Plans Review and Inspections

2018 - 2024 Significant MEP Updates

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Source Material

2018, 2021, & 2024 I-Codes -International Plumbing Code -International Mechanical Code -International Fuel Gas Code

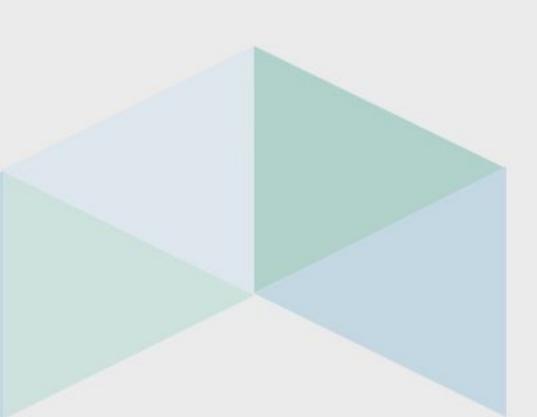
2017, 2020, & 2023 NFPA 70 -National Electrical Code





Significant Updates with Text

- . I-Codes have a new format.
- . Single page instead of two columns.
- . Updates in I-Codes text now have a QR code.







Updates Throughout

- I-codes update section numbers.
- Referenced standards are updated regularly.







Significant updates to Code

- What is the main focus of code updates?
 Items that affect plans review.
 - Items that affect plans review.
 Desire to have these shown on review.
 - Items that affect field inspections.
 - What you need to know about our field inspections.
 - Clarifications
 - New sections with significant impact in our area

Without further adieu!!!





Section 104 Duties of the Code Official

- Occurs in all 2024 I-Codes.
 Clarification and undates to the
- Clarification and updates to the previous Code Official section.
 Combines previous sections "Duties of the Code Official" and
 - "Approval"
 - Intent of this section is to place the authority for what we inspect and what we expect.
 - Desire in PRI is to lay out the duties clearly and understand who is responsible at each stage.





Section 108.3 **Permit Valuations**

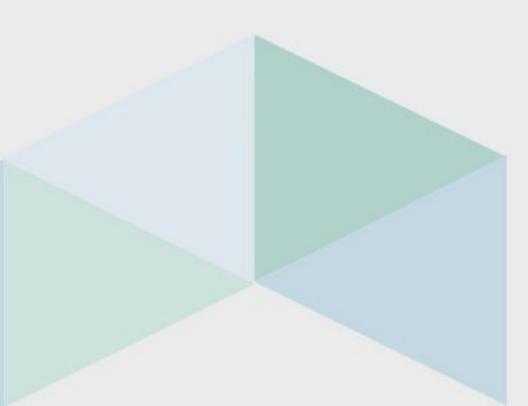
2024 brought simplified fee updates based on Valuation.







International Plumbing Code

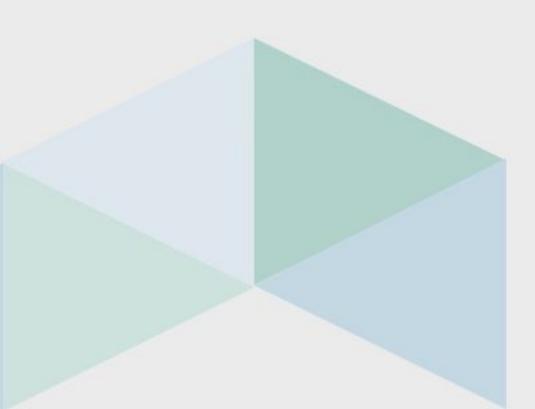






Section 306.2.4 Tracer Wire

- shall be installed along the length of the building sewer. . Intended for detection and location of building sewer for
- maintenance and repair.





. For plastic sewer pipe an insulated copper wire (min 14 AWG)



Section 314.1.1 Condensate Identification

- whether connected to primary or secondary drain.
- in the field.



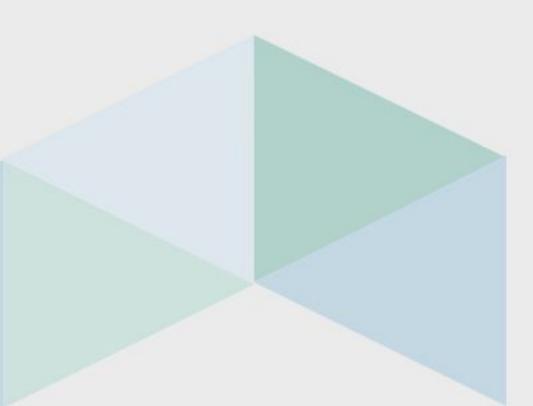


. Concealed condensate termination must be labeled to identify . Continued initiative with local Utilities to ensure condensate is routed properly in new construction. Labeling terminations help



Section 403.1.1 ex #2 Fixture calculations

the minimum fixture count shall be calculated at 100%.







Where multiple-user facilities are designed to serve all genders,

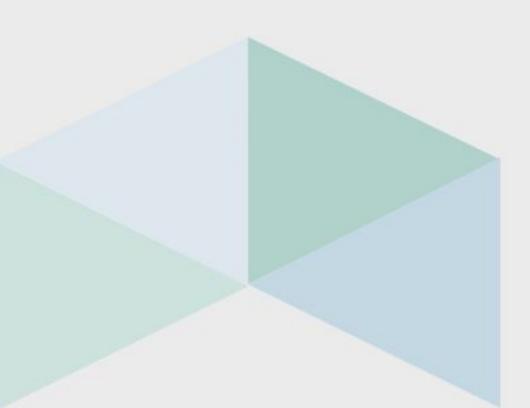
Do not divide occupant load in half to determine required amount.



Section 403.2 Separate facility exception

Separate facilities are not required where water closets and lavatories are installed in a water closet compartment.

Some facilities may choose to combine the male and female facilities as long as privacy and separate compartments are provided.

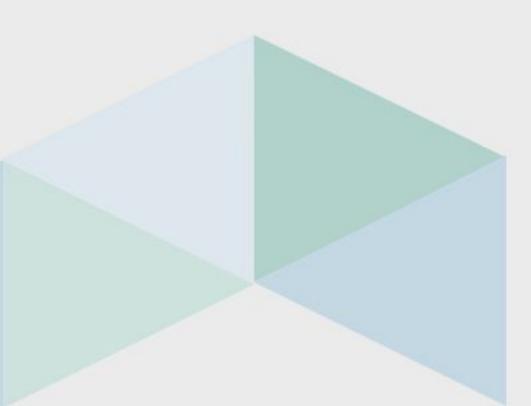






Signage

Must state if facilities are to be persons regardless of sex.



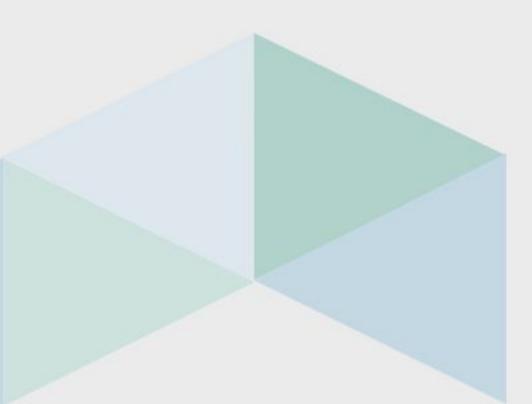


Must state if facilities are to be used by males, females, or by all



Section 403.3.3 ex #2 Travel distance S occupancy

• Helpful in self-storage facilities.





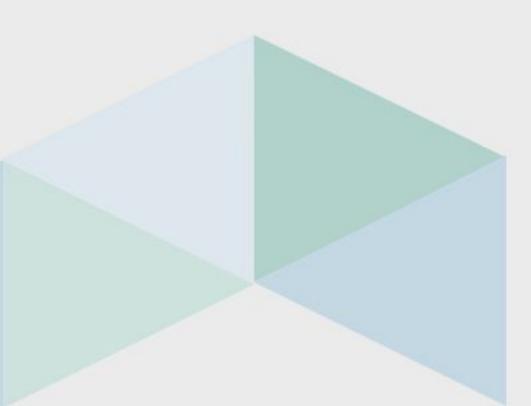


. Required travel distance can be exceeded where approved.



Service Sinks in Malls

Service sinks not required in every tenant space in a covered mall as long as within 300 ft of shared service sink.



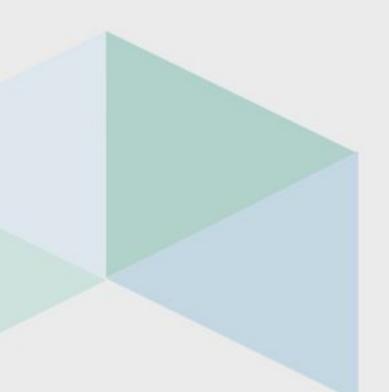




Section 410 **Drinking Fountains**

410.3.1 High and Low water fountains required. low.

410.4 Where three or more required not more than 50% substituted with water dispensers.



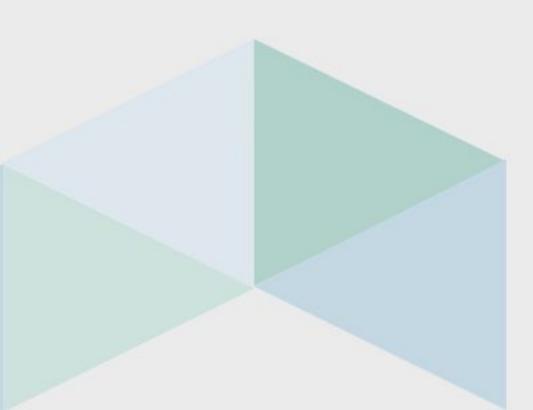


- 410.3.2 Where more than required are installed 50/50 high and



Section 606.1 # 2.1 Location of full open valves

In multi-tenant buildings three stories or less in height with a a main shut off valve.



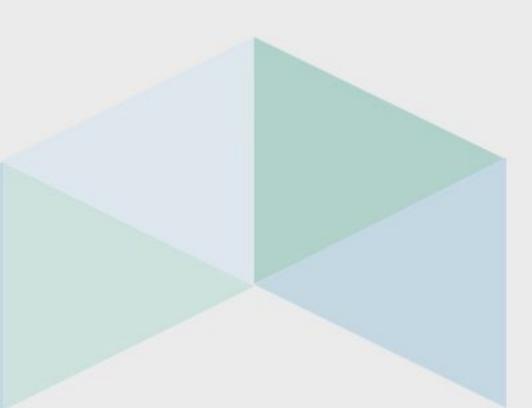


common water supply system, each tenant is to be provided with



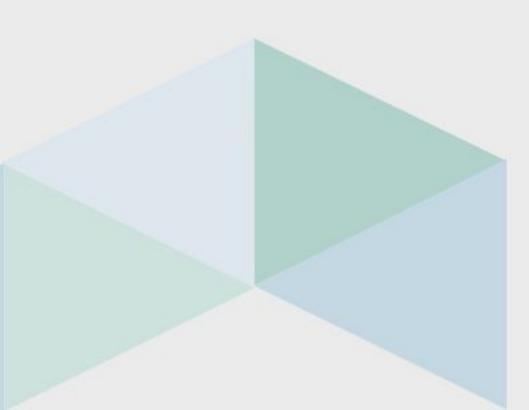
Section 609.2 Water service for I-2 condition 2

I-2 Condition 2 occupancies require two water service pipes. In the event the main service goes down the secondary service will still cover the required supply.





International Mechanical Code







301.18 Seismic Restraints

the following to confirm. **ASCE Hazard Tool** https://ascehazardtool.org







2024 uses the latest seismic maps to classify areas. Many areas are changed back to a seismic C which is helpful in design. Check





Roof hatch guards required.

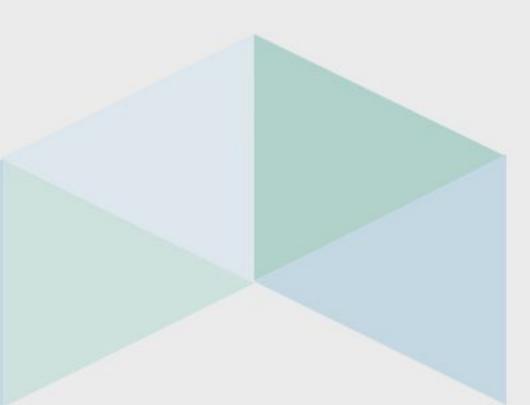








Updates to railing dimensions and locations required for appliances on roofs.







Section 307.1.1 and 307.2.1.1

Condensate termination must be labeled.

set forth by local Utility.

IFGC 307.2





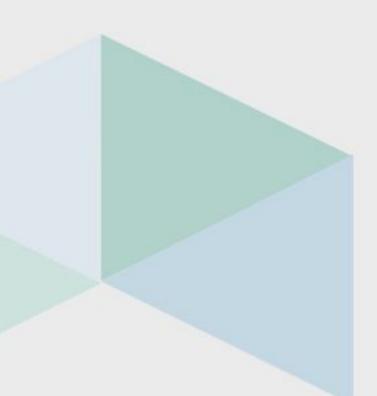
Condensate shall not discharge to sanitary sewer per guidelines



Section 501.2 & 501.6

Dryer, domestic kitchen, and hazardous exhaust shall be independent.

common ducts unless under negative pressure.







Exhaust fans service dwelling or sleeping cannot be connected to



Section 502.20.1

Mani/Pedi must have continuous exhaust systems when occupied.

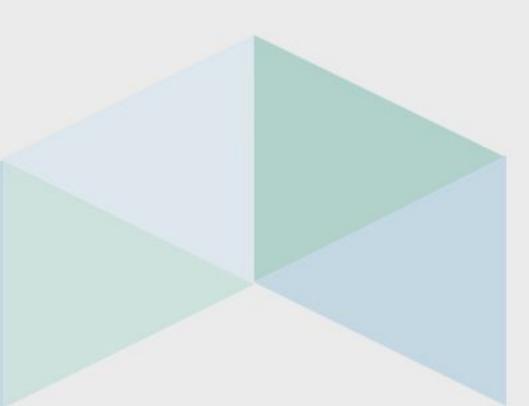








Domestic booster fans shall not be installed in dryer exhaust systems. Power ventilators still allowed per 504.5.







Section 506.3.2.5.1 & .2

Outlines a light and/or water test to take place on duct systems.







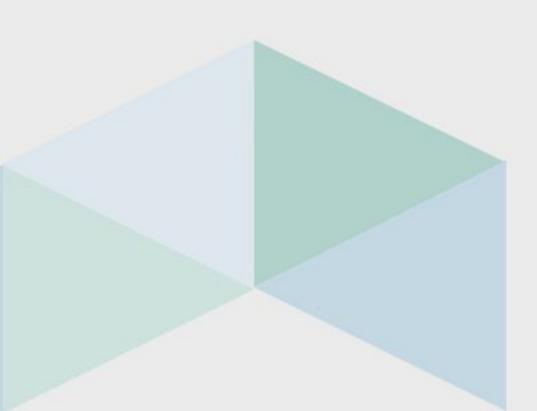


Section 507

Hood Vents!!!

507.1.3 - Locations of fuel burning appliances when hoods present.

507.3 - light-duty cooking appliances







Section 508.1.1

HVAC system that serves kitchen spaces shall have capacity necessary for the latent and sensible loads that are introduced by the makeup air OR condition makeup air to be not greater than 10 degrees difference.

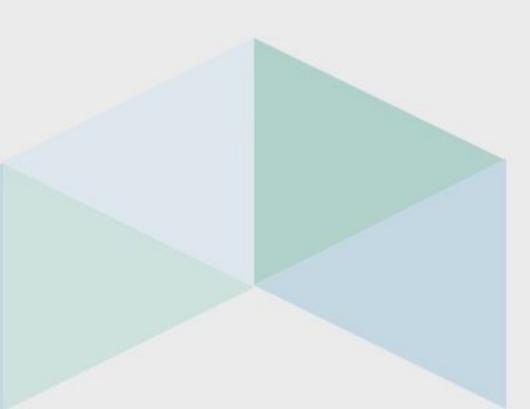
Thanks to the Code Council on this one. (From a former cook's perspective)





Section 509.5.5

Makeup air updates in the 2021 codes. Makeup air to start when exhaust starts.

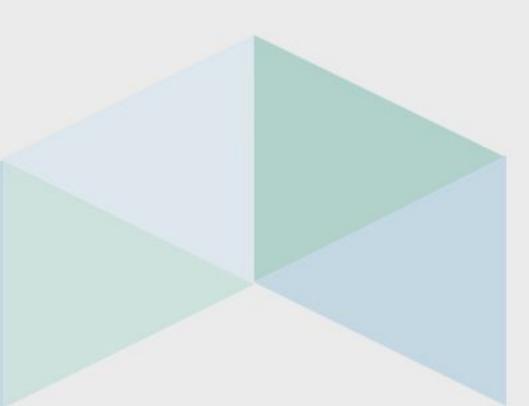








Explosion controls must be provided in accordance with the IFC when conveying combustible dusts or combustible refuse.

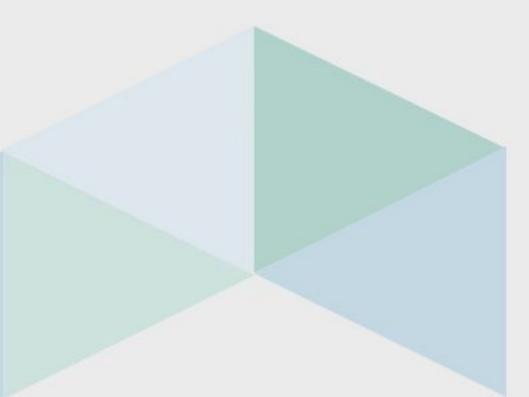








Return air openings clarified and expanded.



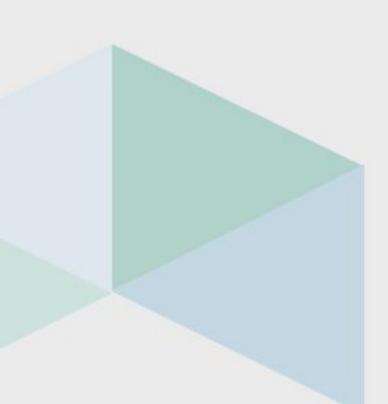






spread index.

UL listings as well as the IBC.





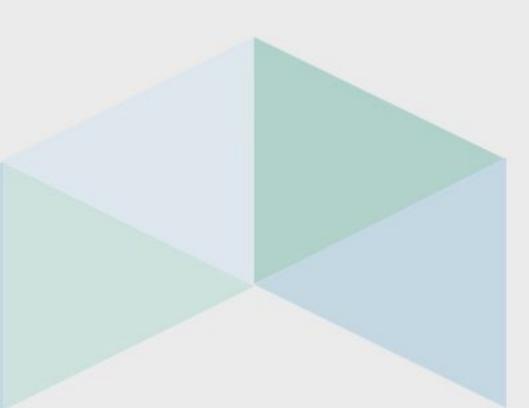
Coverings applied to outside of ducts must have proper flame

604.3 Exception - Polyurethane foam must conform to ASTM and





MEP controls not to be installed in duct systems or thru dampers unless explicitly permitted as part of the air system or damper.

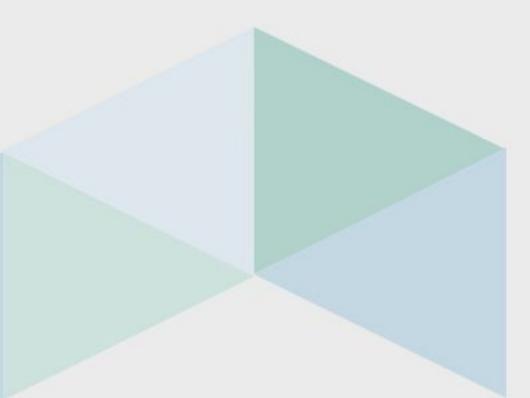








Fire damper access and ID.

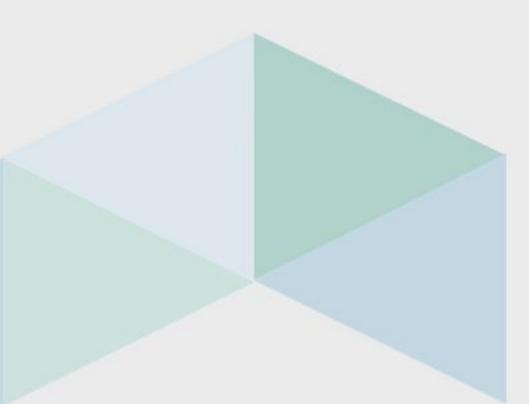








Suspended-type unit heaters are prohibited in multiple locations in I-2 and ambulatory care facilities.









Addition of water heater pan requirements.









Changing refrigerant instructions and requirements.

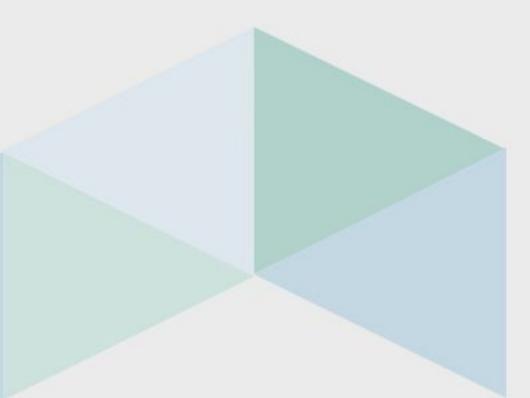








Updates to types of refrigerants allowed.

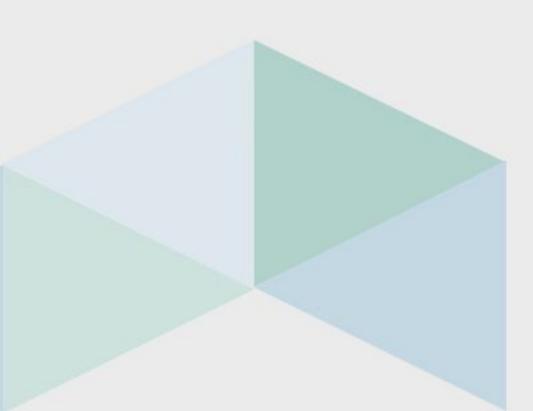






Section 1105.9

Means of egress from *machine* Two exits. Spaced according to IBC. Panic Hardware.





Means of egress from machinery rooms larger than 1000 sq ft.



Section 1107-1110

Major updates and procedures for refrigerant piping material, joints and connections, installation, and testing.







Background

EPA no longer allowing R410a refrigerant systems. of year.

\$\$\$\$\$

Code panel has proposed change to allow for exception if quantities are less than allowable values in Table 1103.1.



Manufacturer's currently halting production of systems before end

2024 Codes require <u>Shafts</u> built to enclose A2L refrigerant lines.



What Knoxville Proposes

Adoption of Code Council <u>recommendations</u> allowing recommended quantity calculations.

Registered Design Professional must provide those calculations for review.

Quantities in excess will require construction of a shaft in accordance with IBC.





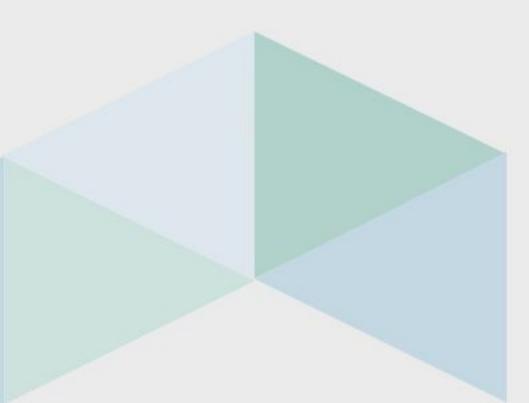


Multiple updates to radiant tubing design, layout, and construction.









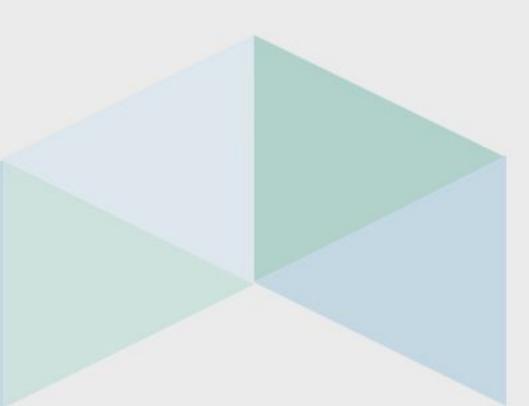


International Fuel Gas Code





Authority to disconnect service. CoK process.

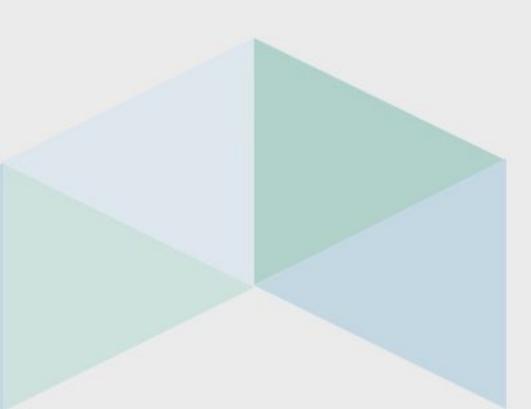








Fireplace and decorative appliances in Group I-2 occupancies prohibited in condition 2.

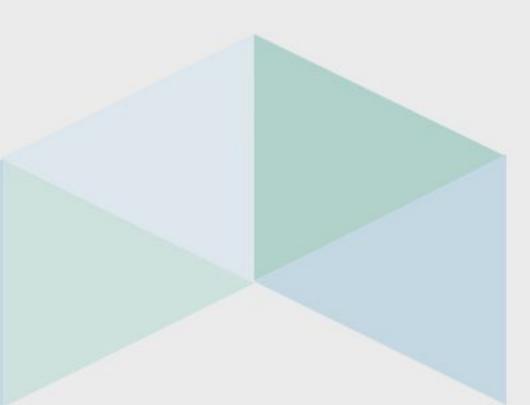








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Condensate termination must be labeled.

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IMC 307.1



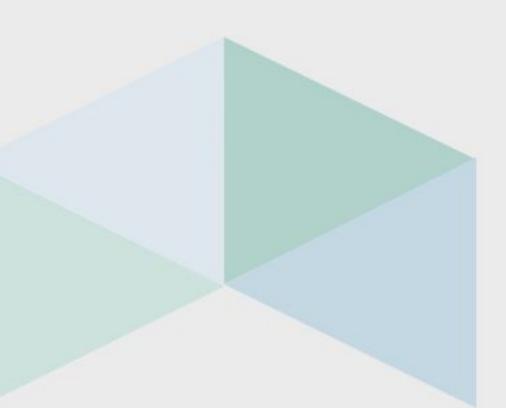
Condensate shall not discharge to sanitary sewer per guidelines



Chapter 4

Multiple locations where access has been updated to ready access. 2021

READY ACCESS (TO). That which enables a device, appliance or equipment to be directly reached, without requiring the removal or movement of any panel, door or similar obstruction.









compatible with piping material and based on manufacturer's instructions.



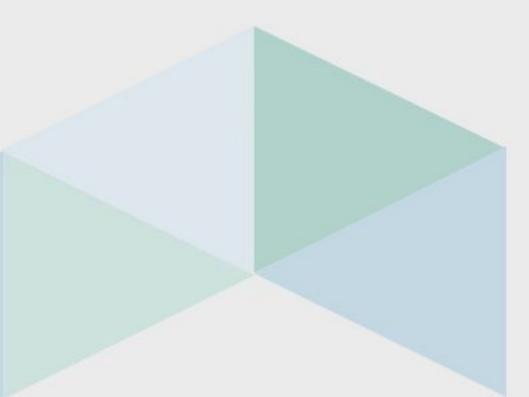


Further clarifies the applicable use of joint compound. Must be





Flanges. Prescribed conditions and inspections.

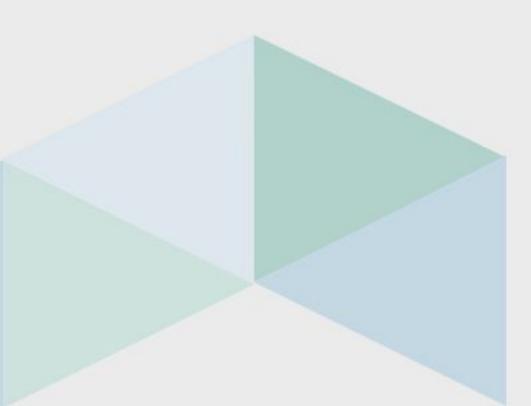






Section 413.2.3 & 413.2.4

Residential and Nonresidential fueling appliances. Specifies CFM for appliance types. Max 5 CFM for resi, 10 CFM for Nonresi









Section 503.8 and Table 503.8

Full update to table for clearances with accompanying figure.









Section 503.10.7

Connector junctions shall be a tee or a wye fitting.









Termination location not less than 3 feet in any direction into soffit within 3 feet of soffit termination.



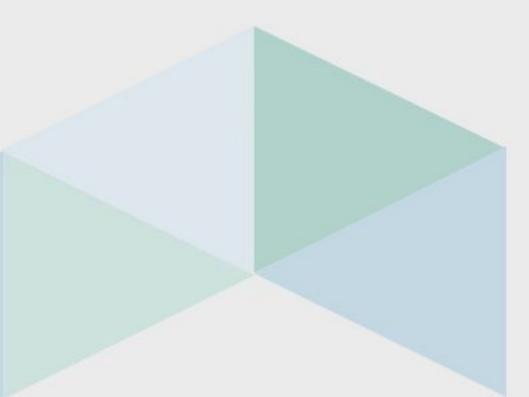


buildings including opening in ventilated soffits. Must have a solid





Domestic booster fans prohibited.









an opening having an area of not less than 100 sq inches for air shall be provided by other approved means.



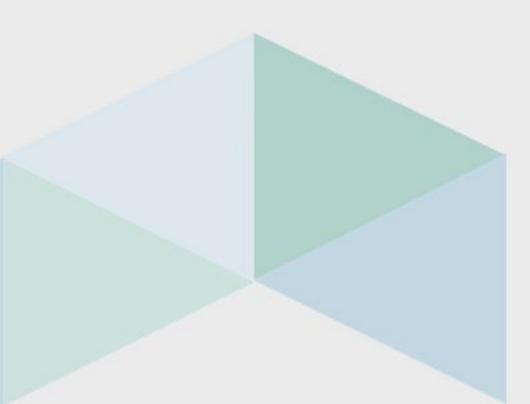


Where a closet is designed for the installation of a clothes dryer, makeup air shall be provided in the closet enclosure, or makeup





Return air shall not be taken from a mechanical room containing a furnace.







Next Up

Clay Taylor MEP Chief To discuss the 2017 - 2023 NEC Significant Updates

