

# Building Advisory Board Study Session



April 12, 2016

Significant Changes between the  
2006/2012 Editions of the  
International and Uniform Codes  
and the 2005/2011 Edition of the  
National Electrical Code



2012 INTERNATIONAL BUILDING CODE®

*A Member of the International Code Family®*

IBC®



# International Building Code (IBC)

B1

**Section 102.4 Referenced Codes and Standards.** This section has been clarified so as to eliminate any confusion as to conflicts between provisions of this code and referenced standards. In cases where parallel or conflicting requirements occur, the provisions in the IBC will prevail.

B2

**Section 202 Definitions.** For consistency and usability purposes, all definitions have been moved to Chapter 2. Previously, definitions were scattered throughout the code.

# International Building Code (IBC)

B3

**Section 202 & 308.2 Definitions.** Several new definitions have been added relating to care facilities and some existing definitions have been revised for clarity.

**24 Hour Care.** The actual time that a person is an occupant within a facility for the purpose of receiving care. It shall not include a facility that is open for 24 hours and is capable of providing care to someone visiting the facility during any segment of the 24 hours.

# International Building Code (IBC)

B3

**Custodial Care.** Assistance with day to day living tasks; such as assistance with cooking, bathing, using toilet facilities and other tasks of daily living. Custodial care provides services and supplies for activities of daily living and such services may be performed by individuals who are not licensed medical personnel. Custodial care includes occupants who evacuate at a slower rate and/or who have mental and psychiatric complications.

**Incapable of self preservation.** Persons because of age; physical limitations; mental limitations; chemical dependency, or medical treatment cannot respond as an individual to an emergency situation.

# International Building Code (IBC)

B3

**Medical care.** Care involving medical or surgical procedures, nursing, or for psychiatric purposes.

**Nursing homes.** Facilities that provide care, including both intermediate care facilities and skilled nursing facilities where any of the persons are incapable of self-preservation.

# International Building Code (IBC)

B4

## **Section 308.4 Institutional Group I-2.**

A Group I-2 occupancy classification is now only applicable to medical facilities where six or more individuals incapable of self preservation are receiving care. A facility where 5 or fewer individuals are receiving such care, a Group R-3 classification is the most appropriate and may also be regulated under the International Residential Code (IRC).

(Foster Care Facilities; Detoxification Facilities; Hospitals; Nursing Homes; Psychiatric Hospitals)

# International Building Code (IBC)

B5

**Section 419 Live/Work Units.** This new section addresses live/work units which are defined as “a dwelling unit in which a significant portion of the space includes a nonresidential use that is operated by the tenant.” Residential live/work units will typically include a dwelling unit along with some public service business, such as an artist’s studio, coffee shop, or chiropractor’s office and the public is able to enter the work area of the unit to acquire service.

# LIVE/WORK UNIT



Specifications are subject to change without notice. Illustrations are artist's impression.

# International Building Code (IBC)

B6

## **Section 424 Children's Play Structures.**

The regulations for children's play structures were previously limited to covered mall buildings. They are now applicable where such structures are located within any building regulated by the IBC, regardless of occupancy.

B7

## **Section 501.2 Address Identification.**

With modifications to this section, the fire code official can now require address numbers to be posted in multiple locations when necessary to facilitate emergency response.

**501.2. Address identification.** New and existing buildings shall be provided with approved Arabic address numbers in accordance with the following table:

- The address numbers shall be installed on a contrasting background and be plainly visible from the street or road fronting the property.
- When required by the fire code official, address numbers shall be provided in additional approved locations and sizes to facilitate emergency response.
- When the building address cannot be viewed from the public way, a monument, pole or other approved sign or means shall be used to identify the structure as directed by the fire code official.
- Address numbers shall be maintained.

<b>Distance From the Edge of Property Line and Road</b>	<b>Minimum Number Height</b>	<b>Minimum Stroke Width</b>
0-25 feet	4 inches	0.5 inch
25-50 feet	6 inches	1 inch
50-100 feet	8 inches	1.25 inches
100-150 feet	10 inches	1.75 inches
Over 150 feet	12 inches	2 inches

# International Building Code (IBC)

B8

## **Section 703.7 Marking and Identification.**

This section has been modified to further clarify the size and location of identifying markings which are required on vertical fire assemblies in accessible above ceiling spaces. The requirements are as follows:

1. Be located in accessible concealed floor, floor/ceiling, or attic spaces.
2. Be located within 15 feet of the end of each wall and at intervals not exceeding 30 feet measured horizontally along the wall or partition.
3. Include lettering not less than 3 inches in height with a minimum 3/8 inch stroke in contrasting color incorporating the suggested wording: "FIRE AND/OR SMOKE BARRIER-PROTECT ALL OPENINGS".

# 703.7 Marking and Identification

2012 International Building Code



[www.studythecode.com](http://www.studythecode.com)



# International Building Code (IBC)

B9

## **Section 903.2.11.1.3 Basements.**

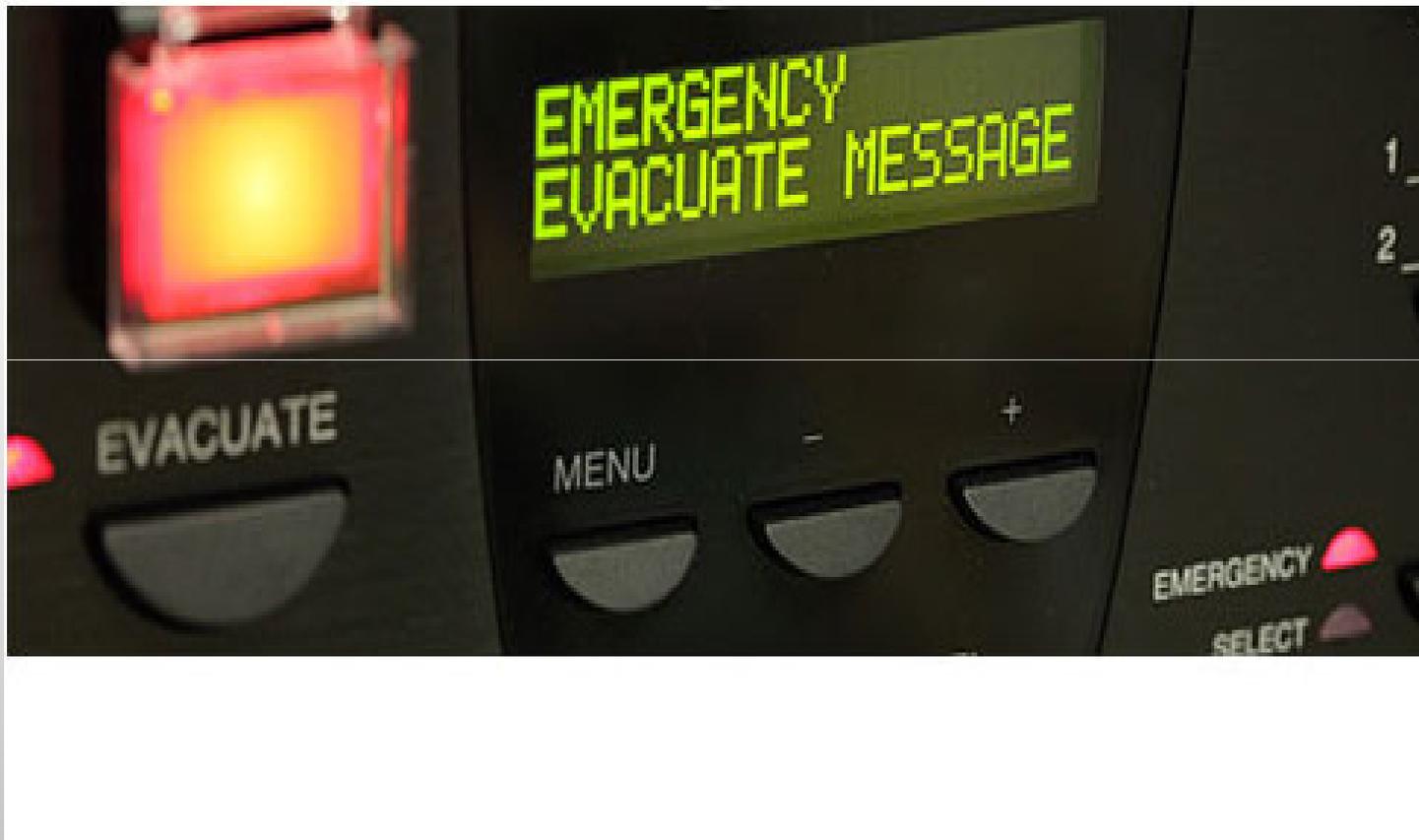
This section has been modified to require basements with over 1500 square feet in area which have walls, partitions or fixtures that can obstruct water from hose streams from the exterior to have automatic fire sprinkler protection.

B10

## **Section 907.2.3 Group E.**

This section has been modified to now require a voice/alarm communications system in Group E occupancies with an occupant load of 30 or more.

# VOICE/ALARM COMMUNICATION SYSTEM



# International Building Code (IBC)

B11

## **Section 908.7 Carbon Monoxide Alarms.**

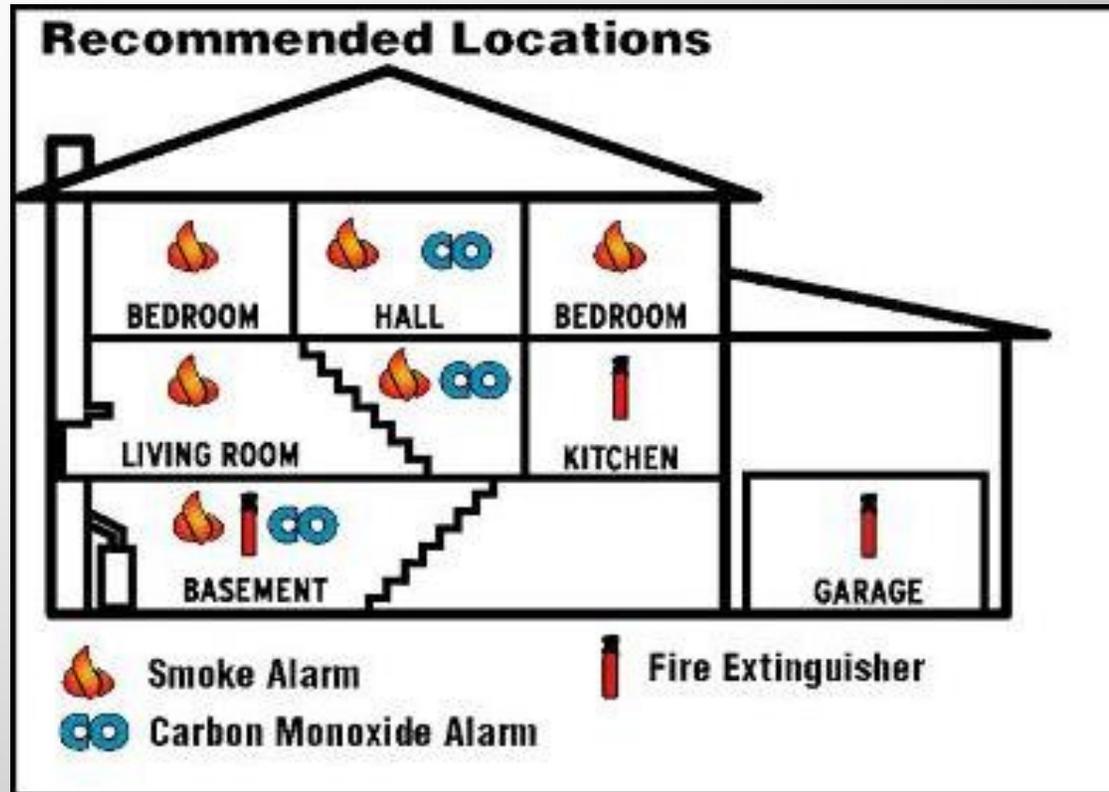
An addition to this section now requires carbon monoxide alarms in all Group R and I occupancies with fuel burning appliances or attached garages.

B12

## **Section 1008.1.9.9 Electromagnetically Locked Egress Doors.**

Previous editions of the IBC prohibited the use of electromagnetic locks on egress doors. Due to ever increasing security concerns, the use of such locking devices is now acceptable with “panic hardware” which is listed for such use and will automatically release the locking mechanism with the operation of the push bar.

# CARBON MONOXIDE & SMOKE DETECTOR LOCATIONS



# ELECTROMAGNETIC LOCK



# International Building Code (IBC)

B13

## **Section 1011.2 Floor-Level Exit Signs in Group R-1.**

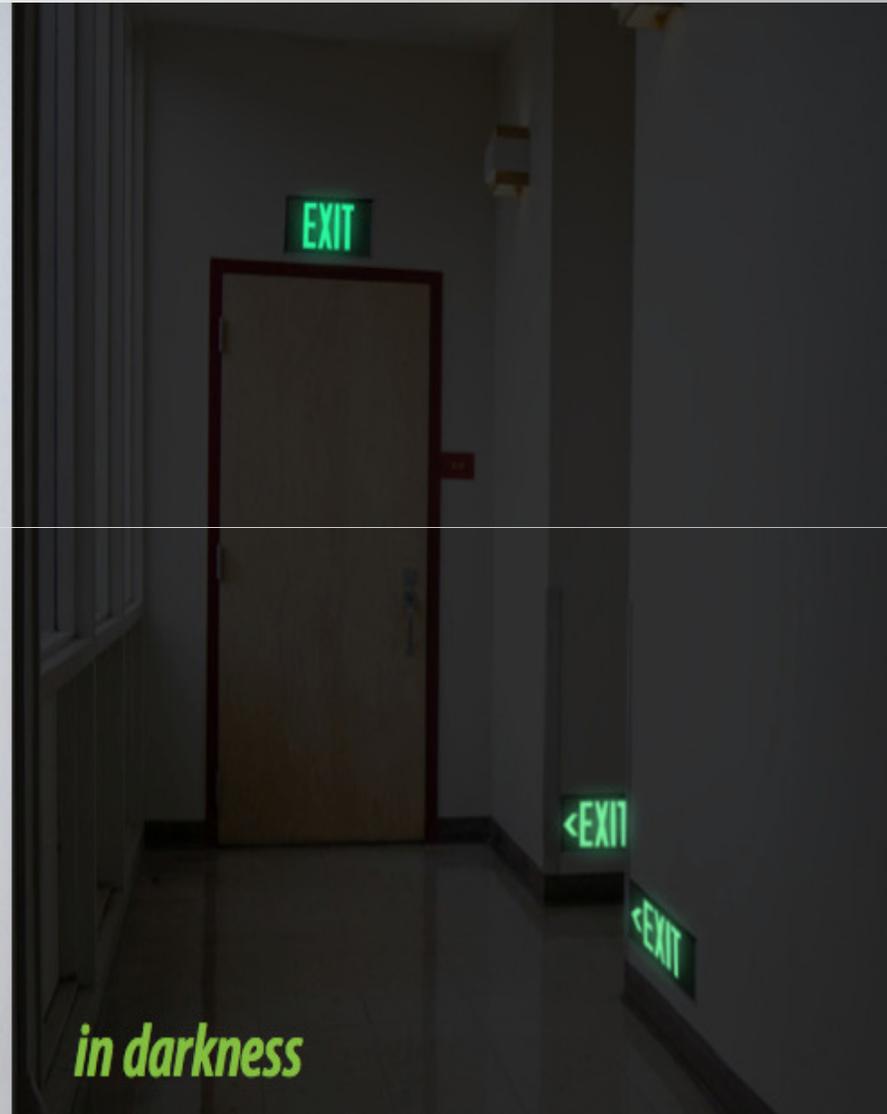
Where exit signs are required in group R-1 occupancies (hotels, motels, boarding houses) additional low-level floor exit signs are now required in all areas serving guest rooms. The bottom of the sign shall not be less than 10 inches nor more than 12 inches above the floor level.

B14

## **Section 1208.3 Room Area.**

The minimum room area for kitchens has been deleted. Previously 50 square feet was required. The new text states, "Kitchens are not required to be of a minimum floor area". However, they must maintain a minimum 3 foot clear passageway.

# FLOOR LEVEL EXIT SIGNS





2012 INTERNATIONAL RESIDENTIAL CODE®  
FOR ONE- AND TWO-FAMILY DWELLINGS

*A Member of the International Code Family®*

2012 IRC®

INCLUDES THE RESIDENTIAL REQUIREMENTS FROM THE NFPA 70, NATIONAL ELECTRICAL CODE® 2011  
*The electrical code designated for use with the I-Codes®*

# International Residential Code (IRC)

R1

## **Section R302.5.1 Garage Opening Protection.**

Doors between the garage and dwelling unit now require self-closing devices.

R2

## **Section R303 Mechanical Ventilation.**

All dwelling units require either natural or mechanical ventilation. Where windows, doors, louvers and other openings do not provide the minimum openable area (4% of the floor area being served) required for natural ventilation, mechanical ventilation is required.

# SELF-CLOSING DEVICE FOR DOOR BETWEEN THE GARAGE AND DWELLING



# WHOLE HOUSE VENTILATION



# International Residential Code (IRC)

R3

**Section R310.1 Emergency Escape and Rescue Opening.**

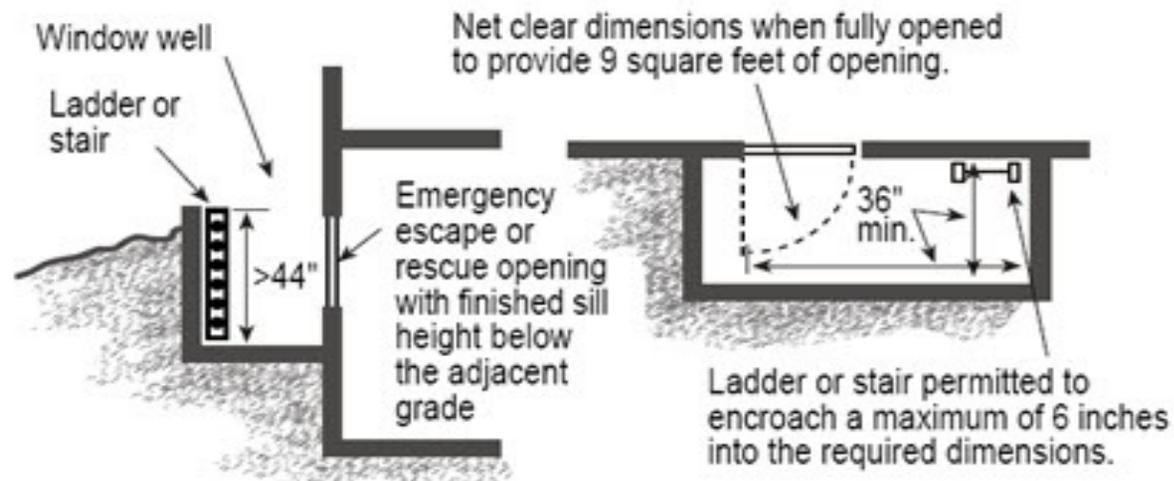
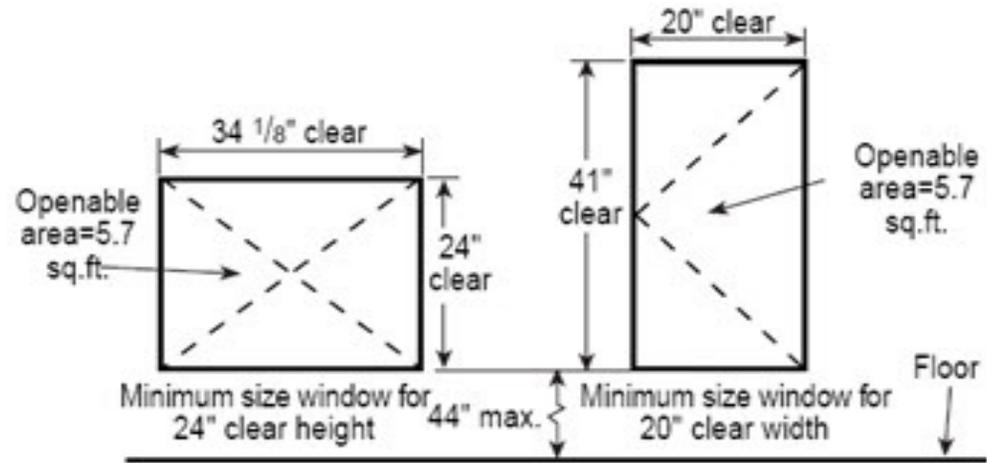
The maximum sill height of 44 inches is now measured from finished floor to the bottom of the clear opening. Previously the measurement was to the top of the sill.

R4

**Section R310.2.2 Window Well Drainage.**

This section now requires window wells serving emergency escape and rescue openings to be designed so as to direct surface water to the foundation drainage system.

# EMERGENCY ESCAPE AND RESCUE OPENING



# International Residential Code (IRC)

R5

## **Section R312 Guards and Window Fall Protection.**

The IRC requires window sills to be at least 24 inches above the floor when the window opening is more than 6 feet above grade or other surface below the window. The code now provides 3 alternatives which are considered to be equivalent to the 24 inch sill height in preventing falls by children.

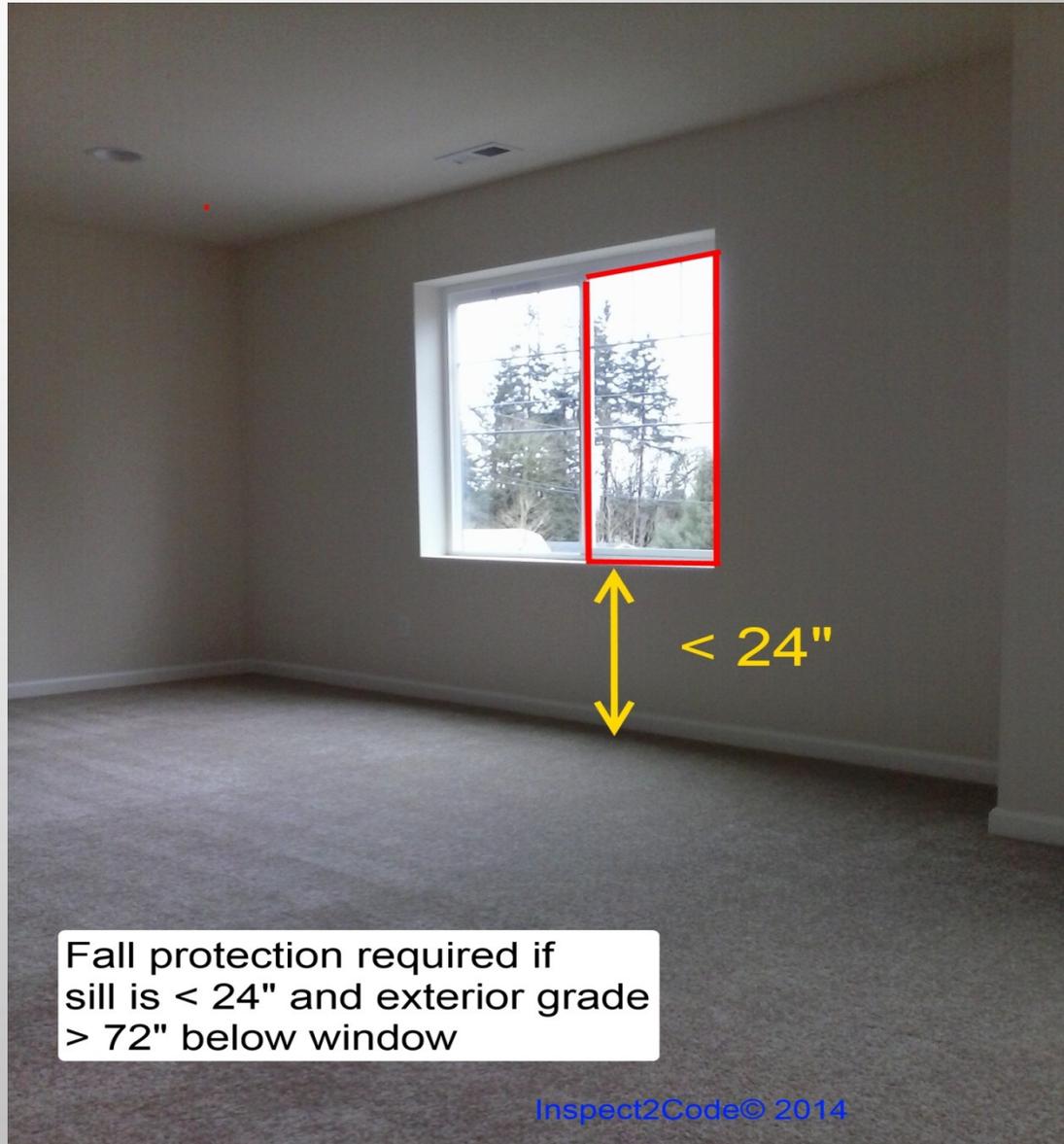
- Window openings that do not allow the passage of a 4 inch sphere
- Window fall protection device.
- Window opening control device.

R6

## **Section R314 Smoke Alarms.**

The code now specifically recognizes wireless smoke alarms as satisfying interconnection requirements for both new and existing dwellings.

# WINDOW FALL PROTECTION



# WINDOW FALL PROTECTION



# WINDOW FALL PROTECTION



# International Residential Code (IRC)

R7

## **Section R501.3 Fire Protection of Floors.**

The installation of 1/2 inch gypsum board, 5/8 inch wood structural panel, or other approved material is now required on the underside of floor assemblies consisting of i-joists, manufactured open web floor trusses, cold-formed steel framing and other materials and products considered most susceptible to collapse in a fire.

R8

## **Section R903.2.1 Roof Flashing Locations.**

These provisions have now been modified to require a “kick-back” flashing where the eave of a roof structure intersects a wall to prevent water intrusion into the wall assembly.

# I-JOISTS



# OPEN-WEB FLOOR JOISTS



# FIRE PROTECTION- UNDERSIDE OF FLOOR ASSEMBLIES



# KICKBACK FLASHING

Code  Check

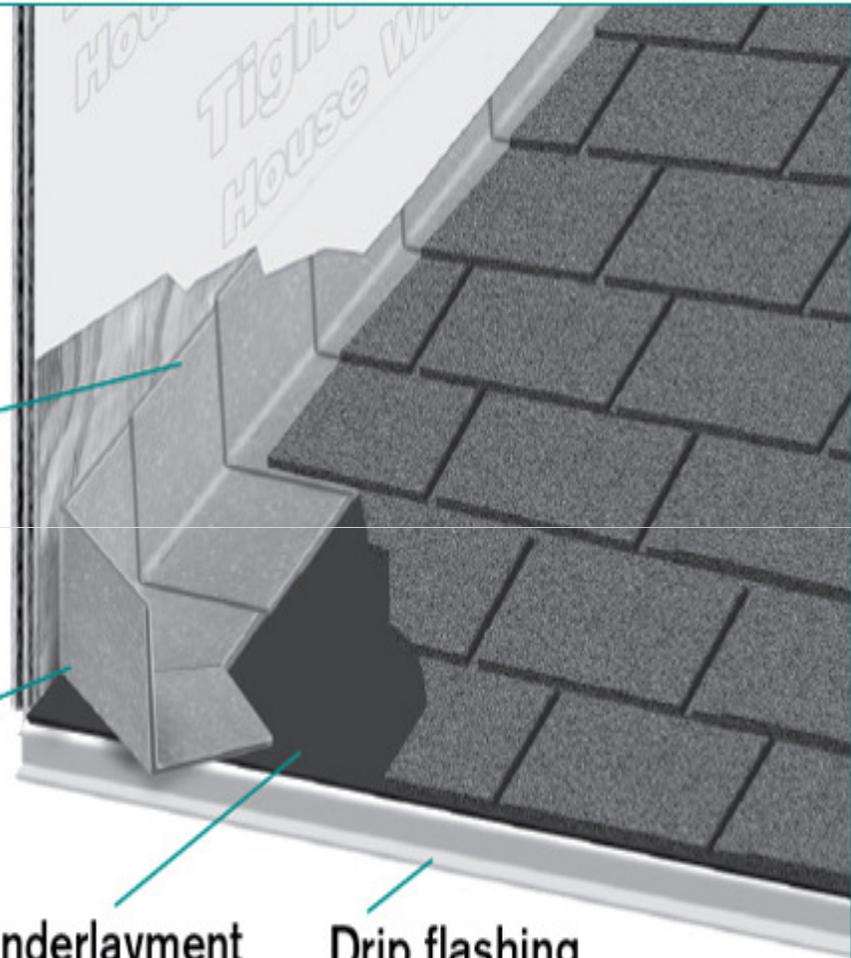
**Kickout Flashing**

Step flashing

Kickout flashing

Underlayment

Drip flashing



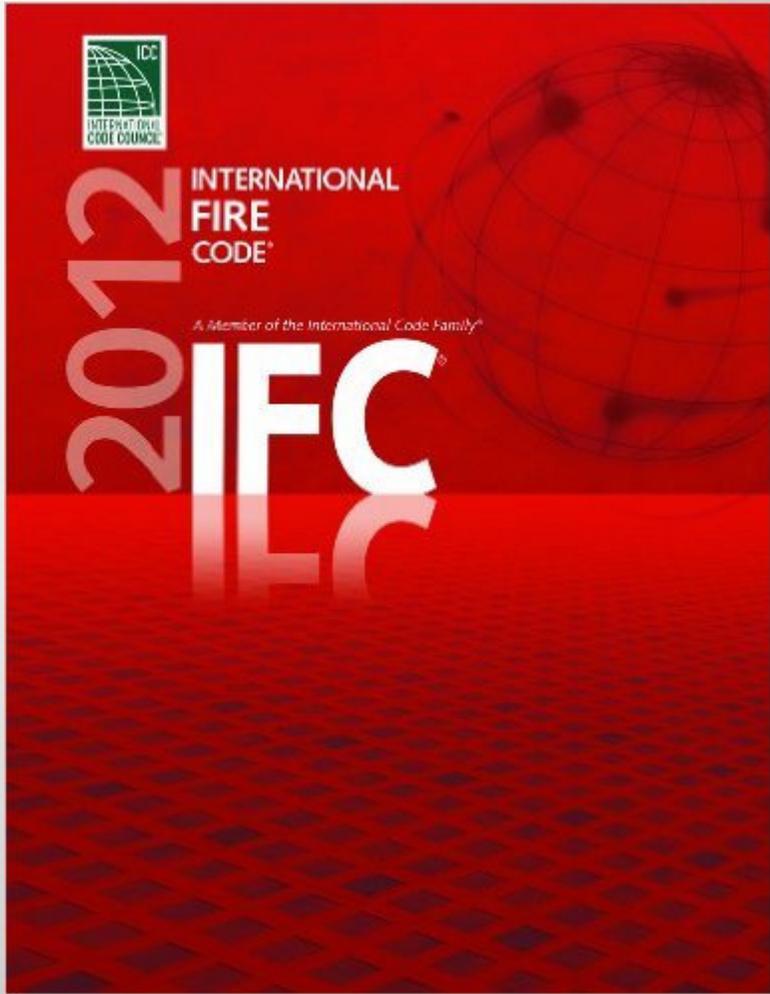
©2012 Code Check

# International Residential Code (IRC)

R9

## **Chapter 11 Energy efficiency.**

Chapter 8- Division 6 of the Salina Municipal Code provides the energy efficiency requirements as applicable to the IRC.



# International Fire Code (IFC)

F1

## **Section 307 Open Burning, Recreational Fires and Portable Outdoor Fireplaces.**

This section has been modified due to increasing popularity of outdoor living areas, etc. It now addresses portable outdoor fireplaces, such as chimineas, steel firepits and similar devices. The section prohibits portable outdoor fireplaces from being operated within 15 feet of a structure or combustible material. The 15 foot restriction does not apply to one-and-two family dwellings.

# OUTDOOR FIREPLACE & CHIMINEA



# International Fire Code (IFC)

F2

## **Section 503.4.1 Traffic Calming Devices.**

This new section requires approval by the Fire Code Official before a traffic calming device can be constructed.

F3

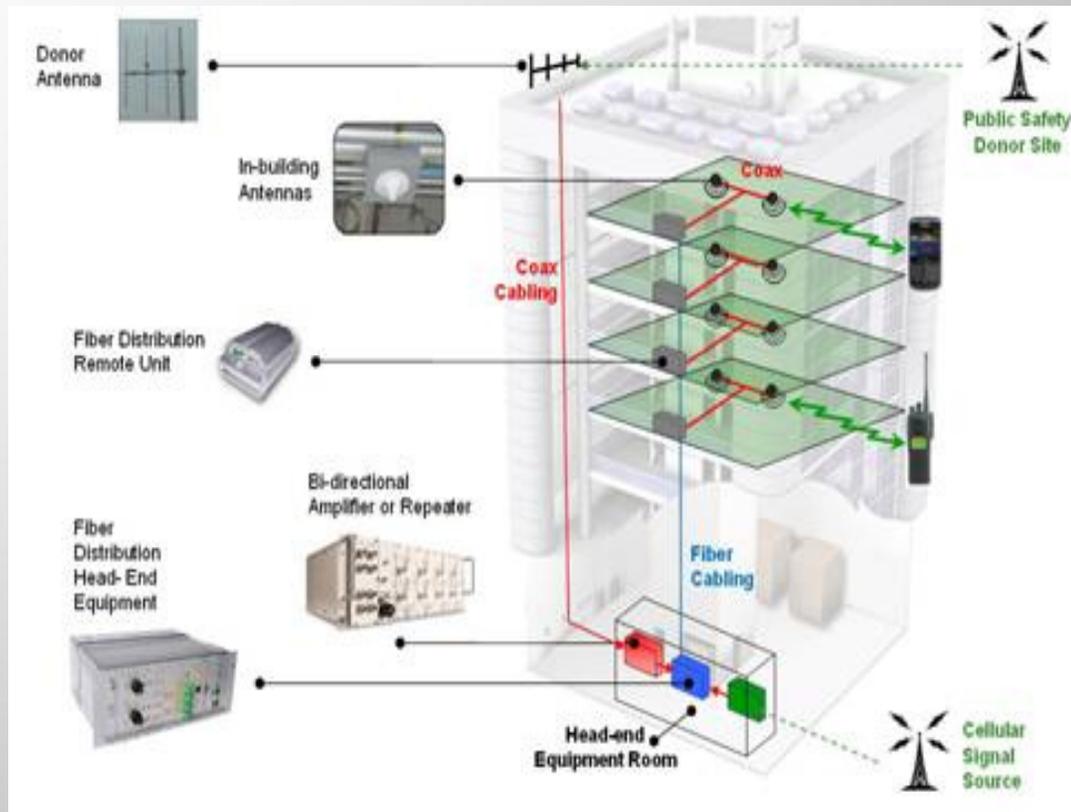
## **Section 510.1 Emergency Responder Radio Coverage in New Buildings.**

The provisions of this section require all new buildings to have sufficient radio coverage inside the structure so firefighters can safely operate within them.

# TRAFFIC CALMING DEVICE



# EMERGENCY RESPONDER RADIO COVERAGE



# International Fire Code (IFC)

F4

## **Section 901.4.6 Pump and Riser Room Size.**

The rooms which house fire protection systems must now be sized to facilitate maintenance and the size will be determined by the equipment manufacturer's specifications.

F5

## **Section 904.1.1 Certification of Service Personnel for Fire Extinguishing Equipment.**

To ensure that fire extinguishing systems and devices are properly maintained, the IFC now requires individuals performing maintenance activities to be certified. The certification must be issued by an approved agency for the type of work being performed.

# Certified Portable Fire Extinguisher Technician

International Code Council  
(ICC)

# International Fire Code (IFC)

F6

## **Section 906.1 Where Required.**

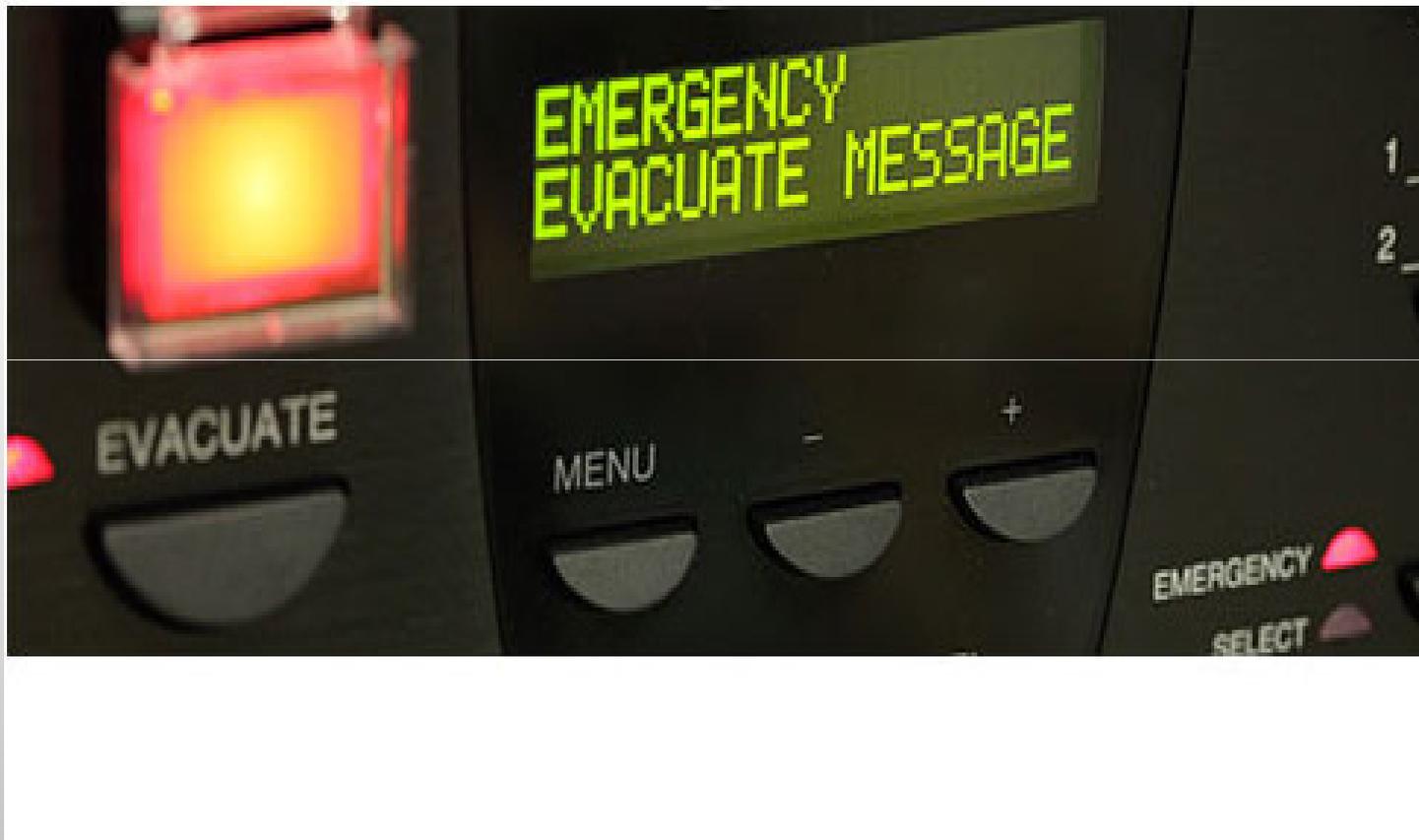
This section has been modified to require portable fire extinguishers in any occupancy, regardless of whether it is protected by an automatic sprinkler system. The one exception is for R-2 occupancies (i.e., apartments) which can eliminate the portable fire extinguishers in many public and common areas, if an extinguisher is provided within each dwelling unit.

F7

## **Section 907.2.3 Group E.**

An emergency voice/alarm communications system is now required in Group E occupancies with an occupant load of 30 or more. Previous editions of the IFC stated the fire alarm system was not required for an occupant load of “less than 50”.

# VOICE/ALARM COMMUNICATION SYSTEM



# International Fire Code (IFC)

F8

## **Section 907.4.1 Protection of Fire Alarm Control Unit.**

Previous editions of the IFC did not require the protection of certain fire alarm and detection components when the building was protected throughout by an automatic fire sprinkler system. This section has now been modified to require a single smoke detector, in areas not continuously occupied, at the location of each fire alarm control unit , notification appliance circuit power extenders and supervising station transmitting equipment.

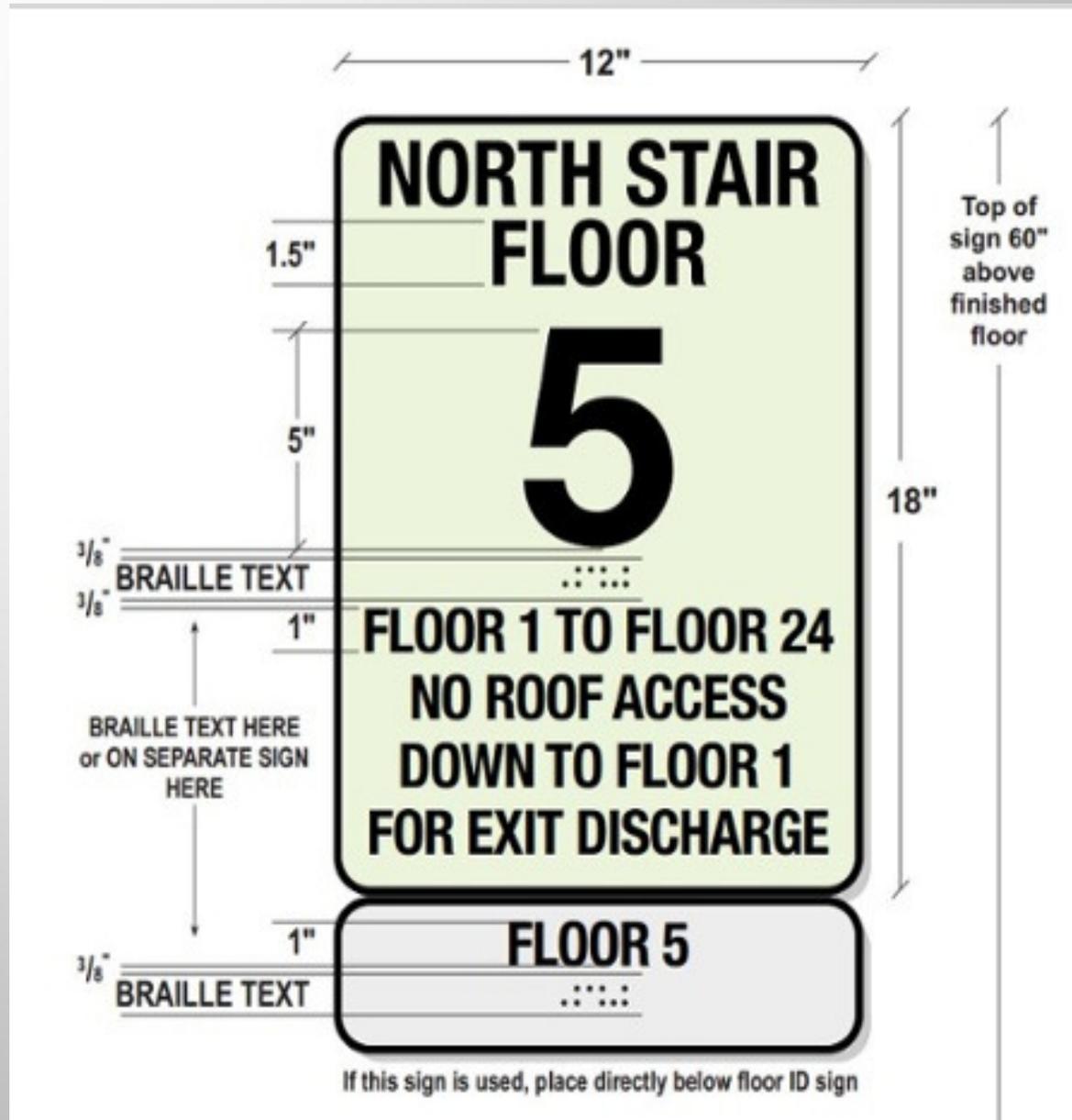
# International Fire Code (IFC)

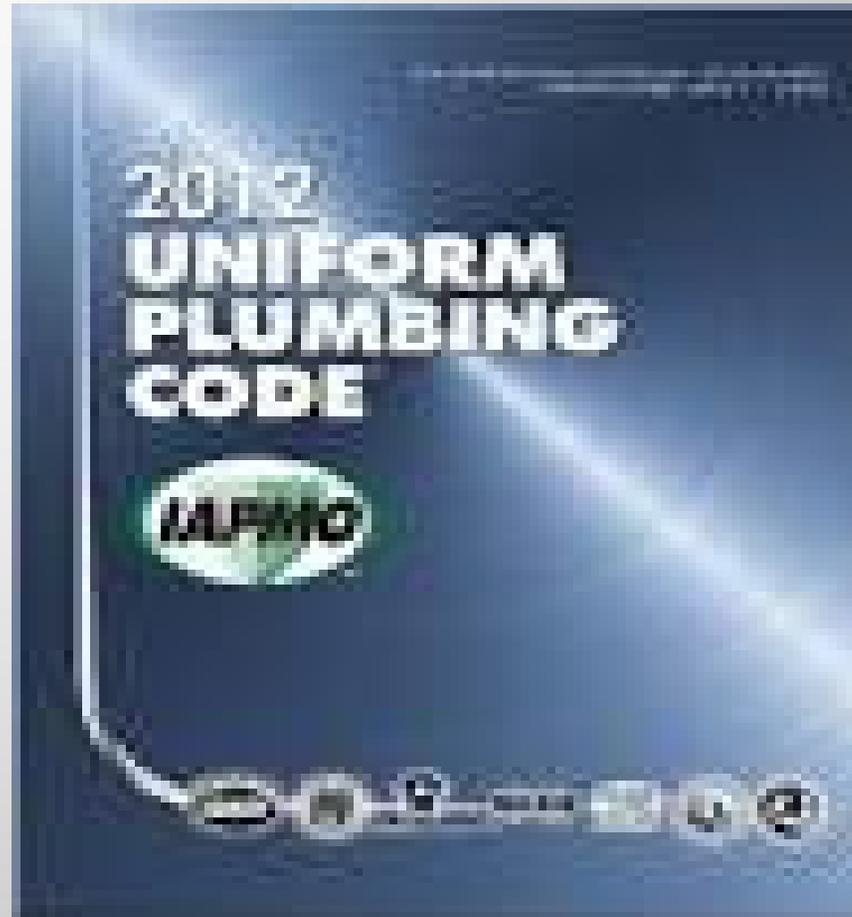
F9

## **Section 1030.9 Floor Identification Signs.**

This is a new section which requires floor identification signs to be maintained in an approved manner. Floor identification signs are required in exit enclosures connecting more than three stories. The sign shall identify the termination point at the top and bottom floors of the exit enclosure, whether roof access is available and the direction to and story of the exit discharge. The signs are also required at each floor level.

# FLOOR IDENTIFICATION SIGN





# Uniform Plumbing Code (UPC)

P1

**Chapters 16 Alternate Water Sources for Nonpotable Applications & Chapter 17 Nonpotable Rainwater Catchment Systems.**

Chapters 16 & 17 contain new alternate water sources for nonpotable applications and nonpotable rainwater catchment systems.

P2

**Appendix L- Sustainable Practices.**

New appendix to address sustainable practices related to plumbing installations and water conservation measures.

# Uniform Plumbing Code (UPC)

P3

## **Chapter 4 Plumbing Fixtures and Fixture Fittings.**

Provides a minimum plumbing facilities table.

P4

## **Chapter 6 Water Supply and Distribution & Chapter 7 Sanitary Drainage .**

Revised water supply and drainage joint connection requirements.

# Uniform Plumbing Code (UPC)

Current Method of Calculating Plumbing Fixtures:

**Table 2902.1 (2006 IBC)**

Example: A Restaurant , a Bar and an Office with an occupant load of 400 ea.

Restaurant	Bar/Nightclub	Business
<u>Male:</u> 6 water closets & 2 lavatories (or 2 water closets & 4 urinals)	<u>Male:</u> 10 water closets & 6 lavatories (or 3 water closets & 7 urinals)	<u>Male:</u> 9 water closets & 6 lavatories (or 3 water closets & 6 urinals)
<u>Female:</u> 6 water closets & 2 lavatories	<u>Female:</u> 10 water closets & 6 lavatories	<u>Female:</u> 9 water closets & 6 lavatories

**Note:** Urinals may be substituted for a maximum of 67% of the required number of water closets.

# Uniform Plumbing Code (UPC)

New Method of Calculating Plumbing Fixtures:

## **Table 422.1 (2012 UPC)**

Example: A Restaurant , a Bar and an Office with an occupant load of 400 ea. :

Restaurant	Bar/Nightclub	Business
<u>Male:</u> 4 water closets; 3 urinals & 3 lavatories	<u>Male:</u> 4 water closets; 3 urinals & 3 lavatories	<u>Male:</u> 4 water closets; 3 urinals & 5 lavatories
<u>Female:</u> 8 water closets & 4 lavatories	<u>Female:</u> 8 water closets & 4 lavatories	<u>Female:</u> 11 water closets & 6 lavatories

# Uniform Plumbing Code (UPC)

Using the example provided of a restaurant, a bar and an office (all with an occupant load of 400) the new method of calculating plumbing fixtures will result in the following:

## **Restaurant:**

Male: (using 67% allowance) An increase of two water closets and a reduction of one urinal. An increase of 1 lavatory.

Female: An increase of 2 water closets and 2 lavatories.

## **Bar /nightclub:**

Male: (using 67% allowance) An increase of 1 water closet and a reduction of 4 urinals. An increase of 1 lavatory.

Female: A reduction of 2 water closets and 2 lavatories.

## **Office:**

Male: (using 67% allowance) An increase of 1 water closet and a reduction of 3 urinals. A reduction of 1 lavatory.

Female: An increase of 2 water closets.

# Uniform Plumbing Code (UPC)

Plumbing Fixture Comparison for Educational Occupancies:

**Current: Table 2902.1 (2006 IBC):**

**Water closets:** Male: 1 per 50 ; Female: 1 per 50

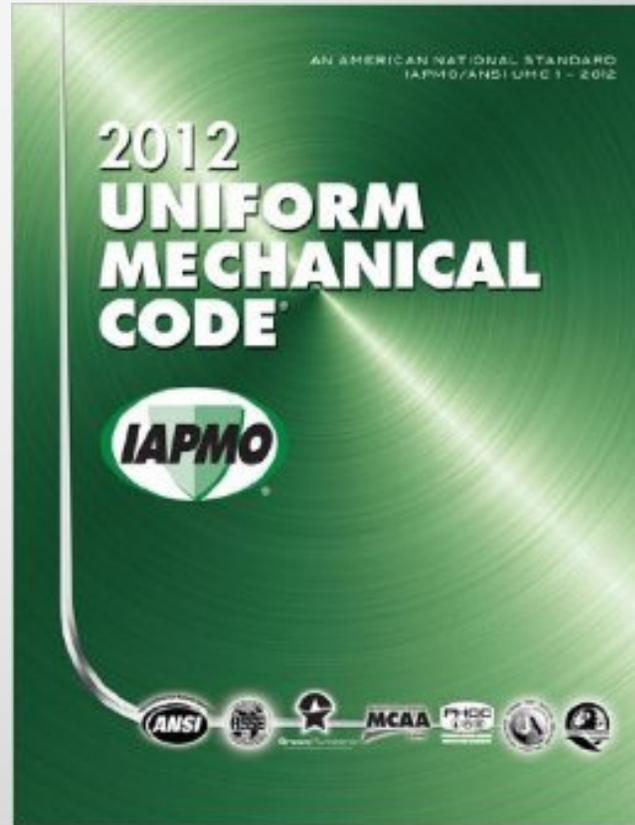
**Lavatories:** Male: 1 per 50; Female: 1 per 50

**New: Table 422.1 (2012 UPC):**

**Water closets:** Male: 1 per 50; Female: 1 per 30

**Urinals:** Male: 1 per 100

**Lavatories:** Male: 1 per 40; Female: 1 per 40



# Uniform Mechanical Code (UMC)

M1

## **Chapter 3 General Requirements.**

Provides new requirements for piping, tubing, balancing, louvers, protection of piping, mechanical systems and ductwork.

M2

## **Chapter 9 Installation of Specific Appliances.**

Provides new provisions for evaporative cooling systems.

M3

## **Chapter 11 Refrigeration.**

Revised to include refrigeration port protection requirements.

## REGRIGERATION PORT PROTECTION



# Uniform Mechanical Code (UMC)

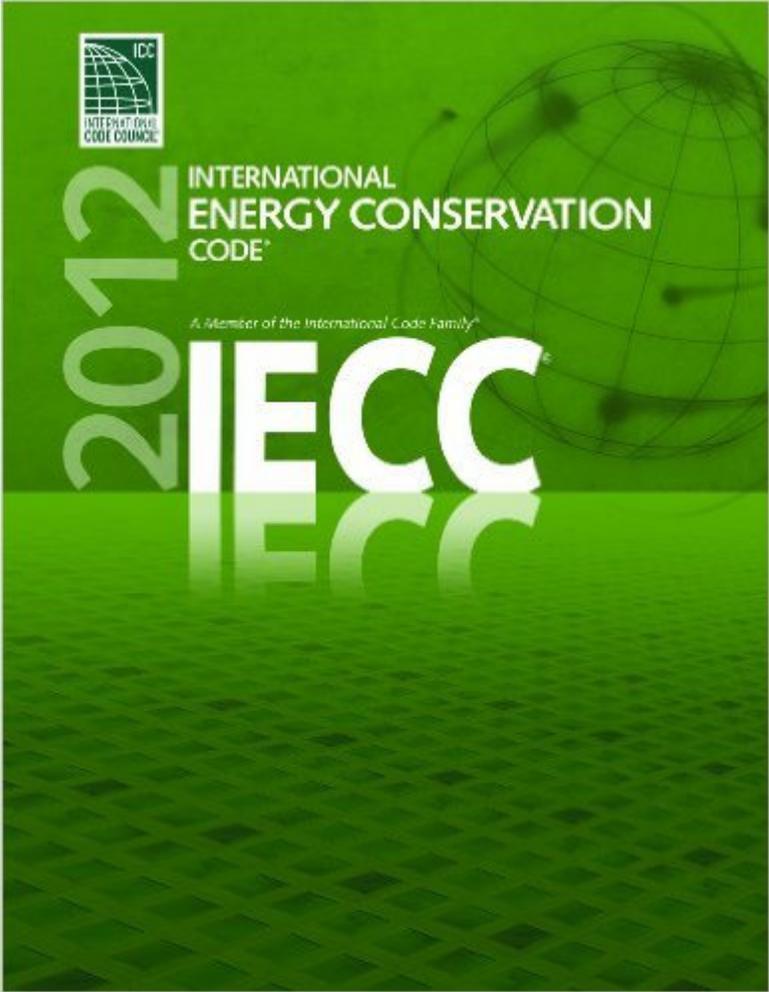
M4

## **Chapter 12 Hydronics.**

Provides new requirements for piping, tubing and fittings used in hydronics systems.

## HYDRONICS (radiant floor heating system)





# International Energy Conservation Code (IECC)

EC1

**Table 402.1.1 Insulation and Fenestration Requirements by Components.**

This table has been modified to reflect the climatic conditions in this area. (Climate Zone 4)

EC2

**Section R402.4.1.1 Installation.**

The components of the building envelope shall be installed in accordance with the manufacturer's instructions as applicable to the method of construction.

**TABLE R402.1.1****INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT (a)**

Climate Zone	Fenestration U-factor (b)	Skylight U-factor (b)	Glazed Fenestration SHGC (b)	Ceiling R-value (f)	Wood frame wall R-value	Mass wall R-value(e)	Floor R-value	Basement wall R-value (c)	Foundation perimeter R-value (d)	Crawl space wall R-value (c)
4	0.35	0.55	0.40	49	13	8/13	19	10/13	10, 2 ft	10/13

- (a). R-values are minimums. U-factors and SHGC are maximums. When insulation is installed in a cavity which is less than the label or design thickness of the insulation, the installed R-value shall not be less than the R-value specified in the table.
- (b). The fenestration U-factor column excludes skylights. The SHGC column applies to all glazed fenestration.
- (c). 10/13 means R-10 continuous insulation on the interior or exterior, or R-13 cavity insulation at the interior of the finished basement walls only.
- (d). R-10, 2 ft. around perimeter of slab. R-5 shall be added to the required slab edge R-values for heated slabs.
- (e). The second R-value applies when more than half the insulation is on the interior of the wall mass.
- (f). Loose fill insulation shall be installed at the rate recommended by the manufacturer's statement "so many bags per 1000 square feet" Where the pitch of the roof restricts the "minimum thickness" at the exterior wall line, the insulation shall be blown into the cavity so as to achieve a greater compacted density to a point where the "minimum thickness" can be achieved. An alternate is to install high-density batts around the perimeter edge per N1102.2.

# International Energy Conservation Code (IECC)

EC3

## **Table 402.4.1.2 Testing.**

When required by the code official, the building or dwelling unit shall be tested and verified, by an approved third party, as having an approved air leakage rate.

EC4

## **Section R402.4.2 Fireplaces.**

New wood burning fireplaces shall have tight fitting flue dampers and outdoor combustion air.

# International Energy Conservation Code (IECC)

EC5

## **Section R402.4.4 Recessed Lighting.**

Recessed luminaires installed in the building thermal envelope shall be sealed to limit air leakage between the conditioned and unconditioned space.

EC6

## **Section R403.2.2 Insulation.**

Supply ducts in attics shall be insulated to a minimum of R-8. All other ducts shall be insulated to a minimum R-6. Exception: Ducts located completely within the building thermal envelope.

# International Energy Conservation Code (IECC)

EC7

## **Section R403.2.3 Building Cavities.**

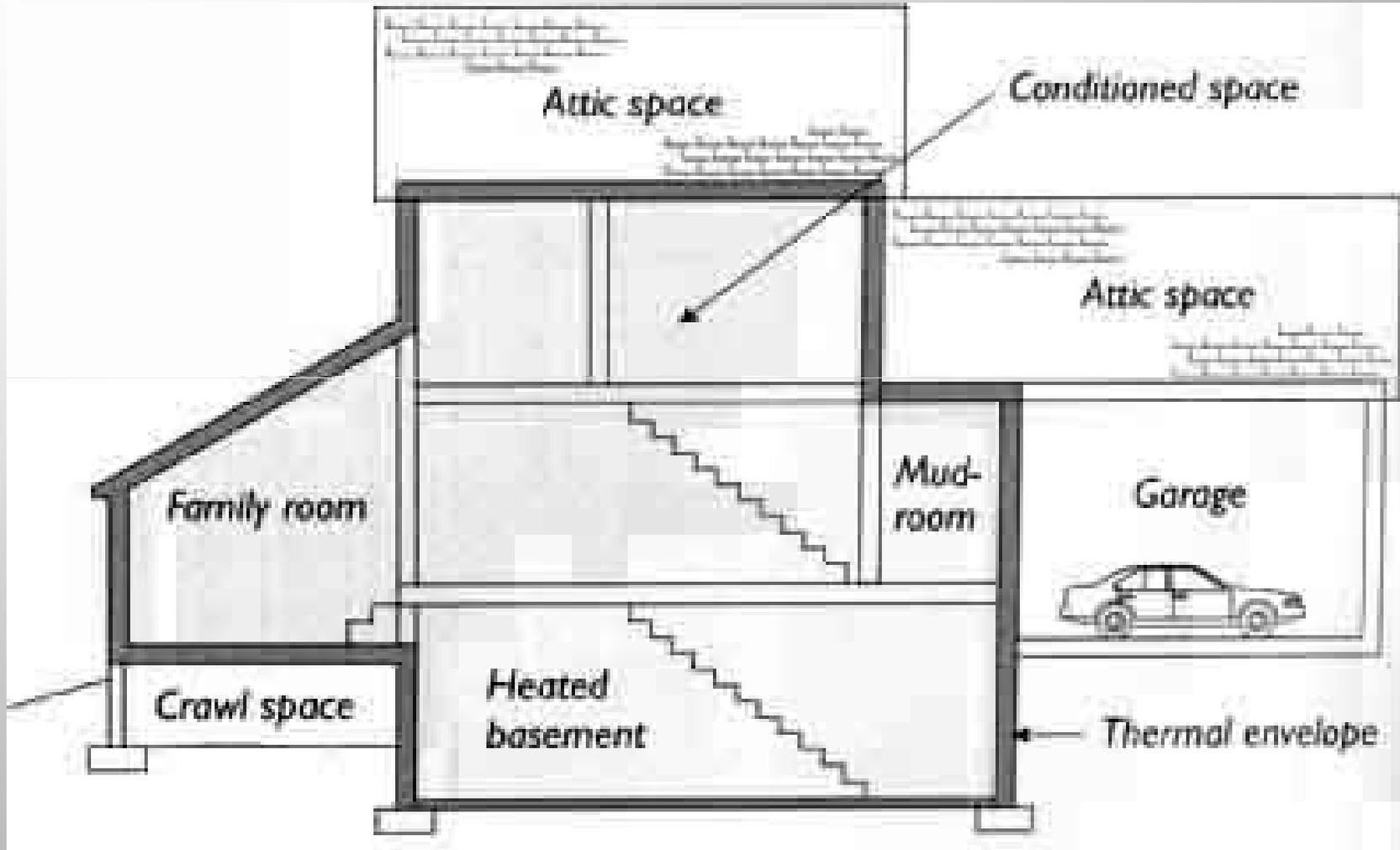
Building framing cavities shall not be used as ducts or plenums.

EC8

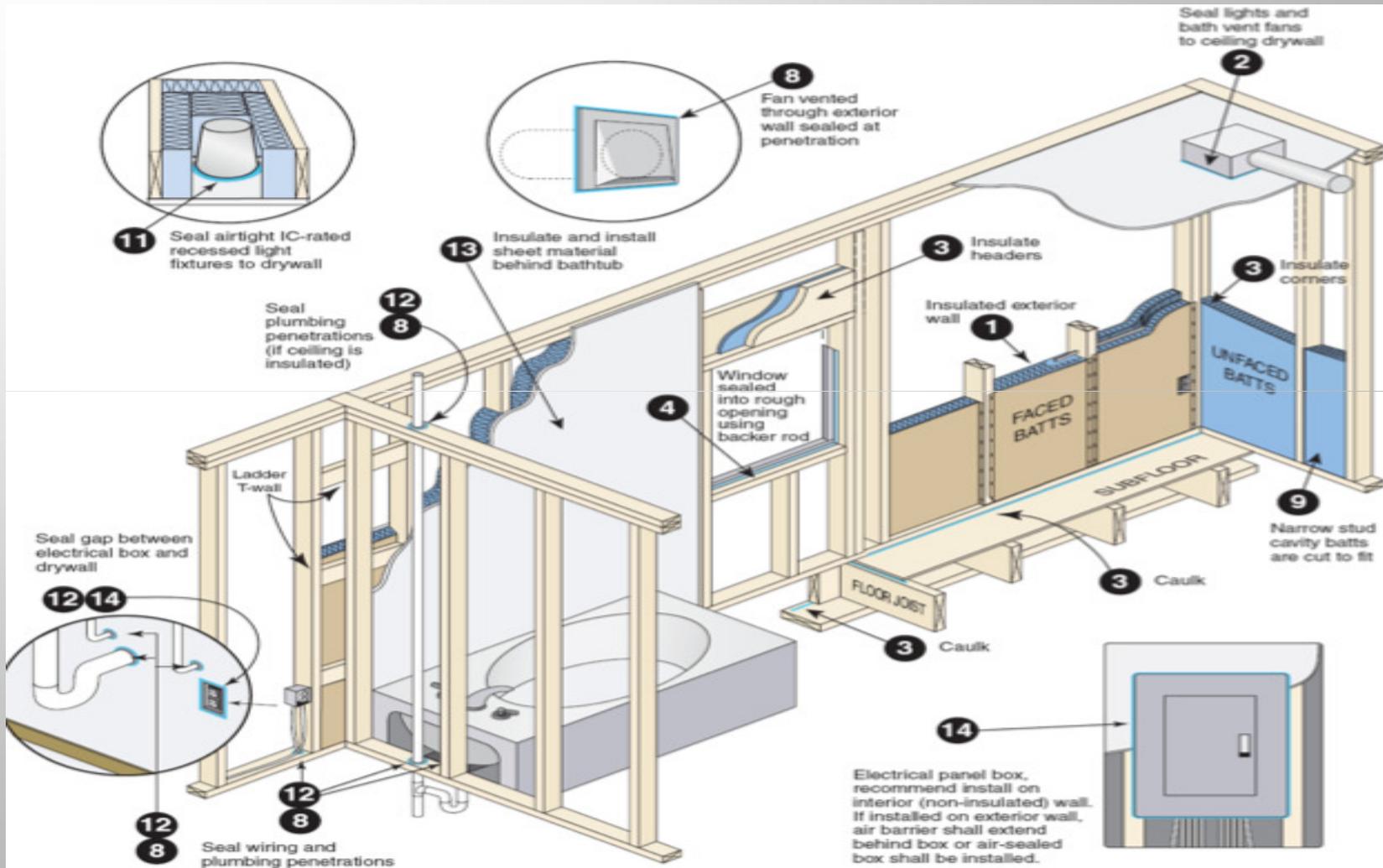
## **Section R404.1 Lighting Equipment.**

Fuel gas lighting systems shall not have continuously burning pilot lights.

# Building Thermal Envelope



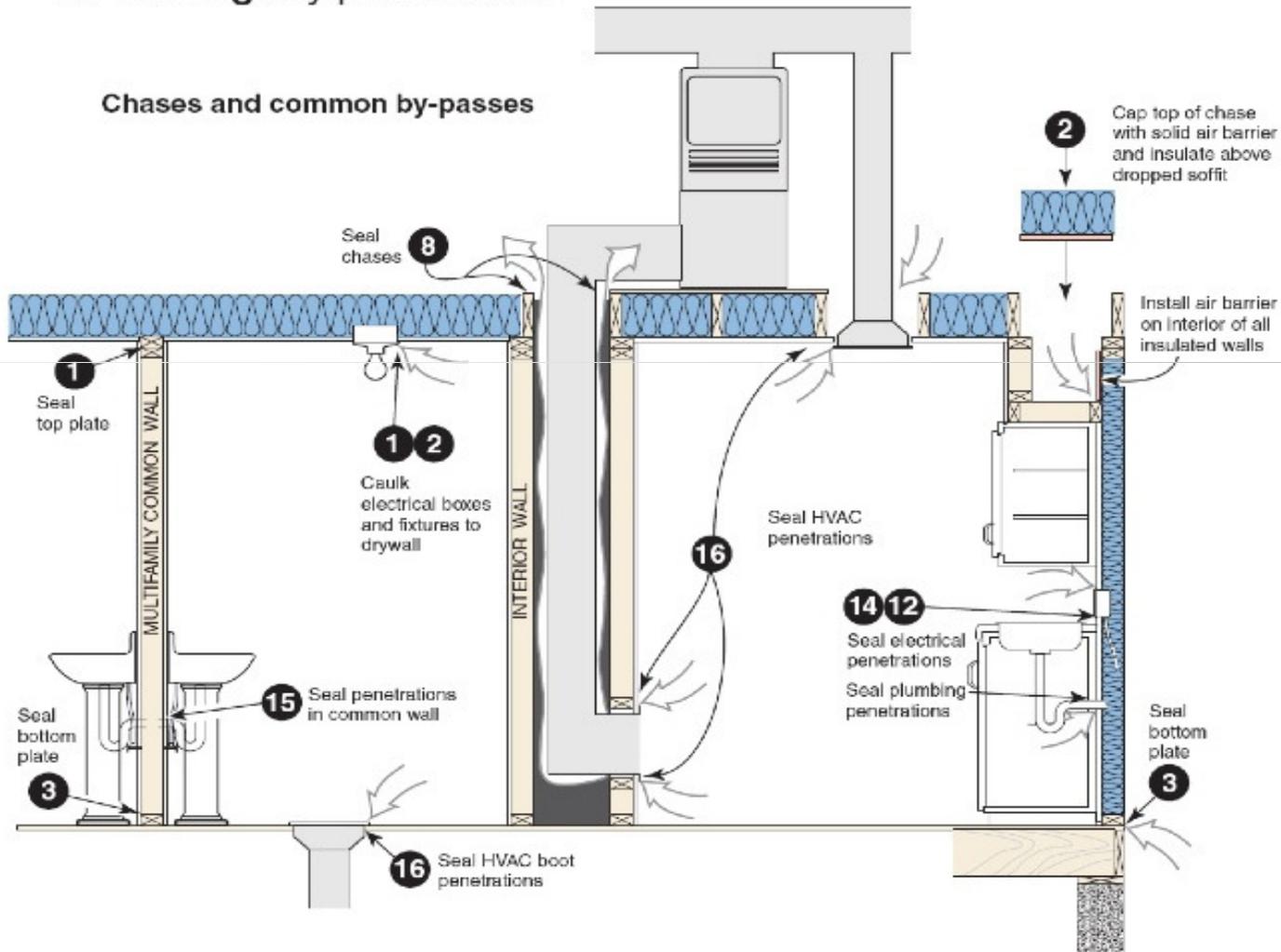
# Air Sealing General



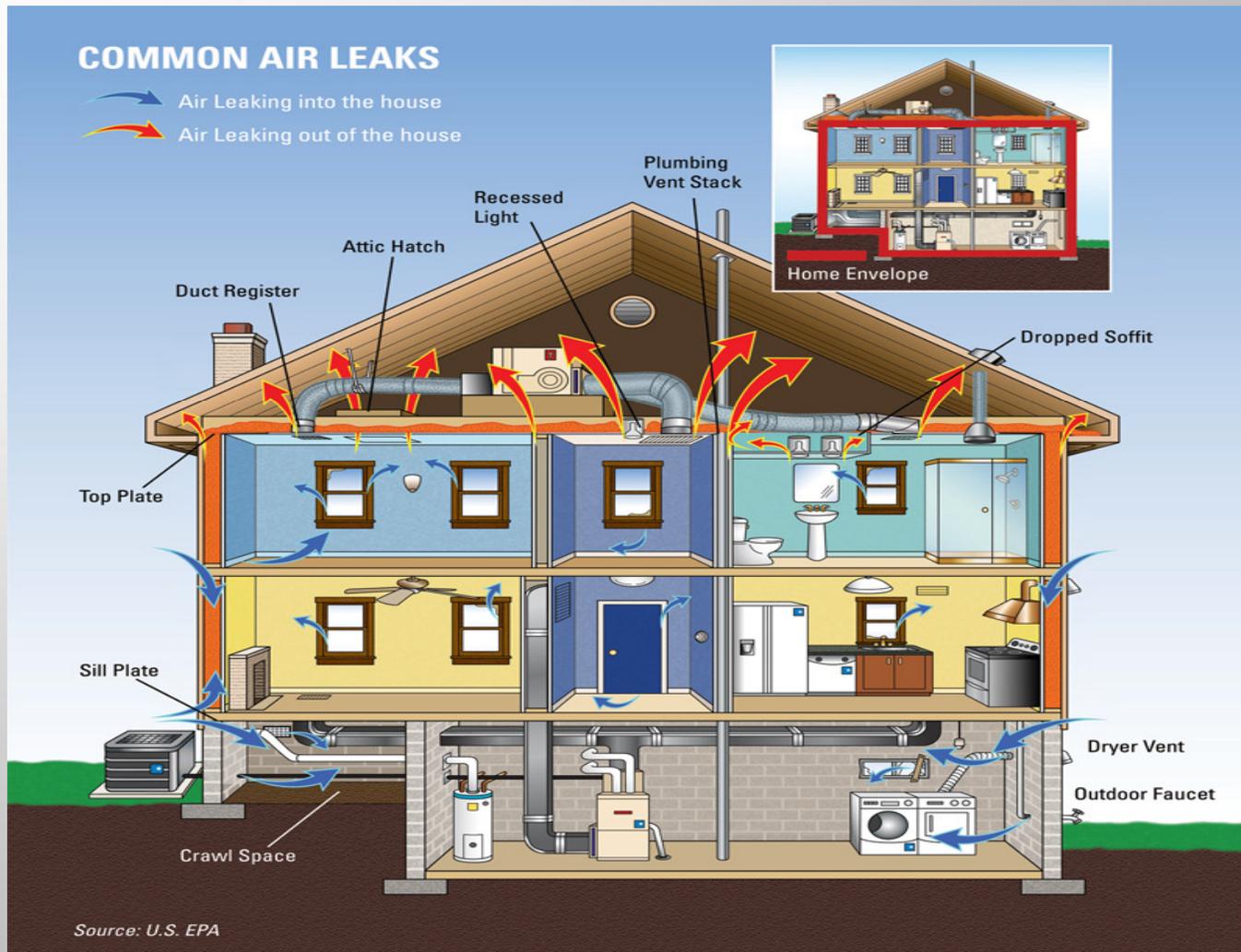
# Air Sealing (Cont.)

## Air sealing key points *continued*

### Chases and common by-passes



# Air Leakage





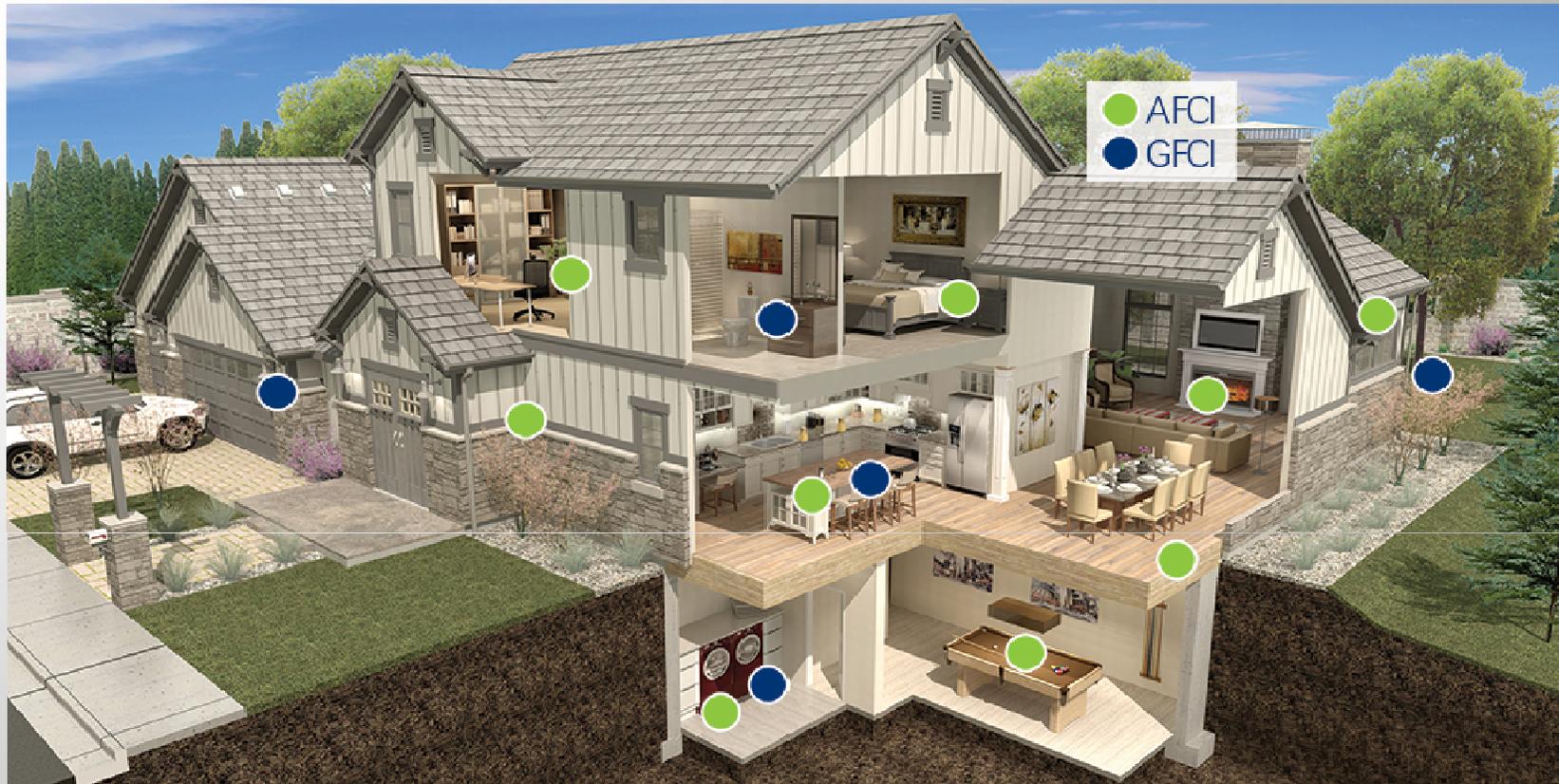
# National Electrical Code (NEC)

NEC1

## **Article 210- 210.12 Arc-fault Circuit Interrupter Protection; (A) Dwelling Units.**

All 120 volt, single phase, 15 and 20 amp circuits supplying outlets installed in dwelling unit family rooms, dining rooms, living rooms, parlors, libraries, dens, bedrooms, sunrooms, recreation rooms, closets, hallways or similar rooms or areas shall be protected by a listed arc-fault circuit interrupter installed to provide protection of the branch circuit. (The 2005 NEC required AFCI protection in bedrooms only).

# AFCI AND GFCI LOCATIONS



## AFCI

Family Room  
 Dining Room  
 Living Room  
 Bedroom  
 Sunroom  
 Library  
 Kitchen

Den  
 Office  
 Hallways  
 Closets  
 Rec Rooms  
 Laundry Rooms  
 Similar Areas

## GFCI

Kitchen  
 Bathroom  
 Garage  
 Porch  
 Pool Area  
 Laundry Rooms

\*AFCI technology is also required in college dormitories

# AFCI vs GFCI

Arc Fault Circuit Interrupter

Ground Fault Circuit Interrupter

Though both provide enhanced electrical safety and have similar acronyms, AFCIs and GFCIs protect against very different things. Use this table to learn the differences and values of these safety technologies.



AFCI

## • Motto •

"The best fire protection is prevention."

GFCI



"Protecting people from the path to harm."

## • Protects Against •

Arc faults – a dangerous electrical problem caused by damaged, overheated, or stressed electrical wiring or devices that may result in a fire.

Ground faults - an unintentional electrical path between a power source and a grounded surface. A person who becomes part of a path for leakage current will be severely shocked or electrocuted.

## • Maintenance •

Test AFCIs each month. If the device does not trip when tested, it should be replaced. See page 6 for instructions.

Test GFCIs each month. If the device does not trip when tested, it should be replaced. See page 6 for instructions.

*As codes and standards evolve, AFCI receptacles were introduced in 2013 to offer added protection from arc faults.*



AFCI

## • How they Work •

AFCIs detect hazardous arcing conditions and shut down the electricity before a fire can start.

GFCI



GFCIs prevent deadly shock by quickly shutting off power to the circuit if the electricity flowing into the circuit differs by even a slight amount from that returning, indicating a leakage current.

## • Need •

The U.S. Consumer Product Safety Commission estimates that AFCIs could prevent roughly 50% of the electrical fires that occur every year.

A U.S. Consumer Product Safety Commission study found 47% of the electrocutions could have been addressed with the inclusion of GFCI protection in homes.

## • Typical Cost •

Approximately \$35 for Branch/feeder AFCIs.

As little as \$15 for GFCI outlets.

*AFCI and GFCI technologies can coexist with each other to provide the most complete protection that can be provided on a circuit.*



# National Electrical Code (NEC)

## NEC2

### **Article 210- 210.12 Arc-fault Circuit Interrupter Protection; (B) Branch Circuit Extensions or Modifications-Dwelling Units.**

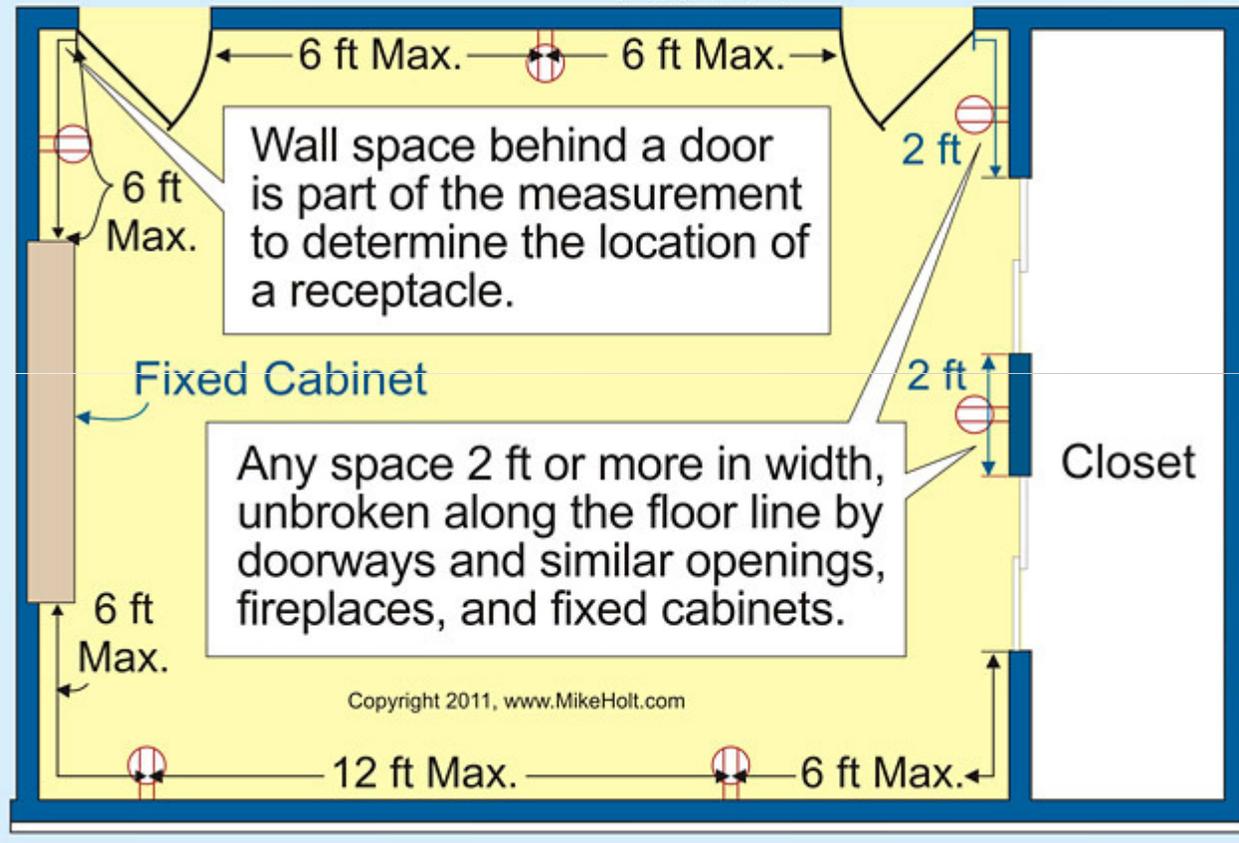
A listed outlet type AFCI is now permitted to be installed at the first receptacle outlet of an existing branch circuit to protect any modifications, replacements, or extensions.

## NEC3

### **Article 210- 210.52 Dwelling Unit Receptacle Outlets; (A) General Provisions; (1) Wall Space.**

New text has been added to clarify that where fixed cabinets are installed, that portion of the wall space is excluded from the receptacle outlet requirement.

## Dwelling Unit Receptacle Outlet Requirements 210.52(A)(2)(1)



# National Electrical Code (NEC)

NEC4

## **Article 210- 210.52 Dwelling Unit Receptacle Outlets; (C) Countertops; (5) Receptacle Outlet Locations.**

Previous editions of this section would only allow the required receptacles to be installed above, but not more than 20 inches above the countertop. This section has been revised to now allow a countertop receptacle, listed for the application, to be installed in countertops. Several listed receptacles are available in the market today for this application to include the tombstone, pop-up and other styles.

# POP-UP RECEPTACLE



# TOMBSTONE RECEPTACLE



SC3091

# National Electrical Code (NEC)

NEC5

## **Article 210- 210.52 Dwelling Unit Receptacle Outlets; (D) Bathrooms.**

The general rule requires that all dwelling unit bathrooms have a GFCI protected receptacle not more than 3 feet from the outside edge of each basin. The location was limited to the wall or partition adjacent to the basin or basin countertop, or the side or face of the basin cabinet not more than 12 inches below the countertop. The permitted location has now been expanded to allow tombstone style or other receptacles, listed for the application, to be mounted directly on, or in, the basin countertop.

# National Electrical Code (NEC)

NEC6

**Article 210- 210.52 Dwelling Unit Receptacle Outlets; (E)  
Outdoor Outlets; (3) Balconies, Decks and Porches.**

All balconies, decks and porches that are accessible from inside a dwelling unit are now required to have at least one receptacle outlet installed within the perimeter of the balcony, deck, or porch. Previous editions of this section allowed an exception for an area of 20 square feet or less. The exception has been removed.

# National Electrical Code (NEC)

NEC7

## **Article 210- 210.52 Dwelling Unit Receptacle Outlets; (G) Basements, Garages, and Accessory Buildings.**

This section has been expanded and revised to now require all accessory buildings for a single-family dwelling, such as sheds, greenhouses, pool houses, etc., that are supplied with electricity to have at least one receptacle outlet in addition to those for the specific equipment installed.

# National Electrical Code (NEC)

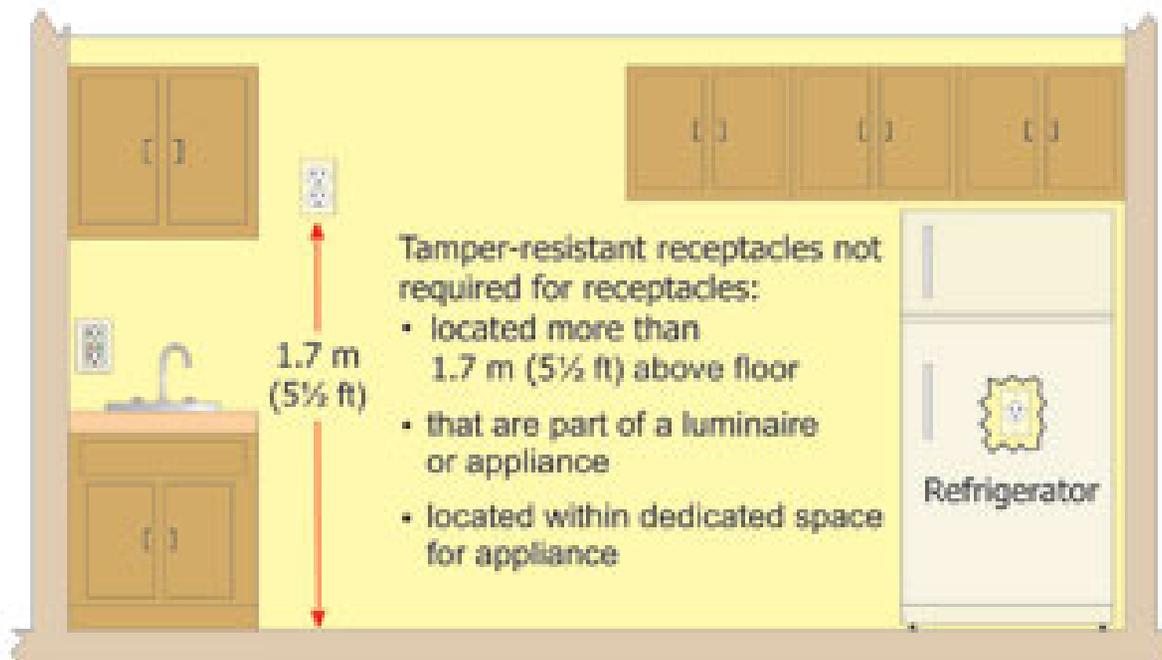
NEC8

## **Article 406- 406.12 Tamper- Resistant Receptacles in Dwelling Units.**

This section requires that all non-locking type 125volt, 15 and 20 ampere receptacles be listed tamper-resistant receptacles. There are 4 exceptions, which include:

1. Receptacles located more than 5 ½ feet above the floor.
2. Receptacles that are part of a luminaire or appliance.
3. A single receptacle or duplex receptacle for two appliances located within a dedicated space for each appliance that, in normal use, is not easily moved from one place to another and that is cord-and-plug connected. (i.e., stackable washer and dryer)
4. Nongrounding receptacles used as replacements.

## 406.12 Tamper-Resistant Receptacles



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In all areas specified in 210.52, all nonlocking type 125-volt, 15- and 20-ampere receptacles required to be listed tamper-resistant receptacles

# National Electrical Code (NEC)

NEC9

## **Article 424- 424.44 Installation of Cables in Concrete or Poured Masonry Floors; (G) GFCI.**

This section has been revised to now require heating cable, when installed under kitchen floors, to be GFCI protected. The previous requirement was limited to bathrooms.

NEC10

## **Article 509- 590.4 Temporary Installations; (D) Receptacles.**

This section has been revised to clarify that receptacles on construction sites must not be installed on any branch circuit that supplies temporary lighting.

# QUESTIONS AND COMMENTS