

March

2014

## Receptacle Replacement Requirements N.E.C. 406.4 D one through six

- (1) **Grounding-Type Receptacles.** Where a grounding means exists in the receptacle enclosure or an equipment grounding conductor is installed in accordance with 250.130 (C), grounding-type receptacles shall be used and shall be connected to the equipment grounding conductor in accordance with 406.4 (C) or 250.130 (C).
- (2) **Non-Grounding-Type Receptacles.** Where attachment to an equipment grounding conductor does not exist in the receptacle enclosure, the installation shall comply with (D)(2)(a), (D)(2)(b), or (D)(2)(c).
- (a) A non-grounding-type receptacle(s) shall be permitted to be replaced with another non-grounding type receptacle(s).
- (b) A non-grounding-type receptacle(s) shall be permitted to be replaced with a ground-fault circuit interrupter type receptacle(s). These receptacles shall be marked "No Equipment Ground". An equipment grounding conductor shall not be connected from the ground-fault circuit interrupter-type receptacle to any outlet supplied from the ground-fault circuit-interrupter receptacle.
- (c) A non-grounding-type receptacle(s) shall be permitted to be replaced with a grounding-type receptacle(s) where supplied through a ground-fault circuit interrupter. Grounding-type receptacles supplied through the ground-fault circuit interrupter shall be marked "GFCI Protected" and "No Equipment Ground". An equipment grounding conductor shall not be connected between the grounding-type receptacles.

85th Annual Meeting

NORTH  
CAROLINA  
ELECTRICAL  
INSTITUTE

*Dates: April 8 & 9, 2014  
Hilton North Raleigh  
Raleigh, North Carolina*



REMINDER!  
REGISTER ONLINE  
at  
[www.ncbeec.org](http://www.ncbeec.org)

CITY OF WINSTON  
SALEM

100 E. First St. Suite 328  
Winston-Salem, NC 27101

Phone: 336-727-2365  
Fax: 336-727-2792  
E-mail: [marklt@cityofws.org](mailto:marklt@cityofws.org)

85th Annual Meeting

NORTH  
CAROLINA  
ELECTRICAL  
INSTITUTE

Dates: April 8 & 9, 2014  
Hilton North Raleigh  
Raleigh, North Carolina



REMINDER!  
REGISTER ONLINE  
at  
[www.ncbeec.org](http://www.ncbeec.org)

Phone: (919) 733-9042 ext. 205

(3) **Ground-fault Circuit- Interrupters.** Ground-fault circuit-interrupter protected receptacles shall be provided where replacements are made at receptacle outlets that are required to be so protected elsewhere in the Code.

**#4 became Effective January 1, 2014**

(4) **Arc-Fault Circuit-Interrupter Protection.** Where a receptacle outlet is supplied by a branch circuit that requires arc-fault circuit interrupter protection as specified elsewhere in the Code, a replacement receptacle at this outlet shall be one of the following:

- (1) A listed outlet branch circuit type arc-fault 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.

**#4 became Effective January 1, 2014**

(5) **Tamper-Resistant Receptacles.** Listed tamper-resistant receptacles shall be provided where replacement are made at receptacles outlets that are required to be tamper-resistant elsewhere in the Code.

(6) **Weather-Resistant Receptacles.** Weather-resistant receptacles shall be provided where replacements are made at receptacles outlets that are required to be so protected elsewhere in the Code.

**406.4(D)(5) Receptacle Replacement  
Tamper-Resistant Receptacles**



Copyright © IAEI 2011

Listed tamper-resistant receptacles are required for replacement receptacle outlets where a receptacle outlet is required to be tamper-resistant elsewhere in the Code

See 406.12, 406.13, and 406.14 for tamper-resistant receptacle requirements

CITY OF WINSTON  
SALEM

100 E. First St. Suite 328  
Winston-Salem, NC 27101

Phone: 336-727-2365  
Fax: 336-727-2792  
E-mail: [marklt@cityofws.org](mailto:marklt@cityofws.org)

85th Annual Meeting

NORTH  
CAROLINA  
ELECTRICAL  
INSTITUTE

Dates: April 8 & 9, 2014  
Hilton North Raleigh  
Raleigh, North Carolina



REMINDER!  
REGISTER ONLINE  
at  
[www.ncbeec.org](http://www.ncbeec.org)

Phone: (919) 733-9042 ext. 205

CITY OF WINSTON-SALEM Mayor: Allen Joines City Council: Vivian H. Burke, Mayor Pro Tempore, Northeast Ward; Denise D. Adams, North Ward; Dan Besse, Southwest Ward; Robert C. Clark, West Ward; Molly Leight, South Ward; Wanda Merschel, Northwest Ward; Derwin L. Montgomery, East Ward; James Taylor, Jr., Southeast Ward City Manager: Lee Garrity  
FORSYTH COUNTY COMMISSIONERS David R. Plyler, Chairman; Debra Conrad, Vice Chair; Beaufort O. Bailey; Ted Kaplan; Richard V. Linville; Walter Marshall; Gloria D. Whisenhunt County Manager: Dudley Watts, Jr.



continued from page 2

### 406.4(D)(4) Receptacle Replacement (AFCI)



Copyright © IAEI 2011

Arc-fault circuit-interrupter protection is required for replacement receptacle outlets where a receptacle outlet is supplied by a branch circuit that requires AFCI protection elsewhere in the Code (effective date January 1, 2014)

Replacement receptacle outlet can be protected by a listed outlet branch circuit type AFCI receptacle or a listed combination type AFCI circuit breaker

### 334 Nonmetallic-Sheathed Cable

#### 334.40 Boxes and Fittings.

- (A) **Boxes of Insulation Material.** Nonmetallic outlet boxes shall be permitted as provided by 314.3.
- (B) **Devices of Insulating Material.** Switch, outlet, and tap devices of insulating material shall be permitted to be used without boxes in exposed cable wiring and for rewiring (repair) in existing buildings where the cable is concealed and fished. Openings in such devices shall form a close fit around the outer covering of the cable, and the device shall fully enclose the part of the cable from which any part of the covering has been removed. Where connections to the conductors are by binding-screw terminals, there shall be available as many terminals as conductors.
- (C) **Devices with Integral Enclosures.** Wiring devices with integral enclosures identified for such use shall be permitted as provided by 300.15(E).

**CITY OF WINSTON  
SALEM**

100 E. First St. Suite 328  
Winston-Salem, NC 27101

Phone: 336-727-2365  
Fax: 336-727-2792  
E-mail: [marklt@cityofws.org](mailto:marklt@cityofws.org)

**85th Annual Meeting**

**NORTH  
CAROLINA  
ELECTRICAL  
INSTITUTE**

*Dates: April 8 & 9, 2014  
Hilton North Raleigh  
Raleigh, North Carolina*

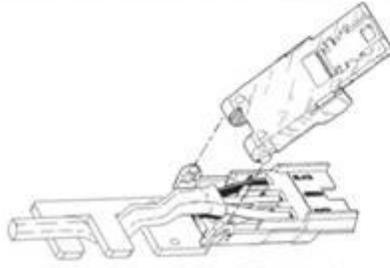
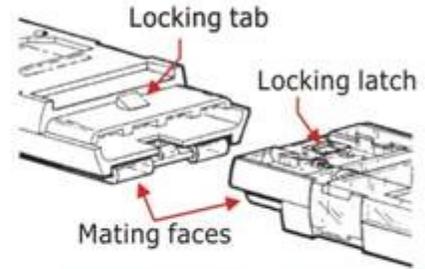


**REMINDER!  
REGISTER ONLINE  
at  
[www.ncbeec.org](http://www.ncbeec.org)**

**Phone: (919) 733-9042 ext 205**

### 334.40(B) Devices of Insulating Material

**Nonmetallic-sheathed cable interconnectors** have been recognized to be used without a box and concealed where used for "repair wiring" rather than "rewiring" in existing buildings



Courtesy of Tyco Electronics



Mark

I talked with Ron about this and provided the 2014 Analysis of Changes articles, and the only time this device can be used is for repair wiring in existing buildings where cable is already concealed. Tapping off of existing wiring with these are not allow unless there is access then they probably wouldn't be needed.

2011 states "Switch outlet and tap devices of insulating material shall be permitted to be used without boxes in exposed cable wiring and for rewiring in existing buildings where the cable is concealed and fished. I know we are still under 2011 code but we are looking at it the same way as far as these devices. The only difference is rewiring was replaced by repair wiring. It must be accessible or be repair wiring before they can be used. I hope this helps.

Green, Tommy W <[tommy.green@ncdoi.gov](mailto:tommy.green@ncdoi.gov)>

**Mark Tighe  
Senior Electrical Inspector  
Winston-Salem, NC  
336-727-2365  
336-462-7509**

CITY OF WINSTON-SALEM Mayor: Allen Joines City Council: Vivian H. Burke, Mayor Pro Tempore, Northeast Ward; Denise D. Adams, North Ward; Dan Besse, Southwest Ward; Robert C. Clark, West Ward; Molly Leight, South Ward; Jeff MacIntosh, Northwest Ward; Derwin L. Montgomery, East Ward; James Taylor, Jr., Southeast Ward City Manager: Lee Garrity  
FORSYTH COUNTY COMMISSIONERS Richard V. Linville, Chairman; Gloria D. Whisenhunt, Vice Chair; Mark Baker; Walter Marshall; David R. Plyler; Bill Whiteheart; Everette Witherspoon County Manager: Dudley Watts, Jr.

**CityLink311**

Call 311 or 336-727-8000  
[citylink@cityofws.org](mailto:citylink@cityofws.org)