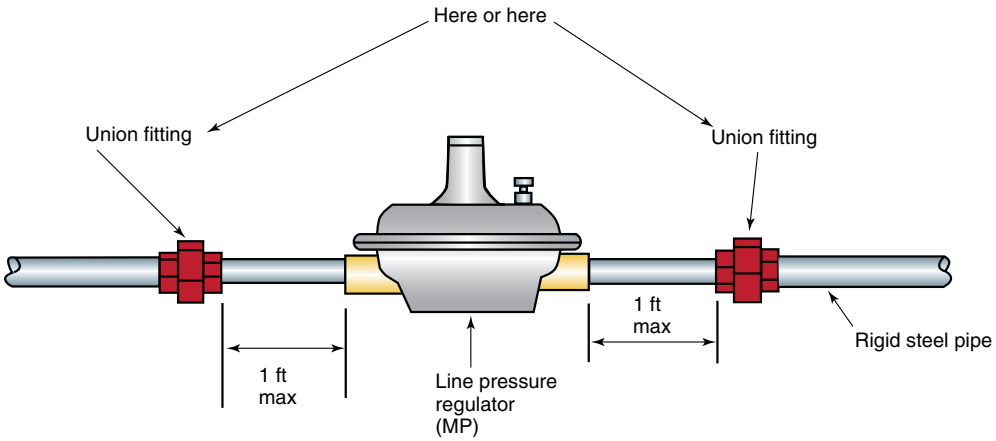
Topic	2012	**2015**
Refrigerant Access Port Protection		**1102.3** The requirement for making refrigerant access ports tamper resistant has been expanded to apply to existing systems when service to such systems involves adding or removing refrigerant.
Machinery Room Ventilation	**1105.6, 1105.6.3** The min. ventilation rates in ammonia machinery rooms must now be in accordance with IIAR2.	
Flammable Refrigerants	**1106.4** The ventilation requirements for ammonia machinery rooms are now mandatory in order to be exempt from the Class 1 Division 2 hazardous location requirements in NFPA 70.	

Topic	2012	2015
International Fuel Gas Code (IFGC)		
Combustion Air for Appliances with Power Burners		**304.1** This change clarifies that the prescriptive combustion air provisions of Section 304 do not apply to appliances having power burners.
Condensate Pumps		**307.6** Condensate pumps located in uninhabitable spaces and used with condensing fuel-fired appliances and cooling equipment must be connected to the appliance or equipment served by the pump to prevent water damage in the event of pump failure.
Clearance to Combustible Materials	**308.1** Gypsum Board is considered a combustible material for purposes of determining required clearances and for determining reductions in clearances.	
Electrical Bonding of Corrugated Stainless Steel Tubing		**310.1.1** For CSST systems, text has been added to address the allowable length of the bonding jumper wire and the methods of making the bonding connections.



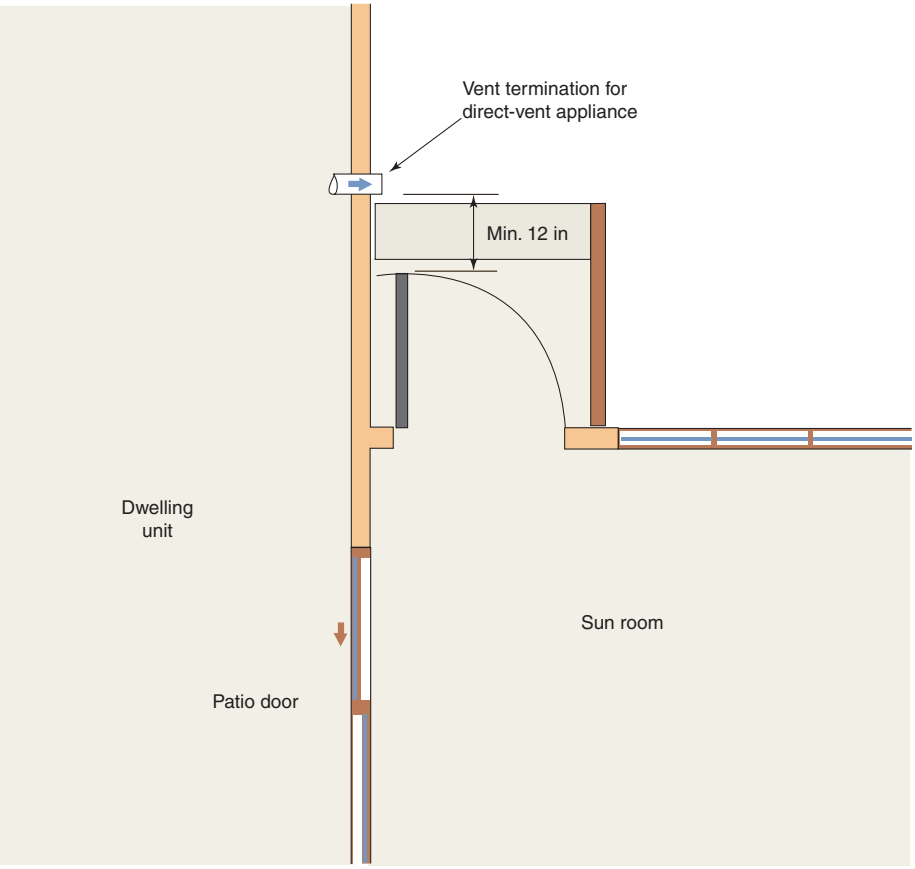
Topic	2012	2015
Identification, Testing and Certification	**401.9, 410.10, 404.1, 202** Each section of pipe and each fitting utilized in a fuel gas system requires the identification of the manufacturer.	
Maximum Gas Demand for Pipe Sizing		**402.2** Table 402.2 for estimated gas input for typical appliances and the reference to the table have been deleted as a result of the code requiring the actual maximum input rating of the appliances to be known and used for sizing purposes.
Plastic Pipe, Tubing and Fittings		**403.6** PVC and CPVC pipe are expressly prohibited materials for supplying fuel gas.
Drilled and Tapped Metallic Pipe Fittings		**403.10.4** The code now expressly prohibits the practice of drilling and tapping pipe fittings in the field except where performed in accordance with five criteria that strictly limit such practice.
CSST Piping Systems	**404.2** CSST piping systems must be installed in accordance with their listing and the manufacturer's instructions.	
Fittings in Concealed Locations		**404.5** This section retains its basic intent, while being completely reorganized to clarify the correct application. Threaded elbows, tees and couplings are now specifically approved for concealed locations as the code always intended. The code now provides the applicable referenced standards for fittings that are listed for concealed locations.
Protection of Concealed Piping against Physical Damage		**404.7** The section on protection of piping has been completely rewritten to address more than just bored holes and notches in structural members. It now addresses piping parallel to framing members and piping within framing members. The new text requires that the protection extend well beyond the edge of members that are bored or notched.
Prohibited Devices	**404.19 (404.18)** Excess flow valves and similar devices are now permitted to be placed in gas piping systems that have been sized to accommodate the pressure drop.	
Pipe cleaning		**404.18** The code now specifically prohibits the practice of using fuel gas as a medium for flushing foreign matter and debris from fuel-supply piping.
Sediment Traps	**408.4** An illustration of a sediment trap has been added to clarify the intent.	

Topic	2012	2015
Medium-Pressure Regulators		**410.2** Medium pressure line regulators installed in rigid piping must have a union installed to allow removal of the regulator.



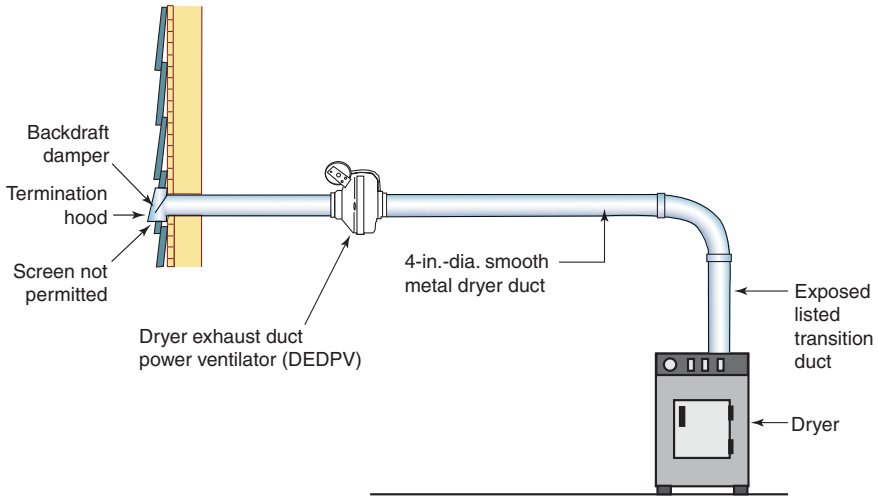
Topic	2012	2015
Excess Flow Valves	**410.4** An excess flow valve must be listed, sized and installed in accordance with the manufacturer's instructions.	
Flashback Arrestor Check Valve	**410.5, 202** A combination flashback arrestor and backflow check valve is required on any fuel gas system used with oxygen in any hot work operation.	
Connecting Portable Outdoor Appliances		**411.1** Where portable gas appliances are used outdoors, such as gas grills and patio heaters, the options for connecting to the gas distribution system are practically limited to gas hoses designed for the purpose. Such hoses must comply with ANSI Z21.54.
Connectors for Commercial Cooking Appliances		**411.1.1** Specific installation requirements have been added for the safe installation of ANSI Z21.69 connectors for commercial cooking appliances. The options to connect the cooking appliance with semi-rigid tubing or rigid pipe have been removed.

Topic	2012	2015
Door Clearance to Vent Terminals		**502.7.1** A minimum 12 inches clearance is required between a vent terminal and the swing arc of a door to prevent impact and ensure proper vent operation.



Topic	2012	2015
Plastic Piping for Appliance Vents		**503.4.1** The approval of plastic pipe for venting appliances is no longer a responsibility of the code official; instead, that responsibility rests with the appliance manufacturer and the appliance listing agency.
Sizing of Plastic Pipe Vents		**503.6.9.3** Because plastic pipes such PVC, ABS and CPVC plumbing pipes are not listed and labeled as appliance vents, (see the definition of "vent"), the code was silent on how to size such pipes. The sizing is covered in the appliance manufacturer's instructions, and the code requires compliance with such instructions. This section has been modified to address both listed vents and unlisted materials used as vents.

Topic	2012	2015
Venting System Termination Location		**503.8** Text has been added to address the location of sidewall vent terminals with respect to adjoining buildings. The concern is that combustion gases will enter the adjacent building through openings in the exterior walls that face the appliance vent terminal. This section applies only to Category IV (condensing) appliances that are sidewall vented.
Dryer Exhaust Duct Power Ventilators		**614.5** New text recognizes the use of dryer exhaust duct power ventilators (DEDPVs) for installations that exceed the allowable exhaust duct length for clothes dryers.



Topic	2012	2015
Prohibited Sources of Return Air	**618.4** Return air may be taken from a garage provided with a dedicated forced-air system.	
Prohibited Location of Commercial Cooking Appliances		**623.2** The code has been clarified so that it would not inadvertently prohibit the installation of cooking appliances that are listed as both commercial and domestic appliances.

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