

NEC[®] CODE CHANGES

OVERVIEW OF 2014
Related to Electrical
Wiring Devices

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SECTION 210.8(A)(9)

GFCI Protection of Receptacles near Bathtubs and Showers in Dwellings



- 125V, 15A or 20A receptacles within 6 feet of a bathtub or shower stall must be GFCI protected

GFCI protection must now be provided for receptacles that are located within 6 feet of any bathtub or shower stall. Although GFCI protection for receptacles in bathrooms is required, there are many installations where a bathtub or shower stall may be located in an area that does not meet the NEC definition of a bathroom. The result is that the receptacles in these areas are not GFCI protected. Regardless of where the bathtub or shower stall is located, damp and wet conditions combined with the use of personal grooming equipment, such as a hair dryer, contribute to the increased risk of electrical shock. GFCI protection provides an increased level of safety where these conditions exist.



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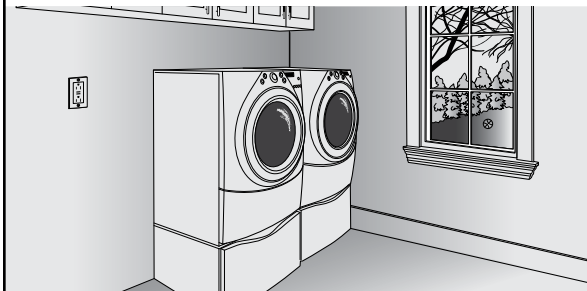
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SECTION 210.8(A)(10)

GFCI Protection of Receptacles in Laundry Areas in Dwellings



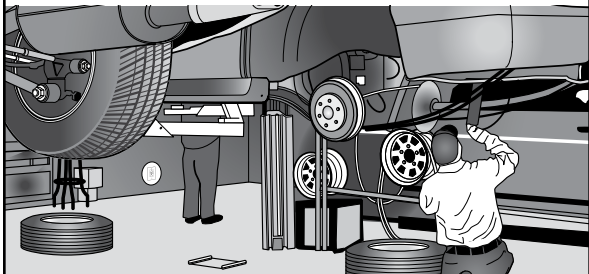
- 125V, 15A or 20A receptacles in laundry areas must be GFCI protected

Section 210.52(F) requires a 125V, 15A or 20A receptacle in a laundry area. The 2014 NEC has been revised to add Section 210.8(A)(10). This new section requires GFCI protection for all 125V, 15A or 20A receptacles located in a laundry area. GFCI protection for receptacles in laundry areas will provide additional protection in an area where conditions may result in an increased risk of electrical shock.



SECTION 210.8(B)(8)

GFCI Protection of Receptacles in Garages in Other Than Dwellings



- 125V, 15A or 20A receptacles in garages must be GFCI protected

210.8(B)(8) requires GFCI protection for 125V, 15A or 20A receptacles in garages and similar areas where the activities taking place in these areas are likely to contribute to the increased possibility of electrical shock. Although showrooms and exhibition halls could technically fit the NEC description of a garage, it is less likely that these areas present the same exposure to electrical shock hazards. 210.8(B)(8) has been revised to exempt showrooms and exhibition halls from the GFCI requirements.

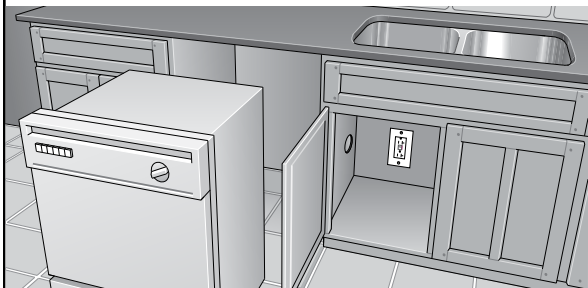


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SECTION 210.8(D)**GFCI Protection of Receptacles for Dishwasher Outlets**

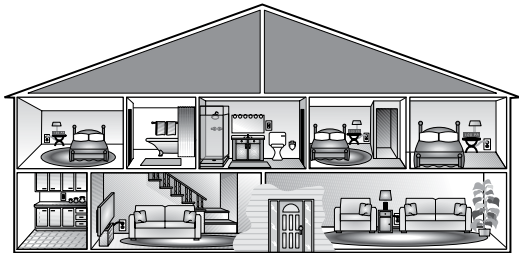
- GFCI protection is required for outlets that supply dishwashers in dwellings

This new section recognizes that there are potential electrical shock hazards associated with dishwasher installations. All outlets serving dishwashers in dwellings must have GFCI protection. The ground-fault circuit interrupter shall be installed in a readily accessible location, as exemplified above by the outlet located under the kitchen sink.



SECTION 210.12(A)

Arc-Fault Circuit-Interrupter (AFCI) Protection of Outlets in Dwellings



■ Outlets and devices in rooms and areas requiring AFCI protection

The requirement for AFCI protection of 125V, 15A or 20A branch circuits serving outlets and devices in dwellings has been expanded to include kitchens and laundry areas. AFCI protection is now required in the following rooms and areas:

- Bedrooms
- Dining rooms
- Kitchens
- Libraries
- Recreation Rooms
- Closets
- Family rooms
- Living rooms
- Sunrooms
- Dens
- Hallways
- Parlors
- Laundry areas
- Similar rooms or areas

210.12(A) also includes a change that requires AFCI protection of branch circuit conductors serving not only outlets but also devices located in these areas. This change was necessary to ensure that the branch circuit conductors to a device, such as a switch, will be provided with AFCI protection. For example, the branch circuit conductors to a switch in a bedroom that controls outdoor lighting will require AFCI protection.



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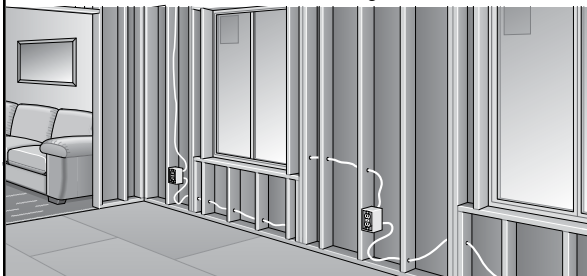
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SECTION 210.12(B)

Arc-Fault Circuit-Interrupter (AFCI) Protection of Outlets in Dwellings



■ AFCI protection of branch circuit extensions and modifications

210.12(B) requires AFCI protection for branch circuit wiring modifications, replacements or extensions in areas specified in 210.12(A). The AFCI protection may be provided by a Combination AFCI circuit breaker in the panel or a receptacle type Outlet Branch Circuit AFCI installed in the first outlet of the branch circuit.

A new exception has been added to 210.12(B) that states that any branch circuit extension of the conductors that is less than 6 feet does not require AFCI protection. The exception addresses limited changes to the branch circuit wiring that do not require providing AFCI protection.

This exception does not apply if additional outlets or devices are installed on the branch circuit.



SECTION 210.12(C)

Arc-Fault Circuit-Interrupter (AFCI) Protection of Outlets in Dormitories



■ Branch circuit conductor AFCI protection

210.12(C) is a new Section in the 2014 NEC that requires AFCI protection for the branch circuits supplying 125V, 15A or 20A outlets in dormitory bedrooms, living rooms, hallways, closets and similar rooms. The AFCI protection must be one of the means described in 210.12(A) (1) through (6).

Conditions in dormitories are recognized as having the potential to contribute to electrical hazards that result in arcing.



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SECTION 210.12

Arc-Fault Circuit-Interrupter Protection in Dwellings



- The NEC specifies six methods for providing AFCI protection of the branch circuit

Section 210.12 in the 2014 NEC now clearly specifies six alternative methods of providing the required AFCI protection. This section requires that all the devices installed to provide AFCI protection must be listed. Sections 210.12(A) (2), (3), (4), (5) and (6) permit the use of an Outlet Branch Circuit AFCI to provide the required arc fault protection when the Outlet Branch Circuit AFCI is used with various other devices and installation methods. The Outlet Branch Circuit AFCI is a receptacle type AFCI. This type of receptacle must be identified as an "Outlet Branch Circuit AFCI". The different types of circuit breaker devices specified in 210.12(A) all provide over-current protection for the branch circuit as well as some level of arc protection.

The six methods of providing AFCI protection for the branch circuit permitted by 210.12(A) follow:

- (1) A Combination AFCI located in the panel. This is a circuit breaker AFCI that must be marked "Combination AFCI." The Combination AFCI circuit breaker serves the branch circuit being protected.
- (2) A Branch/Feeder AFCI located in the panel with a receptacle type Outlet Branch Circuit AFCI installed in the first outlet of the branch circuit. The Branch/Feeder AFCI is a circuit breaker located in the panel. It must be marked "Branch/Feeder AFCI". The Branch/Feeder AFCI circuit breaker serves the branch circuit being protected.

SECTION 210.12 (continued)**Arc-Fault Circuit-Interrupter Protection in Dwellings**

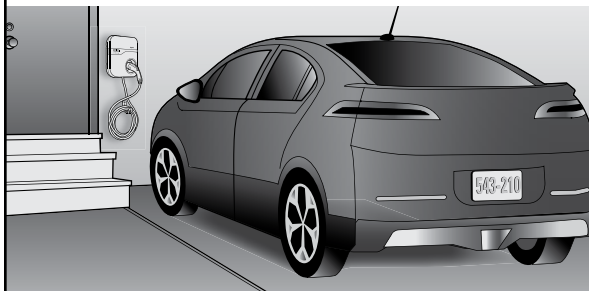
- (3) A Supplemental Arc Protection circuit breaker located in the panel with a receptacle type Outlet Branch Circuit AFCI installed in the first outlet of the branch circuit. The Supplemental Arc Protection circuit breaker is a circuit breaker located in the panel. The Supplemental Arc Protection circuit breaker serves the branch circuit being protected. There are restrictions that apply to this type of AFCI installation,
- the branch circuit conductors to the first outlet must be continuous
 - the maximum length of branch circuit conductors to the first outlet must not exceed 50 feet for 14 AWG and 70 feet for 12 AWG
- (4) A receptacle type Outlet Branch Circuit AFCI installed in the first outlet of the branch circuit with a standard circuit breaker installed in the panel. The circuit breaker used in this installation must be specified in the listing of the receptacle type Outlet Branch Circuit AFCI. This information will appear in the installation instructions provided with the receptacle type Outlet Branch Circuit AFCI. The combination of the standard circuit breaker and the receptacle type Outlet Branch Circuit AFCI used in this type of installation is listed as a "System Combination AFCI."

There are restrictions that apply to this type of AFCI installation,

- the branch circuit conductors to the first outlet must be continuous
 - the maximum length of branch circuit conductors to the first outlet must not exceed 50 feet for 14 AWG and 70 feet for 12 AWG
- (5) A receptacle type Outlet Branch Circuit AFCI installed in the first outlet of the branch circuit with various metal wiring methods enclosing the branch circuit conductors to the first outlet. RMC, IMC, EMT, MC and steel AC cables, metal wireways and metal auxiliary gutters may be used in this type of installation. Junction and outlet boxes in the circuit must also be metal.
- (6) A receptacle type Outlet Branch Circuit AFCI installed in the first outlet of the branch circuit with the branch circuit conductors to the first outlet installed in conduit or cable encased in a minimum of 2 inches of concrete. The conduit may be metal or nonmetallic and the permitted cable is Type MC.

SECTION 210.17

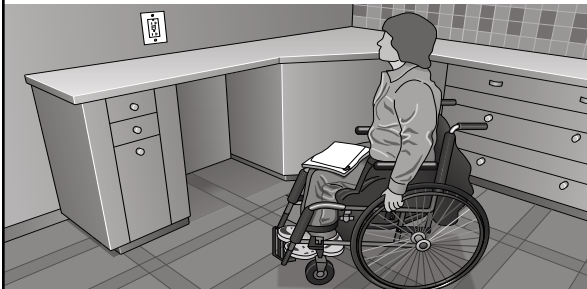
Electric Vehicle Branch Circuit



■ Separate Branch Circuit Required for Electric Vehicle Charging

Section 210.17 does not require a dedicated outlet for electric vehicle charging but if an outlet is provided for this purpose then the outlet must be supplied by a separate branch circuit that serves only the electric vehicle charging outlet. It is common for EV charging to require a sustained load that is near the capacity of the branch circuit. This requirement insures an adequate, safe supply for EV charging.

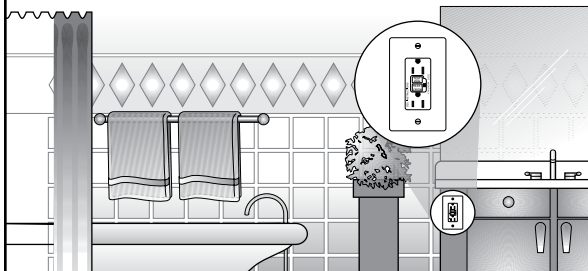


SECTION 210.50**ADA Receptacle Outlet Installation****■ Informational Note for ADA accessibility design**

The Informational Note following 210.50 provides a reference to Annex J in the NEC. Although this information is not mandatory, Annex J provides important electrical design considerations for accessibility. Additional information is contained in the 2010 Americans with Disability Act (ADA) Standards for Accessible Design.

SECTION 210.52(D)

Receptacles in Dwelling Unit Bathrooms



■ Location of the required receptacle in a bathroom

210.52(D) requires a 125V, 15A or 20A receptacle outlet to be installed in a dwelling unit bathroom. The receptacle outlet must be within 3 feet of the basin and may be installed in various locations, such as in a wall or partition adjacent to the sink or in the side or face of the cabinet supporting the sink. The revised wording in the 2014 NEC makes it clear that, regardless of the location of the receptacle, it must be no more than 12 inches below the top of the basin.



SECTION 210.52(E)

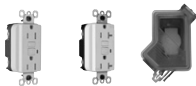
Outdoor Receptacles Required for Dwellings



- Outdoor receptacles are required for one-, two- and multi-family dwellings and on porches, decks and balconies

210.52(E)(1) and (2) require 125V, 15A or 20A outdoor receptacle outlets for one-family, two-family and multi-family dwellings. Both of these sections have been revised to insure that there is unimpeded access to the receptacle and that the receptacle location will accommodate the expected routine use of an outdoor receptacle. The wording has been revised to require the receptacle to be readily accessible from grade and located not more than 6-1/2 feet above grade level. The NEC definition of readily accessible provides assurance that there will be no obstacles preventing access to the use of the receptacle.

210.52(E)(3) requires a receptacle outlet on dwelling unit porches, decks and balconies. This section has been revised to require the receptacle only on porches, decks and balconies that are attached to the dwelling. In addition, the section has been revised to require that the receptacle is accessible and that the receptacle is located no more than 6-1/2 feet above the walking surface.



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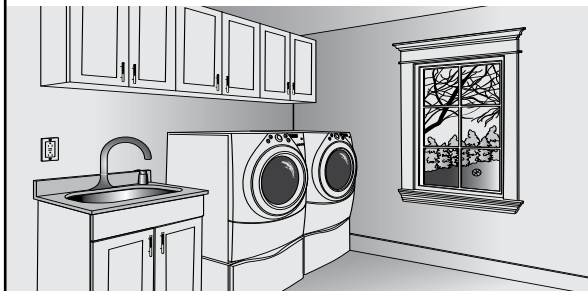
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SECTION 210.52(F)

Receptacles in Dwelling Unit Laundry Areas



- A receptacle outlet is required in a dwelling unit laundry area

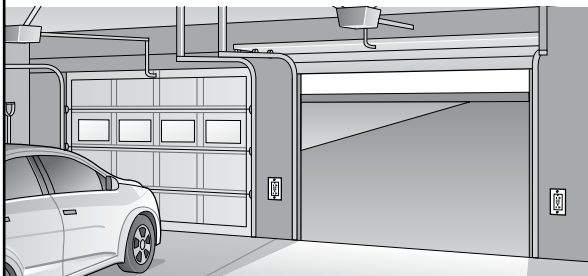
210.11(C)(2) requires a branch circuit to supply the required laundry receptacle outlet. 210.52(F) requires a 125V, 15A or 20A receptacle outlet supplied by the laundry branch circuit to be provided in the laundry area. This section has been revised to provide additional detail regarding the location of the laundry receptacle outlet. The laundry receptacle outlet must be located in an area designated for the installation of laundry equipment.

The wording of Exceptions No. 1 and No. 2 have also been revised for clarity.



SECTION 210.52(G)

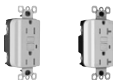
Receptacles in Dwelling Unit Garages, Basements and Accessory Buildings



- 125V, 15A or 20A receptacle outlets are required in one-family garages, basements and accessory buildings

210.52(G) has been reorganized into three different subsections. The three subsections cover the requirements for receptacle outlets in Garages, Basements and Accessory Buildings.

New subsection 210.52(G)(1) also revises the requirement for receptacle outlets in a garage. Recognizing that one receptacle in a large multicar garage may be insufficient, this section has changed to require one receptacle outlet for each car space in the garage. In addition, the branch circuit supplying the receptacles inside the garage may not also supply any outlets located outside the garage.



SECTION 210.52(I)

Receptacle in Foyers



- 125V, 15A or 20A receptacle outlets are required in foyers

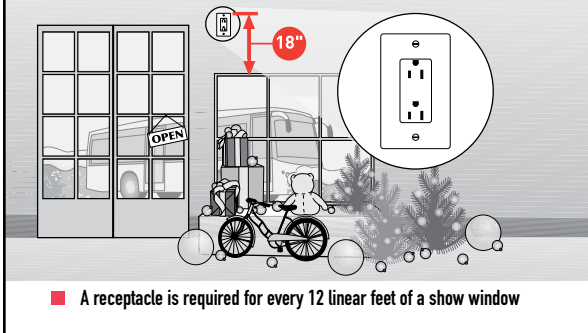
This Section continues to require a receptacle outlet in a foyer wall that is 3 feet or more in width but the last sentence has been added to make it clear that doorways and door-side windows that extend to the floor are not considered wall space.

Many homes are built with large foyers where lamps and other cord- and plug-connected equipment will be located. Receptacles located in the foyer will allow the connection of this equipment.



SECTION 210.62

Receptacles in Show Windows



The requirement that at least one show window receptacle must be installed per 12 linear feet of show window, not more than 18 inches from the top of the window, has not changed. However, the requirement now specifies that the receptacle must be 125V, 15A or 20A rated.

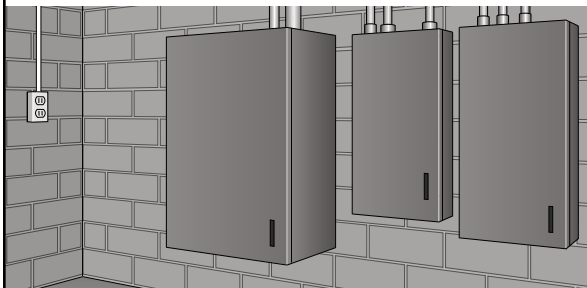


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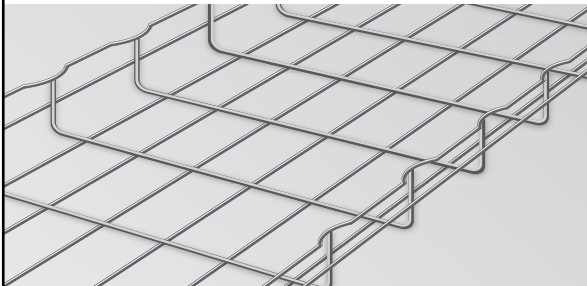
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SECTION 210.64**Receptacles in Electrical Service Areas**

- A 125V, 15A or 20A receptacle must be provided for an electrical service area

Cord and plug connected monitoring, diagnostic, test and service equipment are commonly used in electrical service areas. To provide for connection of this equipment, a new section in the 2014 NEC, 210.64, requires a receptacle to be located within 50 feet of the electrical service area. This requirement does not apply to one- and two-family dwellings.



SECTION 230.44**Cable Trays for Service-Entrance Conductors**

- Cable Trays are permitted to support service-entrance conductors

230.44 specifies the types of service-entrance cables and conductors that may be supported by a cable tray. In the 2011 NEC, Section 230.44(5) limited CT rated single conductors to thermoplastic insulated types. The 2014 NEC has been revised to allow both thermoplastic and thermoset CT rated single conductors. This was accomplished by specifically removing the term “thermoplastic-insulated” from 230.44(5) in the 2014 NEC.

230.44 also requires that cable trays used for service-entrance cables must be identified with labels stating “Service Entrance Conductors.” This section has been revised in the 2014 NEC to require that the labels are located with a spacing of no more than 10 feet.

ARTICLE 285

Surge Protective Devices (SPDs)



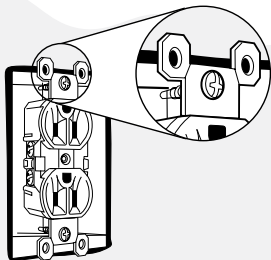
■ General requirements for Surge Protective Devices

Article 285 provides the general requirements, installation requirements and connection requirements for surge protective devices. The code had previously referred to these devices by the outmoded terms of transient voltage surge suppressors or surge arrestors. The 2014 NEC has been updated to use the more accurate description of these devices as Surge Protective Devices (SPDs).



Wiremold Cat. #s: M6BZ, M6S



SECTION 314.25, 404.10(B), 406.5**Attaching Devices and Covers to Outlet Boxes**

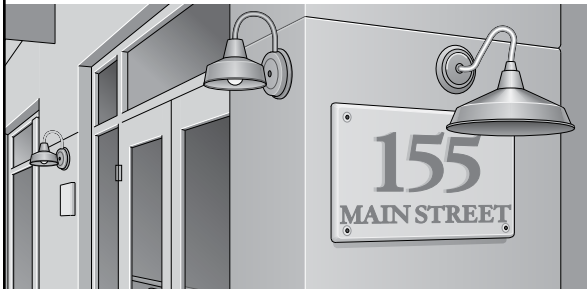
- **Switches, receptacles and covers must be attached to an outlet box with the appropriate screws**

The 2014 NEC revises these sections to require that the screws used to attach receptacles, switches and covers to outlet boxes must be the screws provided with the device or the screws must match the thread gauge or size of the box screw-mounting openings. It is also permitted to follow the manufacturer's instructions when determining the suitable means of attaching devices and covers to boxes.

This change was introduced to ensure that devices and covers will be securely attached to the boxes and that unsuitable means of attachment, such as drywall screws, will not be used.

SECTION 314.27(A)(1)

Boxes Installed for Luminaires In or On Vertical Surfaces



- Boxes installed in or on vertical surfaces may be used to support luminaires

The 2014 NEC permits boxes used at luminaire outlets to be installed in or on any vertical surface. The requirement in the 2011 NEC restricted the installation of these boxes to walls.

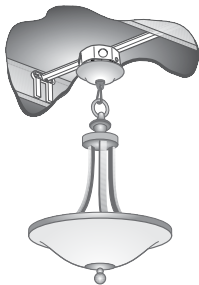
The boxes intended for luminaire support are marked to identify the box as suitable for the installation of a luminaire.

There is an exception that permits other boxes, such as standard device boxes, to support a vertically mounted luminaire that weighs not more than 6 pounds. The boxes permitted by the exception do not have a specific marking indicating suitability as a luminaire mounting.



SECTION 314.27(A)(2)

Boxes for Ceiling Luminaire Outlets



- Outlet boxes in ceilings are permitted to support luminaires

Ceiling outlet boxes intended to support a luminaire must be able to support at least 50 pounds. A box may be used to support a luminaire weighing more than 50 pounds if the box is listed and marked for the maximum luminaire weight to be supported.

The 2014 NEC has been changed to require that a box intended to support a luminaire of more than 50 pounds must be marked on the interior with the weight of the luminaire it can support.



P&S Cat. #s: 55501, 22200, 33310

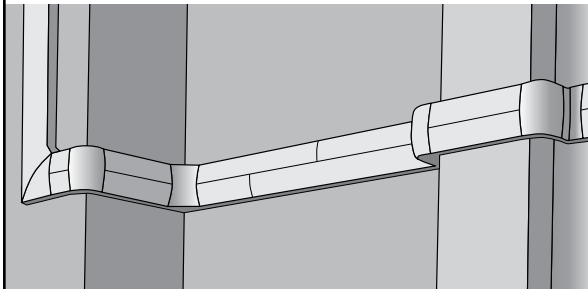
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SECTION 386.30, 388.30, 386.120, 388.120

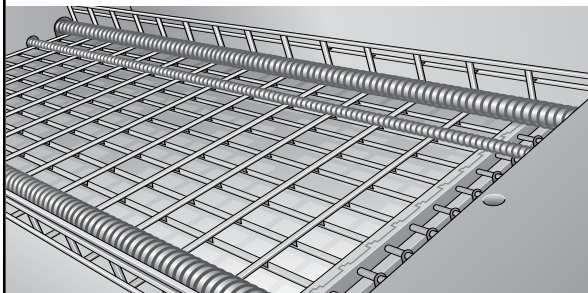
Surface Metal and Nonmetallic Raceways



- Surface metal and nonmetallic raceways intended for the installation of conductors

Both metal and nonmetallic surface raceways are equipped with a wide variety of fittings and boxes that must be installed correctly to ensure the integrity of the raceway system. The 2014 NEC has been revised to require that not only the raceway but also the associated fittings must be installed in accordance with the manufacturer's instructions.

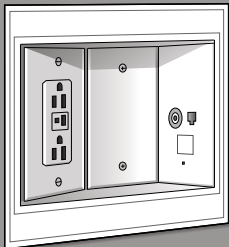
A requirement has also been added to clearly and durably mark each length of surface raceway with the manufacturer's name or trademark.

SECTION 392.20(B)**Cable Tray****■ Cables Over 600 Volts in Cable Trays**

This section provides the requirements for cables installed in a cable tray when there is a combination of cables operating at over 600 volts with cables that are operating at 600 volts or less. This section has been revised to make it clear that it is the operating voltage of the cable that determines the separation requirements for cables operating over 600 volts from cables that operate at 600 volts or less.

SECTION 400.7(A)(11)

Flexible Cord Uses



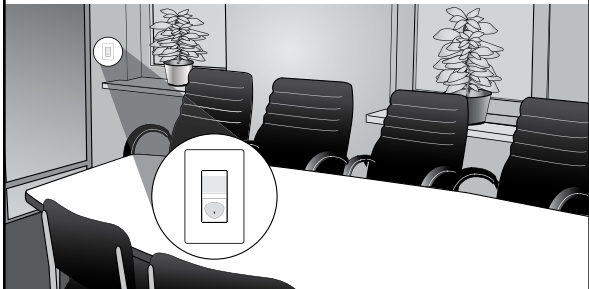
- A flexible cord may be used between a receptacle and an inlet

This is a new section that allows a listed assembly to provide power to a cord- and plug-connected product, such as a television, that may be mounted in an elevated location on the wall. The listed system allows a receptacle outlet that is usually recessed to be installed in a wall at a location where the television is likely to be located. The receptacle is connected to an inlet by a Chapter 3 wiring method that is run inside the wall from the receptacle to the inlet. The inlet is installed in the wall near the floor at a height where receptacles are commonly located in a standard installation. Power is provided to the inlet by an extension cord connected to an existing receptacle. This type of system is typically used in a retrofit application.



SECTION 404.2(C)

Switches Controlling Lighting Loads



- A grounded circuit shall be provided at the switch location

This section requires installing the grounded circuit conductor of a lighting circuit at the switch location. Many lighting control devices, such as an occupancy sensor, require low levels of stand-by current for proper operation. In many installations, the equipment grounding conductor is the only available conductor that can be used as a circuit conductor for this low level stand-by current. The intent of this requirement is to be certain that the lighting circuit grounded conductor is available for the proper operation of the lighting control device. This ensures that operation of the control device does not rely on connection to the equipment grounding conductor.

The section has been restructured to delete the exceptions and enumerate in positive language the instances where it is not necessary to provide the grounded circuit conductor at the switch location.



P&S Cat. #s: PTWSP250, WDT100, WSP250, OSR300SW

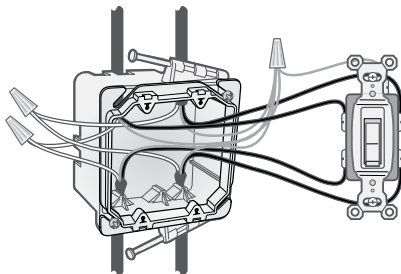
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SECTION 404.8(C)

Multi-pole Snap Switches



■ A listed switch may be used as a two- or three-circuit switch

The Section has been revised to require that a snap switch may be fed only from a single circuit unless it is listed and marked as suitable for use as a two-circuit or three-circuit switch.

In the 2011 NEC, this Section permitted a multi-pole snap switch that was not marked as a two-circuit or three-circuit switch to be fed from multiple circuits if the switch voltage rating was not less than the line-to-line voltage of the system supplying the circuits. This type of installation is no longer in compliance with the 2014 NEC.

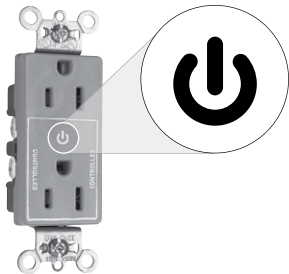
The purpose of this change was to ensure that switches used in two- and three-circuit installations have been evaluated and listed for the application.



P&S Cat. #s: TM873, 2603, PS15AC4, PS20AC3, TM874, 2604

SECTION 406.3(E)

Controlled Receptacles



- Receptacles that are controlled by removing power must be marked with the appropriate symbol

New energy management codes are being adopted that require automatic control of 125V, 15A and 20A receptacles. This new section in the code requires a receptacle to be marked with the appropriate symbol when the receptacle is part of a system that automatically removes power. The symbol on the receptacle will alert the user that the receptacle will be automatically powered on and off.



P&S Cat. #s: 26252CH, 26252CD, 26352CH, 26352CD

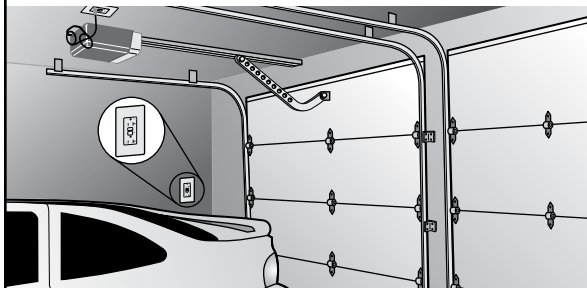
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SECTION 406.4(D)

Receptacle Type AFCIs and GFCIs



■ Receptacle type AFCIs and GFCIs must be readily accessible.

210.8 and 210.12 require a GFCI and an AFCI to be located in a readily accessible location. 406.4(D) has been revised to make it clear that when a replacement receptacle type GFCI or AFCI is installed, it must be located where it is readily accessible. Receptacle type GFCIs and AFCIs are marked “test monthly” and are provided with a test button that must be operated monthly. Locating these devices where they are accessible will increase the likelihood that they will be tested by the user.

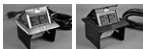


P&S Cat. #s: 1595, 2095, 1595TR, 2095TR, AF15TR, AF20TR

SECTION 406.5(E)**Receptacles in Counter Tops**

- **Listed receptacle assemblies may be installed in countertops**

This section has been revised to allow the installation of listed receptacle assemblies in the top surface of a countertop. The receptacle assemblies must be listed to ensure that they have been evaluated to function properly when exposed to conditions, such as liquid spills and splashing, likely to be encountered in countertop installations. A typical receptacle assembly for this application is a pop-up type of receptacle having a cover that is flush with the countertop when not in use and pops up when operated to reveal the receptacle.



Wiremold Cat. #: KP2345, KP9999

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SECTION 406.5(F)

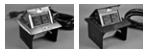
Receptacles in Seating Areas



- Receptacles installed in seating areas must be listed assemblies appropriate for the installation

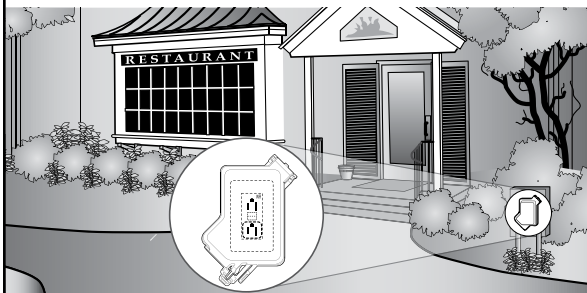
Standard receptacles are often installed in a face-up position in seating and similar surfaces to accommodate the use of products such as cell phones and laptop computers. Receptacles in this type of installation are unprotected and exposed to conditions that may result in malfunction of the receptacle or possible hazards to the user.

This new section in the code requires the receptacles installed in these locations to be either listed assemblies or part of a listed assembly that will provide the necessary protection. Each of the assemblies specified by the code is a category of product that is listed and evaluated to a UL Safety Standard to ensure that the receptacles will be protected.



SECTION 406.9(B)(1)

Receptacles in Wet Locations



- 15A and 20A receptacles installed in wet locations must have weatherproof covers

Section 406.9(B)(1) requires a weatherproof cover for 15A and 20A receptacles installed in wet locations. These covers, commonly referred to as While-In-Use covers, provide protection for the receptacles both when a plug is inserted and when there is no plug inserted. When an outlet box hood is used to meet this requirement, it must be listed and identified as “Extra Duty.” The “Extra Duty” covers are evaluated to more demanding test requirements than a standard cover.

Previously, the requirement for an “Extra Duty” cover did not apply to one and two-family dwellings and only applied to enclosures supported from grade. This Section has been revised to apply to all 15A and 20A receptacles installed in wet locations, regardless of the means used to mount the receptacle enclosures. There was concern that covers were being damaged in residential as well as commercial installations.



P&S Cat. #s: WIUCAST1, WIUC10

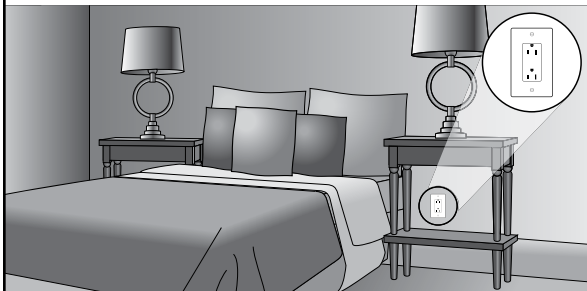
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SECTION 406.12

Tamper-Resistant Receptacles



- Tamper-resistant receptacles are required in dwellings, guest rooms, guest suites and child care facilities

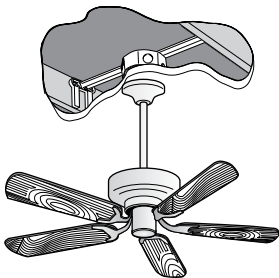
406.12 has been restructured to make it clear that the exceptions apply to the installation of tamper-resistant receptacles in all of the specified locations. 406.12(B) has also been revised to add that the guest rooms and guest suites that require tamper-resistant receptacles are in hotels and motels.



P&S Cat. #: 1595TR, 885TR, TM8HWLTR, 3232TR

SECTIONS 422.19, 422.20, 422.21

Ceiling Suspended (Paddle) Fans



- Sufficient wiring space must be provided for ceiling fan conductors

Three new sections have been included in the code to ensure the proper installation of ceiling suspended fans. The new sections describe adequate wiring space for conductors, provision of a cover for the outlet box and protection of combustible materials. The new sections are similar to the requirements for the installation of luminaires in Section III, Article 410.



P&S Cat. #s: 55025,

55501,

22200

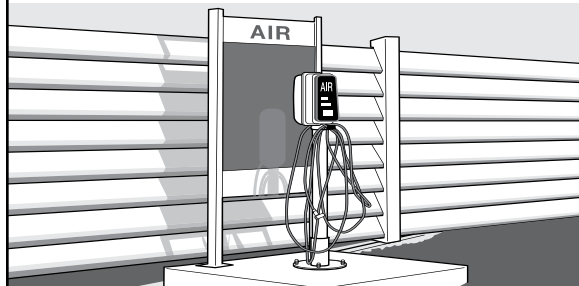
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SECTION 422.23

Tire Inflation and Automotive Vacuum Machines



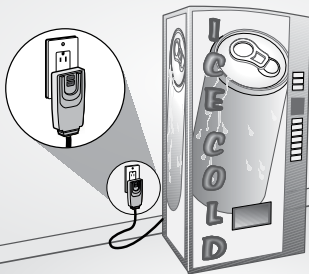
- GFCI protection must be provided for tire inflation and automotive vacuum machines used by the public

Tire inflation and automotive vacuum machines are heavily utilized and sometimes abused when provided for public use. These machines are often located outdoors in locations such as gas stations and convenience stores where they are exposed to damp and wet environments. These conditions result in the potential for an electrical shock hazard to occur. 422.23 recognizes the possibility of shock hazard associated with this equipment and requires GFCI protection when these machines are provided for public use.



SECTION 422.51

Vending Machines



- GFCI protection must be provided for vending machines

This section in the code requires GFCI protection for vending machines. When the vending machine is cord and plug connected, the GFCI protection is provided as part of the plug or is located in the power supply cord within 12 inches of the plug. When this type of GFCI protection is provided, the GFCI must be identified for portable use. A GFCI identified for portable use provides all of the features necessary for protection of personnel when used with portable equipment.

422.51(B) has been added to the 2014 NEC to require GFCI protection for vending machines that are not cord and plug connected.

Vending machines manufactured or remanufactured prior to January 1, 2005 must be connected to a GFCI-protected outlet



P&S Cat. #s: 1594CMM, 1594CMA

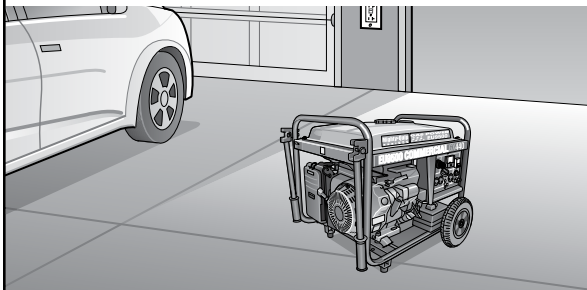
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SECTION 445.20

GFCI Protection for Portable Generators



- GFCI protection must be provided for 15kW or smaller generators

125V, 15A and 20A receptacles on portable generators must be provided with GFCI protection. Generators manufactured before January 1, 2015 may use a portable GFCI to provide the protection. If the 125V, 15A and 20A receptacles cannot be used while the 125/250V receptacle is in use, GFCI protection is not required. If the generator does not have a 125/250V receptacle, GFCI protection is not required.



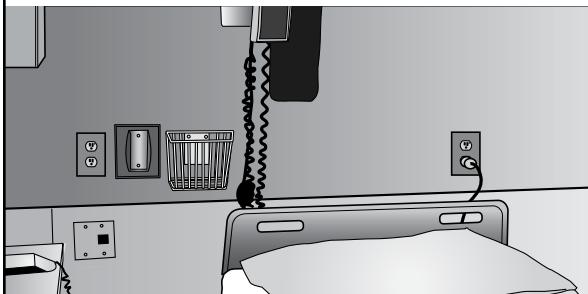
P&S Cat. #s: 1595TRWR, 2095TRWR, 1595TR, 2095TR.



1594PC2M, 2094PC2M, PS154S, PS204S

SECTION 517.16

Isolated Ground Receptacles in Health Care Facilities



- Isolated ground receptacles may not be installed in a patient care vicinity

Isolated ground receptacles may not be installed in the patient care vicinity of a health care facility. The concern is that the redundant grounding required by Sections 517.13(A) and (B) may not be adequately achieved when using an isolated ground receptacle. Isolated ground receptacles may be used in other areas of a health care facility.



P&S Cat. #s: TR62HI, 8300HI, PT8300, PTTR8300

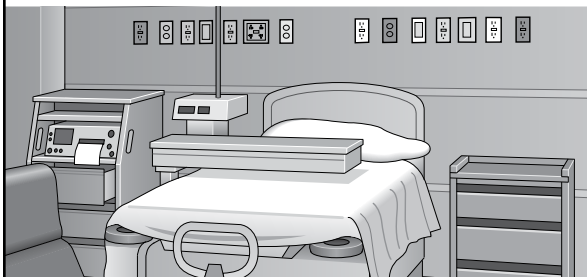
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SECTION 517.18 (A) and (B)

Receptacles in Patient Bed Locations in General Care Areas of Health Care Facilities



■ Receptacles in patient bed locations must be hospital grade

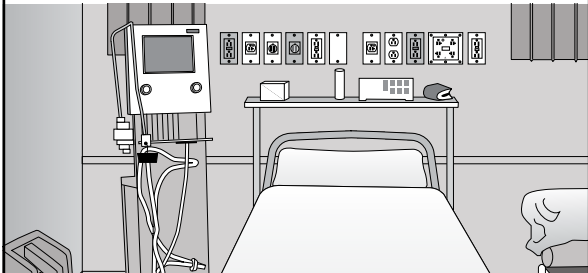
517.18(B) has been revised to require eight hospital grade receptacles in a General Care Area patient bed location. Receptacles at patient bed locations that are supplied by the critical branch circuit are required by 517.18(A) to have a distinctive marking or color so that they are readily identifiable. The receptacles on the critical branch circuit must also indicate the panelboard and branch circuit number that supply the receptacles.



P&S Cat. #s: 420HI, 8201, 8200HI, 2096HGTR, 2095HGTR, TR8300SP, PS8300H, PT8300, PTTR63H

SECTION 517.19 (B) (1)

Receptacles in Patient Bed Locations in Critical Care Areas of Health Care Facilities



■ Receptacles in patient bed locations must be hospital grade

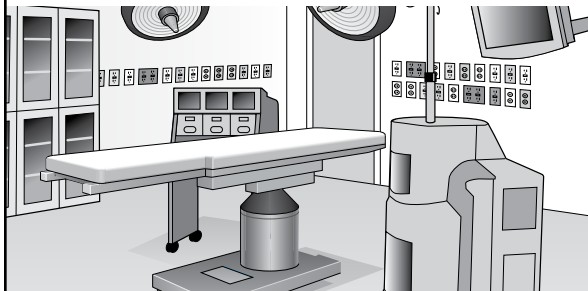
517.19(B) (1) has been revised to require fourteen hospital grade receptacles in a Critical Care Area patient bed location. The receptacles on the critical branch circuit must be identified and must also indicate the panelboard and circuit number that supply the receptacles.



P&S Cat. #s: 420HI, 8201, 8200HI, 2096HGTR, TR8300SP, PS8300H, PT8300, PTTR63H

SECTION 517.19(C)

Operating Room Receptacles



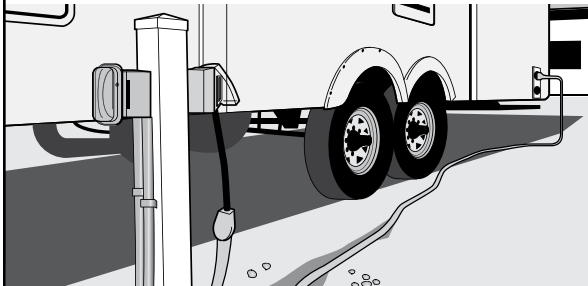
- Each operating room must have 36 receptacles

517.19(C) is a new section specifying that each operating room must have at least 36 hospital grade receptacles. This section also provides installation requirements regarding connection of the receptacles to a branch circuit as well as information on connection of the receptacle grounding terminal.

517.19(C) aligns with NFPA 99, Health Care Facilities Code.



P&S Cat #s: 420HI, 8201, 8200HI, 2096HGTR, TR8300SP, PS8300H, PT8300, PTTR63H

SECTION 551.71**Recreational Vehicle Park Receptacles**

- An RV site with a 50A receptacle must also be equipped with a 30A receptacle

This section has been revised to require a 125V, 30A receptacle to be provided at an RV site that is equipped with a 50A receptacle. This new requirement is intended to address the use of adapter cords.



SECTION 590.6(A)(1)

Receptacles in Temporary Wiring



- Receptacles supplying temporary power must be GFCI protected

In temporary installations, 590.6(A)(1) requires GFCI protection for all 125V, 15A, 20A and 30A receptacles that are not part of the permanent wiring. This section has been revised to permit the use of listed cord sets or devices that incorporate GFCI protection.



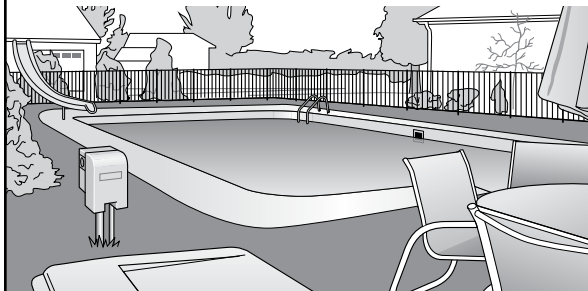
ARTICLE 625**Electric Vehicle Charging Systems**

- **Electric vehicle supply equipment may be cord and plug connected**

Several revisions were made in this Article in the 2014 NEC. 625.2 added the definitions for the output cable, which supplies power to the EV, and the power supply cord, which connects the electric vehicle supply equipment to a receptacle. Specific requirements for the cords and cables are in section 625.17. Section 625.44 provides the requirements for cord and plug connected electric vehicle supply equipment.

SECTION 680.22(A)

Receptacles for Permanently Installed Pools



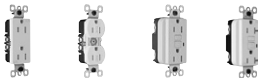
■ Receptacles must not be located less than 6 feet from the pool

Subsections (A)(1), (2) and (3) have been rearranged in the 2014 NEC. (A)(1) requires at least one 125V, 15A or 20A receptacle on a general purpose branch circuit to be provided not less than 6 feet or more than 20 feet from the inside wall of a permanently installed pool. This requirement previously only applied to dwelling units but now applies to all installations.

(A)(2) has also been revised to delete the requirement that receptacles for circulation and sanitation must be a locking configuration.



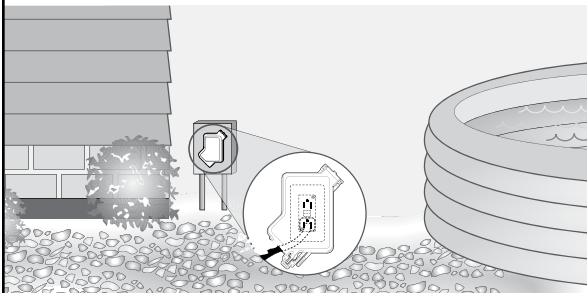
P&S Cat. #s: WIUCAST1, WIUCAST2, WIUC10, WIUC20



885TRWR, 3232TRWR, 1595TRWR, 2095TRWR

ARTICLE 680 PART III

Storable Pools, Spas and Hot Tubs



- Electrical installation requirements for storable pools, spas and hot tubs

In addition to the requirements in Article 680 Part I, storable pools, spas and hot tubs must meet the electrical installation requirements of Part III. Previously Part III only applied to storable pools. The 2014 NEC adds storable spas and hot tubs to Part III due to the similarity of installations. 680.34 specifies that receptacles must not be located less than 6 feet from the inside wall of a storable pool, spa or hot tub.



P&S Cat. #s: 1595TRWR, 2095TRWR, WIUC10

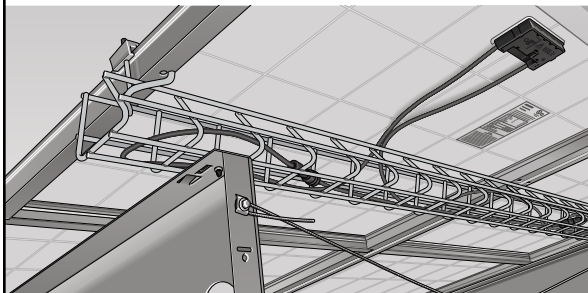
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SECTION 690.31(C)(2)

Photovoltaic (PV) Conductors in Cable Trays



- PV conductors may be installed in cable trays in outdoor locations

Part IV of Article 690 describes the wiring methods that may be used in a PV system. PV circuits are permitted in cable trays inside buildings. 690.31(C)(2) has been added to the code to clearly state that listed single conductor cable for PV source circuits and PV output circuits may be installed in cable trays in outdoor locations.