

## PROTECTING AGAINST ELECTRICAL SHOCK AND FIRE

Arc-fault circuit interrupters (AFCI) and ground-fault circuit interrupters (GFCI) are receptacles that help limit the threat of electrical shocks and fires.

AFCIs protect against fires by continuously monitoring the electrical current in a circuit and shutting off the circuit when unintended arcing occurs.

GFCIs reduce the risk of shock by immediately shutting off an electrical circuit when that circuit represents a shock hazard. GFCI installation is NEC required in kitchens, bathrooms, outdoor areas, basements and garages in new residential construction.



AT THE EDGE  
OF THE CITY AND  
THE HEART OF  
EVERYTHING

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VILLAGE OF  
SHOREWOOD

ELECTRICAL  
FIRE SAFETY



## PREVENT ELECTRICAL FIRES: KNOW THE NATIONAL ELECTRICAL CODE

On March 1, 2009, the Wisconsin Department of Commerce adopted the 2008 National Electrical Code (NEC).

There are a number of important codes and definitions to be informed of when doing electrical work. Two important code updates regarding arc-fault circuit-interrupter protection (AFCI) and tamper-resistant receptacles in dwelling units took effect on January 1, 2010.

**NEC 210.12** requires all 120-volt, single-phase, 15 and 20 ampere branch 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 AFCI, combination-type installed to provide protection of the branch circuit. ***This requirement applies to new installations and not to repairs.***

**NEC 406.11** requires all 125-volt, 15 and 20 ampere receptacles installed in all areas specified in NEC 210.52 to be listed tamper-resistant receptacles. NEC 210.52 includes all receptacles in or on a dwelling unit as well as those receptacles provided in attached or detached garages of single-family dwellings. ***There are NO EXCEPTIONS to this requirement.***

## RECEPTACLES LOCATED IN WET OR DAMP LOCATIONS

The following code sections make it clear that if an “in use” cover is installed, then a water-resistant receptacle is required at that location because the designer/installer has determined that it is a wet or damp location. Wet and damp locations are described in NEC 100.

- **Location, Damp** These locations are protected from weather and are not subject to saturation with water or other liquids, but subject to moderate degrees of moisture. Examples of such locations include partially protected locations under canopies, marquees, roofed open porches and like locations, and interior locations subject to moderate degrees of moisture, such as some basements, some barns and some cold storage warehouses.
- **Location, Wet** These are installations underground or in concrete slabs of masonry in direct contact with the earth; in locations subject to saturations with water or other liquids, such as vehicle washing areas; and in unprotected locations exposed to weather.

### NEC 406.8 Receptacles in Damp or Wet Locations

**(A) Damp Locations** A receptacle installed outdoors in a location protected from the weather or in other damp locations shall have an enclosure for the receptacle that is waterproof when the receptacle is covered. All 15 and 20 ampere, 125- and 250-volt non-locking receptacles shall be a listed weather-resistant type.

**(B) Wet Locations** 15 and 20 ampere, 125 and 250-volt receptacles installed in a wet location shall have an enclosure that is weatherproof whether or not the attachment plug cap is inserted. All 15 and 20 ampere, and 125 and 250-volt non-locking receptacles shall be listed weather-resistant type.

### NEC 300.7 Raceways Exposed to Different Temperatures

Where portions of a cable raceway or sleeve are known to be subject to different temperatures, and where condensation is known to be a problem, the raceway or sleeve shall be filled with an approved material to prevent the circulation of warm air to a colder section of the raceway or sleeve. An explosion-proof seal shall not be required for this purpose.

