

2018 NC State Electrical Code Amendments

(adopted December 2017 through March 2021)

(Note: includes identified NC Errata)

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The following pages represent a summary of the Building Code Council adopted amendments that have been approved by the Rules Review Commission.

2017 NC Electrical Code (based on the 2017 NEC) effective 6/12/2018

These amendments revise, delete or add to the adopted NC Electrical Code.

2017 NC Electrical Code

210.8 Ground-Fault Circuit-Interrupter Protection for Personnel. (180612 Item B-10)

210.8 Ground-Fault Circuit-Interrupter Protection for Personnel.

(A) Dwelling Units. All 125-volt, single-phase, 15- and 20-ampere receptacles installed in the locations specified in 210.8 (A)(1) through (10) shall have ground-fault circuit-interrupter protection for personnel.

(1) Bathrooms

(2) Garages, and also accessory buildings that have a floor located at or below grade level not intended as habitable rooms and limited to storage areas, work areas, and areas of similar use

Exception No. 1 to (2): Receptacles that are not readily accessible.

Exception No. 2 to (2): A single receptacle or a duplex receptacle for two appliances located within 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 in accordance with 400.10(A)(6), (A)(7), or (A)(8).

Receptacles installed under the exceptions to 210.8(A)(2) shall not be considered as meeting the requirements of 210.52(G)

The delayed effective date of this Rule is January 1, 2020.

The Statutory authority for Rule-making is G. S. 143-136; 143-138.

September 1, 2020

2017 NC Electrical Code

210.8(B) Other Than Dwelling Units. (190312 Item B-6)

210.8(B) Other Than Dwelling Units. All single-phase receptacles rated 150 volts to ground or less, 50 amperes or less ~~and three-phase receptacles rated 150 volts to ground or less, 100 amperes or less~~ installed in the following locations shall have ground-fault circuit-interrupter protection for personnel.

The delayed effective date of this Rule is January 1, 2021.

The Statutory authority for Rule-making is G. S. 143-136; 143-138.

2017 NC Electrical Code
Table 300.5 Minimum Cover Requirements. (180612 Item B-11)

(SEE ATTACHED TABLE 300.5)

The delayed effective date of this Rule is January 1, 2020.
The Statutory authority for Rule-making is G. S. 143-136; 143-138.

September 1, 2020

Table 300.5 Minimum Cover Requirements, 0 to 1000 Volts, Nominal, Burial in Millimeters (Inches)

Location of Wiring Method or Circuit	Type or Wiring Method or Circuit									
	Column 1 Direct Burial Cables or Conductors		Column 2 Rigid Metal Conduit or Intermediate Metal Conduit		Column 3 Nonmetallic Raceways Listed for Direct Burial Without Concrete Encasement or Other Approved Raceways		Column 4 Residential Branch Circuits Rated 120/125/250 Volts or Less with GFCI Protection and Maximum Overcurrent Protection of 20 50 Amperes		Column 5 Circuits for Control or Irrigation and Landscape Lighting Limited to Not More Than 30 Volts and Installed with Type UF or in Other Identified Cable or Raceway	
	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.
All locations not specified-below	600	24	150	6	450	18	300	12	150	6
In trench below 50 mm (2 in.) thick concrete or equivalent	450	18	150	6	300	12	150	6	150	6
Under a building	0	0	0	0	0	0	0	0	0	0
	(in raceway or Type MC or Type MI cable identified for direct burial)						(in raceway or Type MC or Type MI cable identified for direct burial)		(in raceway or Type MC or Type MI cable identified for direct burial)	
Under minimum of 102 mm (4 in.) thick concrete exterior slab with no vehicular traffic and the slab extending not less than 152 mm (6 in) beyond the underground installation	450	18	100	4	100	4	150	6	150	6
							(direct burial)	(direct burial)	100	4
							(in raceway)	(in raceway)	100	4
Under streets, highways, roads, alleys, driveways, and parking lots	600	24	600	24	600	24	600	24	600	24
One- and two-family dwelling driveways and outdoor parking areas, and used only for dwelling-related purposes	450	18	450	18	450	18	300	12	450	18
In or under airport runways, including adjacent areas where trespassing prohibited	450	18	450	18	450	18	450	18	450	18

Notes:

1. Cover is defined as the shortest distance in millimeters (inches) measured between a point on the top surfaces of any direct-buried conductor, cable, conduit, or other raceway and the top surface of finished grade, concrete, or similar cover.
2. Raceways approved for burial only where concrete encased shall require concrete envelope not less than 50 mm (2 in) thick.
3. Lesser depths shall be permitted where cables and conductors rise for terminations or splices or where access is otherwise required.
4. Where one of the wiring method types listed in Columns 1 through 3 is used for one of the circuit types in Columns 4 and 5, the shallowest depth of burial shall be permitted.
5. Where solid rock prevents compliance with the cover depths specified in this table, the wiring shall be installed in metal or nonmetallic raceway permitted for direct burial. The raceways shall be covered by a minimum of 50 mm (2 in.) of concrete extending down to rock.

2017 NC Electrical Code

320.23(A) Cables Run Across the Top of Floor Joists. (171212 Item B-1)

320.23 In Accessible Attics. Type AC cables in accessible attics or roof spaces shall be installed as specified in 320.23(A) and (B).

~~(A) Cabled Run Across the Top of Floor Joists. Where run across the top of floor joists, or within 2.1 m (7 ft) of the floor or floor joists across the face of ceiling rafters or studding, the cable shall be protected by guard strips that are at least as high as the cable, unless the cables are physically considered outside any floored area. Where this space is not accessible by permanent stairs or ladders, protection shall only be required within 1.8 m (6 ft) of the nearest edge of the scuttle hole or attic entrance where cables are run across the top of floor (ceiling) joists.~~

(A) Cables Run Across the Top of Floor Joists. The cable shall be protected by guard strips that are at least as high as the cable where one of the following applies:

1. Where this space is accessible by permanent stairs or ladders, protection shall be required in the area directly over a permanent floor not exceeding 2.1 m (7 ft) vertically from the floor, or where run across the top of floor joists.
2. Where this space is not accessible by permanent stairs or ladders, protection shall be required within 1.8 m (6 ft) horizontally of the nearest edge of the scuttle hole or attic entrance where run across the top of any flooring, or flooring or ceiling joists. Protection is not required where run across the face of overhead roofing trusts or rafters.

Exception: For the purpose of this section, pull-down type stairs are not to be considered as permanent stairs or ladders.

The delayed effective date of this Rule is January 1, 2019.

The Statutory authority for Rule-making is G. S. 143-136; 143-138.

September 1, 2020

2017 NC Electrical Code
406.4(D)(4) Arc-Fault Circuit Interrupters Protection. (190312 Item B-4)

~~406.4(D)(4) Arc-Fault Circuit Interrupters Protection.~~

~~Where a receptacle outlet is located in any areas specified in 210.12(A) or (B), a replacement receptacle at this outlet shall be one of the following:~~

- ~~(1) A listed outlet branch circuit type arc fault circuit interrupter receptacle~~
- ~~(2) A receptacle protected by a listed outlet branch circuit type arc fault circuit interrupter type receptacle~~
- ~~(3) A receptacle protected by a listed combination type arc fault circuit interrupter type circuit breaker~~

~~Exception No. 1: Arc fault circuit interrupter protection shall not be required where all of the following apply:~~

- ~~(1) The replacement complies with 406.4(D)(2)(b).~~
- ~~(2) It is impracticable to provide an equipment grounding conductor as provided by 250.130(C).~~
- ~~(3) A listed combination type arc fault circuit interrupter circuit breaker is not commercially available.~~
- ~~(4) GFCI/AFCI dual function receptacles are not commercially available.~~

~~Exception No. 2: Section 210.12(B), Exception shall not apply to replacement of receptacles.~~

The delayed effective date of this Rule is January 1, 2021.
The Statutory authority for Rule-making is G. S. 143-136; 143-138.

410.2 Definition.

Closet Storage Space. The volume bounded by the sides and back closet walls and planes extending from the closet floor vertically to a height of 1.8 m (6 ft) or to the highest clothes-hanging rod and parallel to the walls at a horizontal distance of 600 mm (24 in.) from the sides and back of the closet walls, respectively, and continuing vertically to the closet ceiling parallel to the walls at a horizontal distance of 300 mm (12 in.) or the width of the shelf, whichever is greater; for a closet that permits access to both sides of a hanging rod, this space includes the volume below the highest rod extending 300 mm (12 in.) on either side of the rod on a plane horizontal to the floor extending the entire length of the rod. See Figure 410.2.

Exception:

Where a shelf is not present in the area of wall above the closet's entrance opening or doorway extending from the top of such opening or doorway vertically to the ceiling, including the area of ceiling extending perpendicular from the area of wall directly above the closet's entrance opening or doorway to a horizontal distance of 300 mm (12 in.), shall not be defined as closet storage space. See Figure 410.2

Exception.

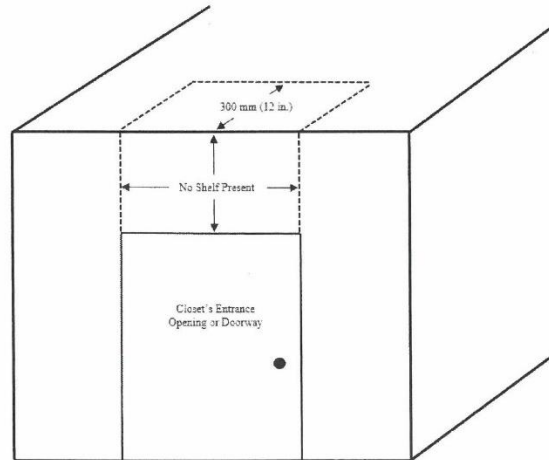


Figure 410.2 Exception Closet Storage Space Exception

The delayed effective date of this Rule is January 1, 2020.
The Statutory authority for Rule-making is G. S. 143-136; 143-138.

410.16 Luminaires in Clothes Closets.

(C) Location. The minimum clearance between luminaires installed in clothes closets and the nearest point of a closet storage space shall be as follows:

- (1) 300 mm (12 in.) for surface-mounted incandescent or LED luminaires with a completely enclosed light source installed on the wall above the door or on the ceiling.
- (2) 150 mm (6 in.) for surface-mounted fluorescent luminaires installed on the wall above the door or on the ceiling.
- (3) 150 mm (6 in.) for recessed incandescent or LED luminaires with a completely enclosed light source installed in the wall or the ceiling.
- (4) 150 mm (6 in.) for recessed fluorescent luminaires installed in the wall or the ceiling.
- (5) Surface-mounted fluorescent or LED luminaires shall be permitted to be installed within the closet storage space where identified for this use.
- (6) LED luminaires with a completely enclosed light source or fluorescent luminaires shall be permitted to be installed within the area defined in 410.2 Exception.

The delayed effective date of this Rule is January 1, 2020.
The Statutory authority for Rule-making is G. S. 143-136; 143-138.

2017 NC Electrical Code
680.21(C)(2) Motors GFCI Protection. (170613 Item B-16)

680.21(C)(2) Motors GFCI Protection

(C) GFCI Protection. Outlets supplying pool pump motors connected to single-phase, 120-volt through 240-volt branch circuits, whether by receptacle or by direct connection, shall be provided with ground-fault circuit-interrupter protection for personnel.

(2) Existing Pool Pump Motor Branch Circuit and Overcurrent Protection. All existing single-phase, 120-volt through 240-volt branch circuits and overcurrent devices that supply power to a pool pump motor by direct connection or outlet shall comply with the provisions of 680.21(C) when the branch circuits or overcurrent devices are altered, installed, modified, relocated, repaired, or replaced.

The delayed effective date of this Rule is June 12, 2018 for the 2017 edition.

The Statutory authority for Rule-making is G. S. 143-136; 143-138.

2017 NC Electrical Code
695.2 Definitions. (190312 Item B-16)

Reliable Source of Power. A source of power that possesses all of the following characteristics:

- (1) The electric utility supplying the power has not conducted any intentional shut downs longer than 10 continuous hours in the year prior to the plan submittal and is verified in writing by that electric utility.
- (2) The source of power is not supplied by overhead conductors within 60 feet of the building(s) equipped with fire pump(s).
- (3) Only the disconnect switches and overcurrent protection devices permitted in Article 695 and NFPA 20-2013 section 9.3.2 are installed in the normal source of power to the fire pump controller.

The delayed effective date of this Rule is January 1, 2021.
The Statutory authority for Rule-making is G. S. 143-136; 143-138.

September 1, 2020

2017 NC Electrical Code

695.3 Power Source(s) for Electric Motor-Driven Fire Pumps. (190312 Item B-15)

695.3 Power Source(s) for Electric Motor-Driven Fire Pumps.

Electric motor-driven fire pumps shall have a reliable source of power.

~~Informational Note: See Sections 9.3.2 and A.9.3.2 from NFPA 20-2013, *Standard for the Installation of Stationary Pumps for Fire Protection*, for guidance on the determination of power source reliability.~~

The delayed effective date of this Rule is January 1, 2021.

The Statutory authority for Rule-making is G. S. 143-136; 143-138.