

# 2018 IRC Significant Changes

# Currently adopted code in Manhattan

- 2015 International Building Code, International Residential Code Etc.
- Free electronic version of the codes: <https://codes.iccsafe.org/search/map>
- 1/1/2020 – 2018 IBC/IRC, 2017 NEC
- Don't forget the amendments!

# Why update the codes?

- New materials



- New methods of construction (or old methods now allowed)



- Respond to natural and man made disasters



- Other accidents that can be prevented
- Code changes nationally now require a cost impact statement when submitted



# 2018 International Residential Code

- Scope:
  - 1 & 2 family dwellings
  - Townhomes

# 2018 International residential code

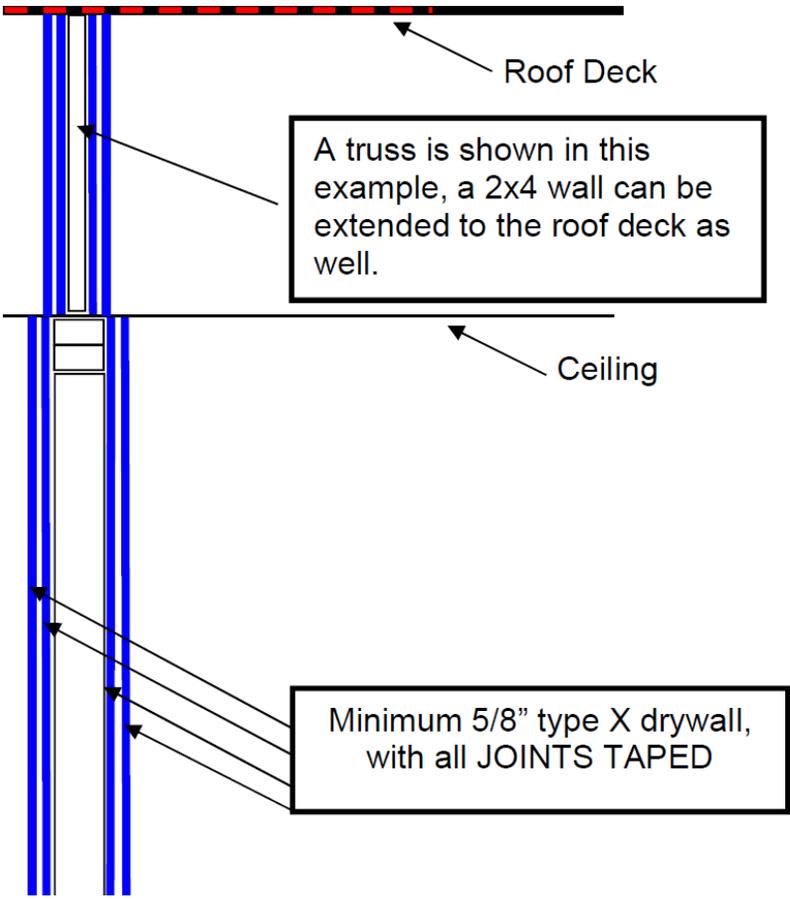
- R302.1 **Exterior walls.** Allows rake end roof overhang to be unrated at 2' when no gable vent is installed.



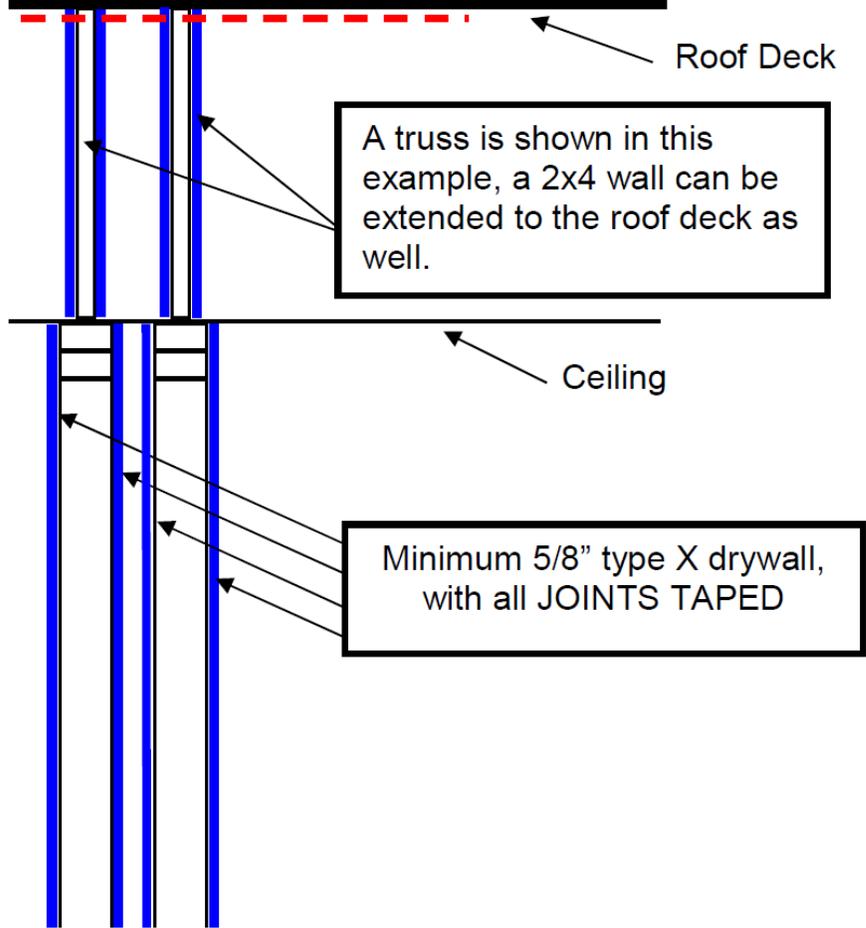
# 2018 International residential code

- R302.1 **Exterior walls.** Allows rake end roof overhang to be unrated at 2' when no gable vent is installed.
- R302.2 **Townhouse separation.** Code now permits (2) one hour walls or (1) two hour wall or (1) one hour wall with 13D sprinkler system throughout.

# 1-two hour wall



# 2-one hour walls



# 2018 International residential code

- R302.1 **Exterior walls.** Allows rake end roof overhang to be unrated at 2' when no gable vent is installed.
- R302.2 **Townhouse separation.** Code now permits (2) one hour walls or (1) two hour wall or (1) one hour wall with 13D sprinkler system throughout.
- R302.13 **Fire protection of floors.** Only requires protection in crawl spaces if there is storage or a fuel fired or electric heating appliance (previously was all crawl spaces)



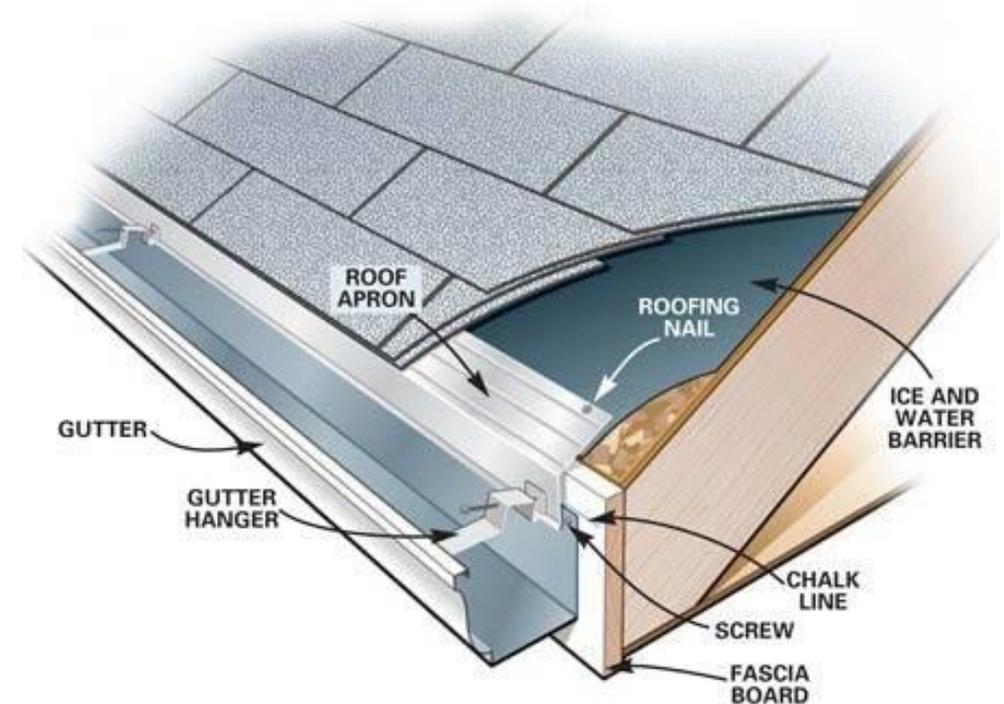
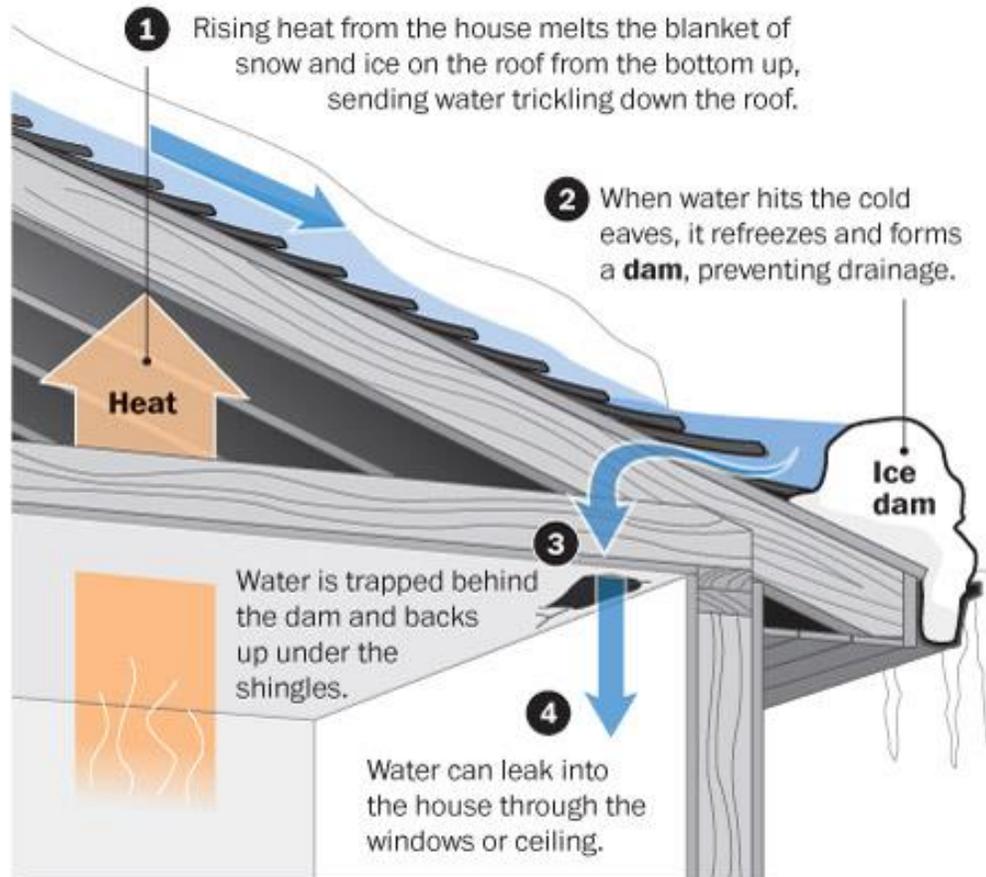
# 2018 International residential code

- R311.7 Alternating tread devices / ship ladders:
  - Now allowed for lofts if 200 sq. ft or less, and not exclusive to kitchen/bath



# 2018 International residential code

- Ice barriers required at roof eaves

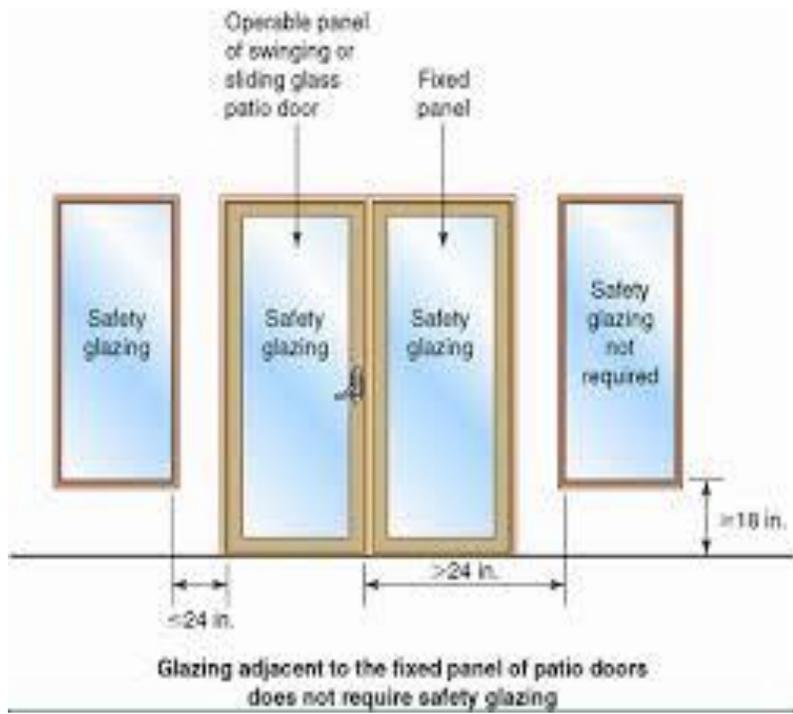


# Ice dam damage



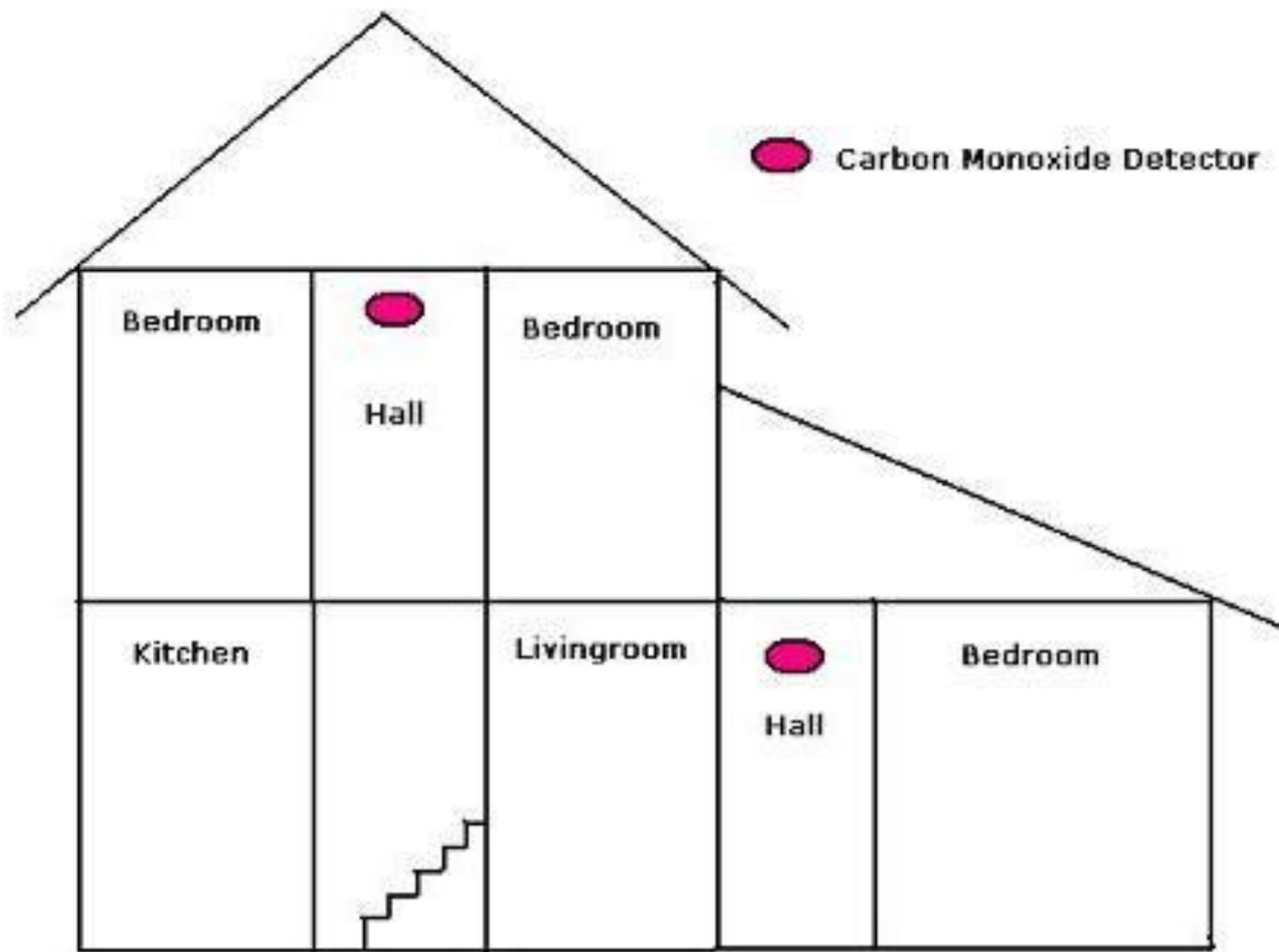
# 2018 International residential code

- R308.4.2 **Glazing adjacent to doors.** Glazing within 24” of the hinge side of an in-swinging door that is less than 180 degrees from the plane of the door in the closed position shall be safety glazing. (was perpendicular)
- R308.4.4 **Glazing in guards and rails.** Guards with structural glass baluster panels shall have top rail or handrails.



# 2018 International residential code

- R314.4 **Smoke alarm interconnection.** Where alteration requiring a permit is done, smoke alarms are now required to be interconnected. (may be done with wireless alarms)
- R315.5 **Carbon monoxide alarm interconnection.** Now required where more than one alarm is required.
- R408.3 **Unvented crawl space.** Ventilation of under floor space is not required when an adequately sized dehumidifier is added.



# 2018 International residential code

- R507.2 **Deck materials.** Adds requirements for fasteners and flashing for decks.
- R507.3 **Deck footings.** New section with prescriptive deck footing sizes.
- R507.4 **Deck posts.** Adds 8x8 posts to the max post height chart since 3 ply beams cannot be supported by notched 6x6 posts.
- R507.6 **Deck joists.** Adds specific cantilever lengths.





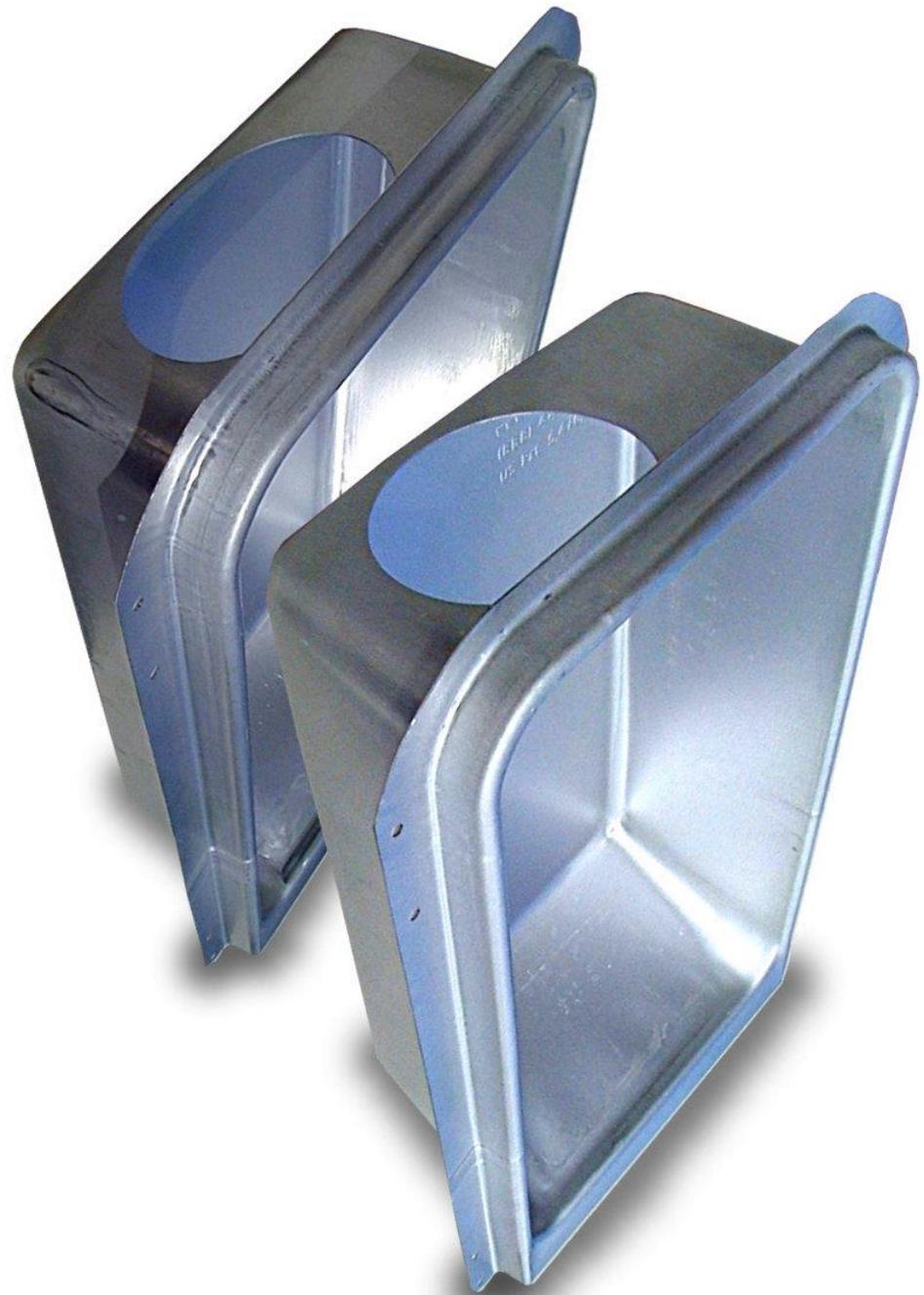
# 2018 International residential code

- R703.2 **Water resistive barrier.** Exemption for detached accessory buildings has been removed.
- R1005.8 **Insulation shield.** Factory built chimneys passing through insulation shall now have an insulation shield to maintain the required clearance.



# 2018 International residential code

- M1502.3.1 **Dryer exhaust termination and passageway size.** A minimum of 12.5 square inches is now required for the terminal outlet of a dryer duct.
- M1504.2.2 **Duct installation.** Cavities for installation of concealed dryer duct shall be sized to allow for installation without deforming the duct.



# 2018 International residential code

- G2411.3 **Arc resistant CSST.** No longer required to have a dedicated bond for CSST with an arc resistant jacket if connected to an appliance that is connected to the appliance grounding conductor of that circuit.



FLEXIBLE STAINLESS STEEL GAS TUBING

FOR USE WITH NATURAL GAS OR PROPANE (LP)

AVAILABLE IN NUMEROUS LENGTHS INCLUDING 25 FT

TRADITIONAL YELLOW OR BLACK ARC-RESISTANT JACKETS

THE "ONE-STOP SHOP" FOR YOUR ROUGH-IN GAS PRODUCTS!

- TUBING •FITTINGS •TERMINATION OPTIONS •SAFETY DEVICES
- OPTIONAL ACCESSORIES •GAS VALVES •GAS CONNECTORS •PROPANE



INTRODUCING

**FLAK** ⚡ **JACKET**™

**ARC-RESISTANT CSST**

- ⚡ No additional bonding requirements imposed by manufacturer's instructions.\*
- ⚡ Same reliable dual-seal gasket and o-ring fittings as traditional Pro-Flex™ yellow CSST.

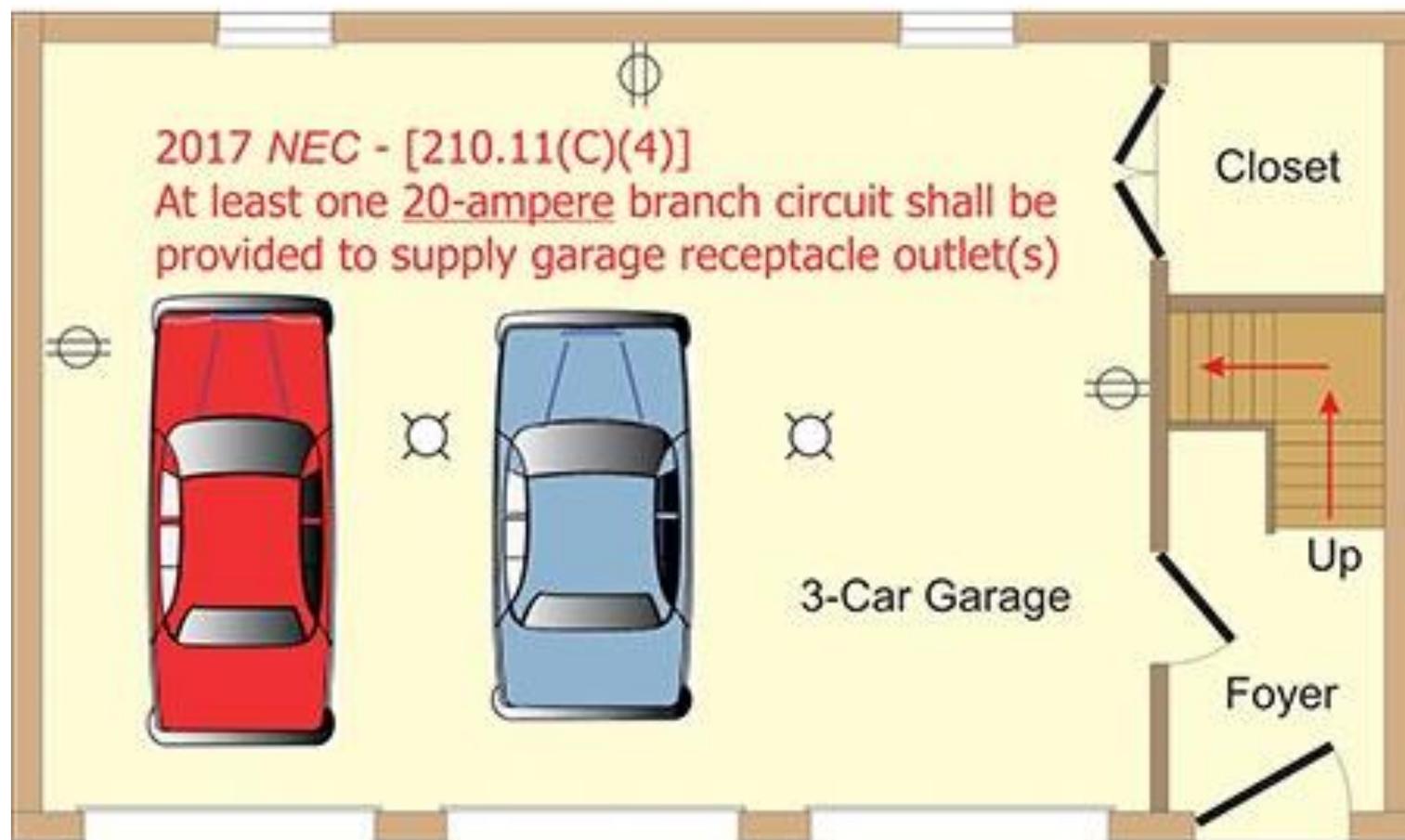
\*When a conflict exists between local code requirements and the manufacturer's instructions, the local code requirements shall take precedence.



# 2018 International residential code

- E3703.5 **Garage branch circuits.** A separate 20 amp circuit is required to serve outlets in the garage. (was 15 or 20 amp previously) Also clarifies that this circuit is permitted to supply outdoor outlets.
- E3901.3 **Small appliance receptacles.** An individual 15 amp branch circuit is now permitted to serve any specific kitchen appliance.
- E3901.9 **Basements, garages and accessory buildings.** Clarifies that the garage outlet for each vehicle must be located in each vehicle bay.

## 210.11(C)(4) Dwelling Unit Garages



# 2018 International residential code

- Appendix Q **Tiny houses.** A new appendix that covers provisions for tiny houses of 400 square feet and less. (No T.H.O.W. - must be built on permanent)
- Appendix S **Straw bale construction.** New updates to this appendix based on performance.

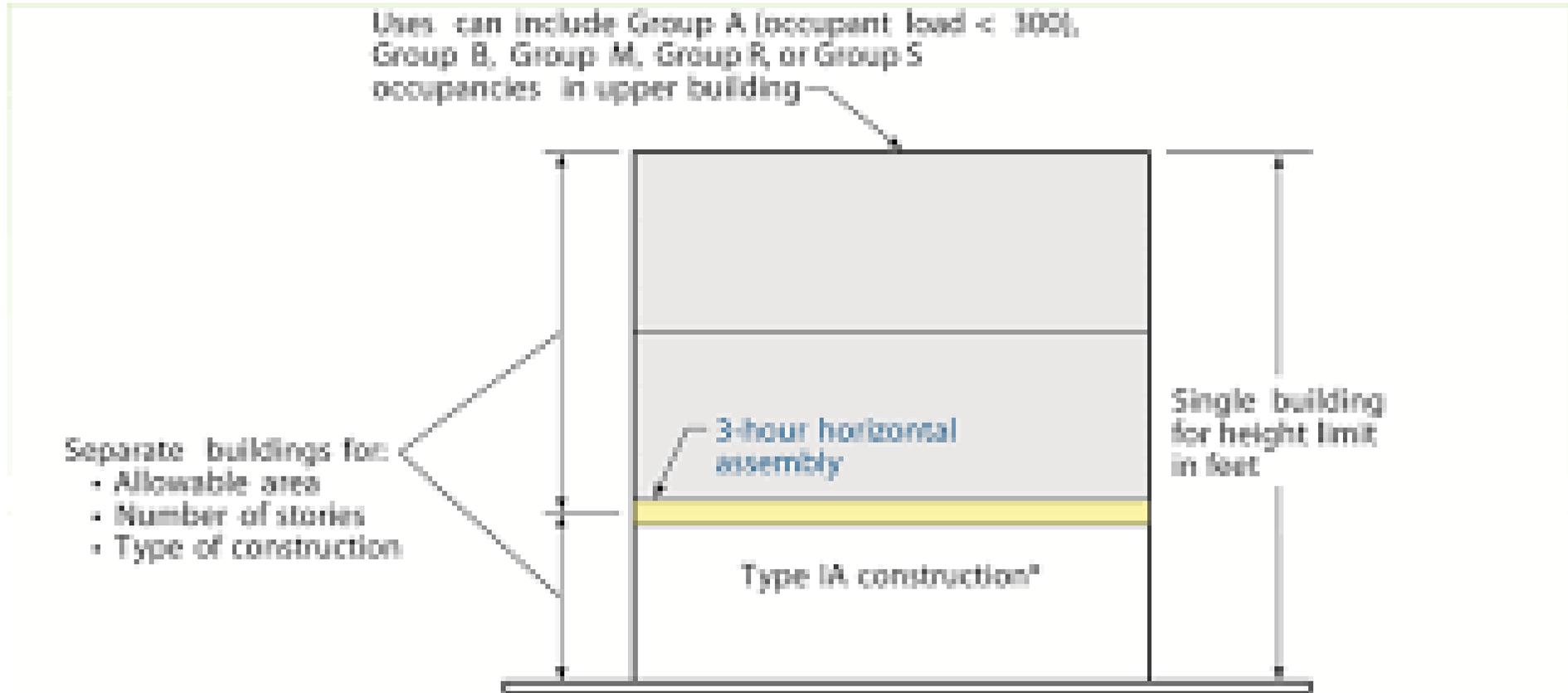


# 2018 International building code

- Scope
  - All structures other than one- and two-family dwellings and townhouses

# 2018 International building code

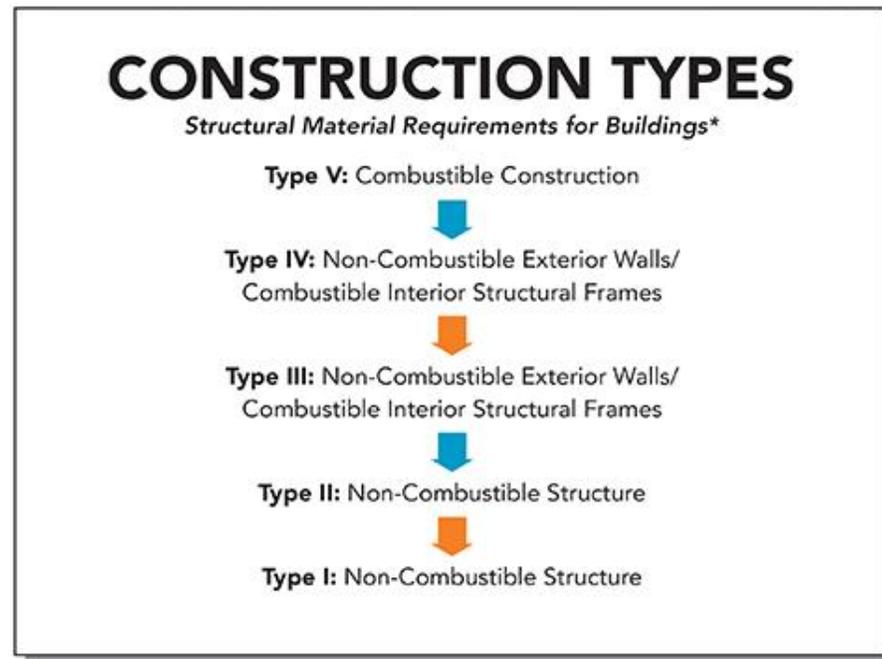
- 503.1.4 **Occupied roofs.** New criteria for establishing allowable heights and area for occupied roofs.
- 506.2 **Allowable area of greenhouses.** New note i in table substantially increases the allowable area for type V-B group U greenhouses.
- 510.2 **Horizontal building separation allowance.** Clarifies that in a horizontal fire separation for the purpose of creating different types of construction in a vertical building, the supporting structure must be type IA construction and be of at least 3 hour rated construction. Also the allowable building height includes both sections above grade plane.



\*Group B, M, R, S-2 parking and limited size A occupancies permitted to occupy a portion, or all, of floor area

# 2018 International building code

- **602.4.1 Fire retardant treated wood in exterior walls.** Clarifies that fire retardant treated sheathing as well as wood framing is permitted within exterior walls of type III or IV construction where the wall rating does not exceed 2 hours.



\* For complete information see International Building Code Table 601

# 2018 International building code

- 705.8.1 **Allowable area of openings.** Clarified that the allowable area of openings in rated exterior walls is for each story, determined individually.
- 706.1.1 **Party walls.** Construction of party walls as fire walls is no longer required if the aggregate height and area on both sides are compliant with chapter 5 and there are agreements or easements established addressing maintenance of all fire and life safety systems of both buildings.
- 903.3.1.1.2 **Bathroom sprinklers.** Sprinkler requirements that previously extended to small bathrooms in R-4 occupancies have been deleted.
- 903.3.1.2.3 **Attic sprinkler protection.** Sprinkler protection or acceptable alternative methods for the protection of attics are now addressed for mid-rise buildings housing multifamily occupancies and equipped with a 13R sprinkler system.

# Allowable Area of Openings in Exterior Walls: (Doors and Windows)

Table 705.8 Fire Separation Distance	Unprotected Openings Allowed	Protected Openings Allowed
30' or more	No Limit	No Limit
25'+, but < 30'	70%	No Limit
20'+, but < 25'	45%	No Limit
15'+, but < 20'	25%	75%
10'+, but < 15'	15%	45%
5'+, but < 10'	10%	25%
3'+, but < 5'	Not Permitted	15%
0' to < 3'	Not Permitted	Not Permitted

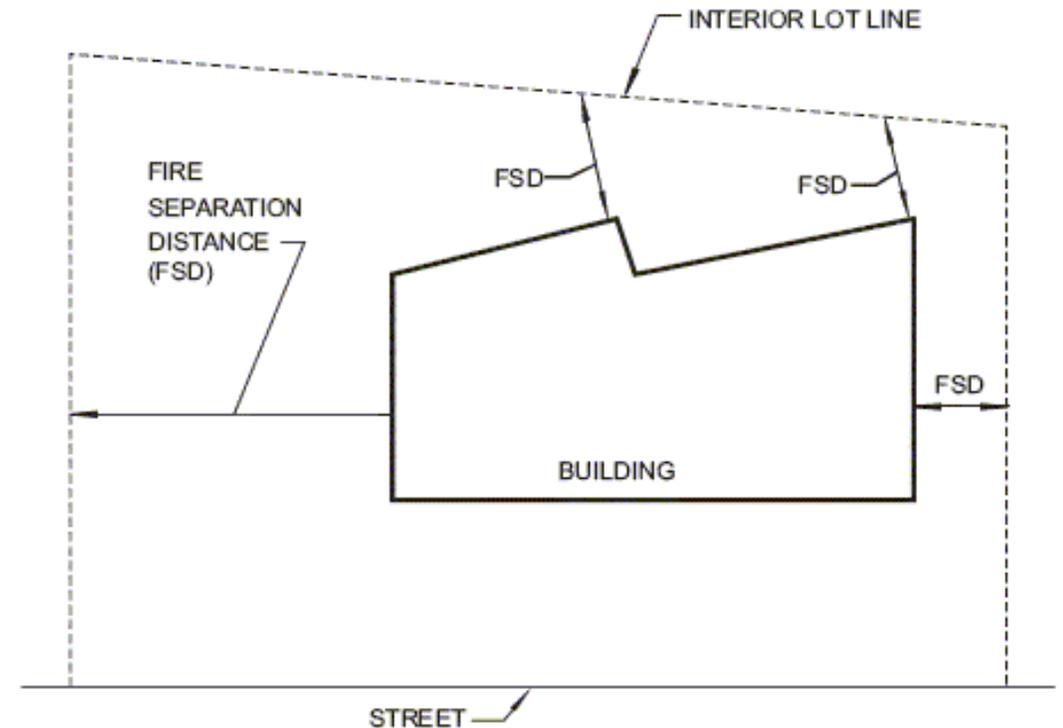


Figure 702.1(6)  
FIRE SEPARATION DISTANCE MEASURED TO AN INTERIOR LOT LINE

# 2018 International building code

- 907.2.1 **Group A fire alarms.** Additional criteria now mandates the installation of a manual fire alarm where a Group A occupancy with an OL of 100 or more is above or below the level of exit discharge.
- 907.2.10 **Group R-4 fire alarm systems.** A fire alarm and automatic smoke detection system is no longer required in Group R-4 occupancies.
- Table 1004.5 & Sec. 1004.8 **Occupant loads calculations in B occupancies.** General occupant load factor for business areas has been increased to 150 which will result in smaller occupant loads. However, there is now a factor of 50 for “concentrated business uses” which are defined as things such as call centers, data processing centers, trading floors and similar uses.

# 2018 International building code

- **1010.1.4.4 Locking arrangements in educational occupancies.** Specific guidance has been added for what locking devices are allowed in classrooms and offices in group E & B educational occupancies.
- **1010.1.9.8 Delayed egress in classrooms.** The allowance for use of delayed egress locking devices in classrooms has been expanded to include classrooms with an OL of less than 50 as well as exits serving courtrooms.



# Locks that currently meet fire code:

We understand that school districts may not have the funding available to spend on expensive hardware. These locks are examples of devices which currently meet fire code.



Outside knob locked or unlocked by key. Inside knob always unlocked.



Push and turn button device. One motion in order to unlock and open the door.



Single motion locking device. Only requires one motion to unlock and open the door.

# Prohibited locking devices:

These types of locks and latches are prohibited and do not meet current fire code.



Locking door chain



Barrel bolt



Hasp



Dead bolt/thumb turn



Drop-in bar



Lockdown panic bar strap

# 2018 International building code

- 1607.1 **Deck live loads.** Sets live loads for decks and balconies at 1 ½ times that of the area served.
- 1607.15.2 **Fire walls – lateral loads.** New section that establishes the minimum lateral load for a fire wall at 5 psf.



# 2018 International building code

- 1704.6      **Structural observations.** New section requiring structural special observations for high rise and risk category IV structures.
- 1705.5.2    **Metal plate connected wood trusses.** Changed the special inspection requirement from 60 or greater span to overall height of 5 feet or more.

# Risk Category IV structures

- Hospitals and surgery centers
- Fire, rescue and police stations
- Designated tornado shelters
- Emergency operations centers
- Power generating stations
- Air traffic control towers
- Buildings having critical national defense functions
- Water storage and pumping stations
- Buildings containing highly toxic materials



# 2018 International building code

- 2303.2.2 Fire retardant treated wood

Wood required to be treated must be done so during manufacture. The use of paints, coatings, stains and other surface treatments is not an approved method of protection.

# 2018 International building code

- **3310.1 Stairways in buildings under construction.** At least one temporary or permanent stairway must now be provided in a building under construction once the building reaches a height of 40' rather than the previous 50'.
- **3314 Fire watch during construction.** When required by the Fire Code Official, a fire watch shall be provided during non-working hours for construction that exceeds 40' in height above the lowest adjacent grade.