



2008 National Electrical Code Significant Changes

City Review

- 110.16 Flash Protection
- Clarifies that flash protection markings are required for large fusible switches and similar equipment where a hazard may exist. NFPA 70 E can assist in determining the exposure, safe work practices, and protective equipment.
- 200.2(B) General
- The continuity of the connection of a grounded conductor does not depend upon a connection to the metal enclosure, raceway or cable armor. A busbar or conductor must be used to make the connection between the neutral bar and the equipment ground bar, not the metal of the enclosure.
- 210.4(D) Multiwire Branch Circuits
- The ungrounded and grounded conductors of each multiwire branch circuit shall be grouped by wire ties or similar means in at least one location within the panel board.
- 210.5(C) Identification for Branch Circuits
- Each ungrounded conductor of a branch circuit must be identified by phase or line and by system.
- 210.8(B) (4) Ground-Fault Circuit-Interrupter for Personnel
- All 125-volt single phase receptacles installed outdoors requires GFCI protection, rather than just in public places.
- 210.12(B) Arc-Fault Circuit-Interrupter Protection
- AFCI protection is required for all 120-volt, single-phase 15 and 20 ampere branch circuits supplying outlets installed in dwelling units in family rooms, dining rooms, living rooms, parlors, libraries, dens, bedrooms, sunrooms, recreation rooms, closets, hallways or similar rooms or areas.
- 210.52(E) (3) Dwelling Unit Receptacle Outlets

A receptacle is required to be installed on any porch, deck or balcony where accessible from inside the dwelling unit. Exception does not require the receptacle when the useable area is less than 20 sq ft.

230.44 Cable Trays

When conductor are installed in cable trays with service conductors they must be separated by a fix solid barrier and labels must be installed with the wording service-entrance conductors and placed so the service entrance conductors can be traced through the entire length of the cable tray.

240.24(F) Location in or on Premise

Over current devices shall not be located over steps of stairways.

240.92(B) Tap Conductor Short-Circuit Current Ratings

This new subsection will increase the enforceability necessary by the inspection community and will limit the application of expanding feeder tap conductors for supervised industrial installations.

250.20(D) Alternating-Current Systems to be Grounded

Clarifies that a separately derived system shall be grounded based on 250.30 where transfer equipment is provided that includes switching the grounded conductor and where the grounded conductor is not solidly interconnected to the service supplied conductor. Where the grounded conductor is interconnected with the service supplied conductors is not a separately derived system.

250.119 Identification of Equipment Grounding Conductor, Exception

Exception allows power limited, Class 2 or Class 3 circuit cables containing circuits operating at less than 50 volts to use a conductor with green insulation for other than grounding purposes.

300.4E Protection Against Physical Damage

At least 1 1/2in. clearance is required for a cable or raceway type wiring method to be installed in exposed or concealed locations under metal-corrugated sheet roof decking.

Table300.50 Minimum Cover Requirements, Specific Footnotes

Direct-buried cables that are not concrete-encased, protected by concrete or sleeved with proper protection and buried at least 30 in. or more below grade must have location identified by warning ribbon that is installed in the trench at least 12 in. above the cable.

314.16 Box Fill Calculations

Each loop or coil of conductors shall be counted twice

314.27(A)(B) Outlet Boxes

Listed boxes for luminaries support shall be required to support a minimum of 50lb. Luminaries weighing more than 50lb boxes are required to be marked with the maximum weight.

334.15(B) Exposed Work-Protection from Physical Damage

Type NMC cable installed in shallow chases shall be protected by a 1/16 in thick steel plate, sleeve or equivalent or 1 ¼ in. recessed space for the full length.

334.15(C) Exposed Work-In unfinished Basements and Crawl Space

Crawl spaces have been added for NM cable shall be protected in this space.

334.80 Ampacity

More than two NM cables containing two or more current-carrying conductors are installed in contact with thermal insulation without maintaining spacing between cables, the allowable ampacity of each conductor within the cables shall be adjusted.

342.30(C) Unsupported Raceways

A new section has been added allowing IMC to be unsupported where the raceway is not more than 18 in. in length in length and remains in unbroken lengths, where oversized, concentric or eccentric knockouts are not encountered.

348.12 Uses Not Permitted

FMC shall not be permitted to be installed in any wet locations.

352.30(C) Unsupported Raceways

A new section has been added allowing PVC to be unsupported where the raceway is not more than 18 in. in length in length and remains in unbroken lengths, where oversized, concentric or eccentric knockouts are not encountered.

362.30(A) Securing and Supporting-Exception No. 3

ENT permitted to be fished as concealed work in finished buildings or prefinished wall panels where installed in unbroken lengths.

376.56(B)(4) Power Distribution Blocks

Power distribution blocks shall have no exposed live parts, whether or not the wireway cover is installed.

406.4(G) Voltage Between Adjacent Devices

Requires barriers where two receptacles, switches or any devices are installed and the voltage between adjacent devices exceeds 300 volts. A receptacle installed in a box with adjacent switch where the voltage between devices exceeds 300 volts would require a barrier.

406.8(A) Receptacles in Damp or Wet Locations

Requires all nonlocking 15 and 20 ampere, 125 and 250 volt receptacles must be a listed weather-resistance type (where installed outdoors).

406.11 Tamper-Resistant Receptacles in Dwelling Units

Tamper-resistant receptacles required in dwelling units for locations specified in 210.52.

(kitchen, family room, living room, parlor, library, den, sunroom, recreation room, bathrooms, outdoors, laundry, basements, garages, hallways, bedrooms)

408.3(F) High Leg Identification

New section been added to require the high-leg to be legibly and permanently field marked in the switchboard or panelboard.

410.10(D) Bath and Shower Areas.

Luminaires located within the actual outside dimension of the bathtub or shower to a height of 8Ft vertically from the top of the bathtub rim or shower threshold to be marked damp or if subject to shower spray marked wet location.

422.51 Cord and Plug Connected Vending Machines.

Older vending machines manufactured or remanufactured before January 1, 2005 must be connected to a GFCI protected outlet.

504.30(A) Separation of Intrinsically Safe Conductors.

Exception No. 3 permits intrinsically safe circuit conductors and nonincendive circuit conductors in a Division 2 or Zone 2 location to be in the same raceway, cable tray or cable. Exception No. 4 permits intrinsically safe circuit and to be combined in the same raceway, cable tray, or cable where passing through a Division 2 or Zone 2, to supply apparatus in a Division 1, Zone 0 or Zone 1 locations.

517.160(A)(5) Isolated Power Systems.

This revision clarifies that striped isolated conductor provides proper identification for isolated power systems.

600.4(C) Markings.

Section signs shall be marked to indicate that field wiring and installation instructions are required.

600.6(A)(1) Disconnects.

Sign disconnecting means must be capable of being locked in the open position.

600.21(E) Ballast, Transformers and Electronic Power Supplies.

At least one lighting outlet containing a switch or controlled by a wall switch shall be installed in attic and soffit areas where sign equipment is located.

600.41(D) Neon Tubing.

Field installed skeleton tubing must be protected if exposed to physical damage or readily accessible to other than qualified persons.

620.21(A)(1) Wiring Methods. Elevators. Hoistways.

Allows cord connected sump pump and oil recovery pump equipment located in the pit but sets the limit on the length of the cord.

626(1-32) Electrified Truck Parking Spaces.

A new article has been added to address requirements for electrified truck parking spaces.

680.23(B)(6) Underwater Luminaires.

This revision requires the forming shell location and length of cord in forming shell to permit placement of the luminaire on the deck or other dry location for inspection, relamping or other maintenance of underwater wet niche luminaires.

680.26(A-C) Equipotential Bonding

This revision clarifies the equipotential bonding requirements for pools.

680.31 Pumps.

This revision clarifies that storable pool cord-connected filter pumps shall be protected with a GFCI that is an integral part of the attachment plug or located in the power supply cord within 12 inches of the attachment plug.

680.43(D) Indoor Installations, (D) Bonding

A new exception to clarify that metal parts of electrical equipment associated with the water circulating system, including pump motors, that are part of a listed self-contained spa or hot tub shall not be required to be bonded.

695.6(B) Power Wiring

Fire pump supply conductors shall be protected by a 2-hour fire resistance rating if not encased in a minimum 2 in. of concrete or by a listed electrical protective with 2-hour minimum fire rating.

700.6(C) Transfer Equipment.

Automatic transfer switches, rated 600 volts or less, are required to be listed for emergency system use.

700.9(B)(5) Wiring Emergency System.

Emergency system must originate from separate sections of a vertical switchboard or from individual disconnects mounted in separate enclosures. Common bus, separate sections of the switchboard, or individual disconnects in separate enclosures are permitted to be supplied by single or multiple feeders without over current protection at the source. Legally required and optional standby circuits shall not originate from the same vertical switchboard section, panelboard enclosure or individual disconnect enclosure as emergency circuits.

700.9(D)(3) Wiring Emergency System.

A new subdivision has been added to require generator control wiring installed between the transfer equipment and emergency generator to be kept entirely independent of all other wiring.

708 Critical Operations Power Systems. (COPS) (708.1-708.64)

New article dealing with mission critical power systems with detailed installation instructions for electrical power for vital infrastructures where interrupted power could disrupt national security, the economy, public health or safety.

800.156 Dwelling Unit Communications Outlet. New section added to require a minimum of one communications outlet in new construction within the dwelling unit installed to the service provider demarcation point.