



RESIDENTIAL ELECTRICAL MATERIALS AND APPLICATIONS GUIDELINE

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Phone: (702) 229-6251

GUIDELINES:

- ❖ No more than twelve (12) duplex receptacles are allowed per 20-amp circuit. Plastic outlet boxes are not allowed in firewalls, unless UL listed and rated. No. 12 copper wire, 20 ampere, 125-volt circuit, is required on all receptacles.
- ❖ Approved PVC electrical conduit is allowed. PVC water piping is not allowed as conduit for electrical wiring.
- ❖ No wiring shall be covered up by insulation or sheet rock until a rough electrical inspection has been approved.
- ❖ An outside light is required at every entrance. A switch is required within a 6' distance to a doorway (point-of-entry) (2017 NEC 210.70(2)(1), as amended, or hallway that will turn on a light or a switched receptacle in that room.
- ❖ An approved carbon monoxide alarm shall be installed outside of each separate sleeping area in dwelling units having fuel-fired appliances and/or attached garages.

KITCHENS:

- ❖ In kitchens of dwelling units, the Code requires at least two (2) small appliance circuits, serving counter top receptacles. No space on kitchen counter tops shall be more than 24" measured horizontally from a receptacle outlet.
- ❖ All receptacles that are installed to serve kitchen countertop surfaces, and/or within 6' from the top inside edge of the bowl of the sink shall be GFCI protected, including island counter tops (2017 NEC 210.8).
- ❖ Permanently installed appliances, such as microwaves, must be on a dedicated 20 amp circuits.
- ❖ At least one receptacle outlet is required at each island and/or peninsula countertop space with a long dimension of 24" or greater and a short dimension of 12" or greater (2017 NEC 210.52(c)(2) & 210.52(c)(3)).

BATHROOMS:

- ❖ All receptacles in bathrooms shall be on a GFI circuit or have a receptacle equipped with GFI protection [2017 NEC 210.8(A)(1)]. One 20-ampere branch circuit shall be provided to supply the bathroom outlet(s) [2017 NEC 210.11(C)(3)].
- ❖ In bathrooms, a zone measuring 3 ft. horizontal and 8 ft. vertical from the tub or shower shall be a wet or damp zone. The measurement is taken from the bathtub rim or shower stall threshold to the light fixture. (2017 NEC 410.10 D).

SLEEPING ROOMS:

- ❖ A smoke detector is required in each sleeping room, outside each separate sleeping area in the immediate vicinity of the bedroom and on each additional story leading to a sleeping room. Smoke detectors in new construction must be hardwired with a battery backup. Check with the plans examiner/inspector for additional requirements in two story houses.
- ❖ No open bulb fixtures are allowed in closets. Closet light to clothes closet shelving clearance requirements of 2017 NEC 410.16(c) shall be met.
- ❖ Arc fault circuit interrupter protection is required for the following room branch circuits, per 2017 NEC 210.12 (A) states: "Dwelling Units, all 120-volt, single phase, 15-and 20-ampere branch circuits supplying outlets installed in dwelling unit kitchens, family rooms, dining rooms, living rooms, parlors, libraries, dens, bedrooms, recreation rooms, closets, hallways, laundry areas or similar rooms or areas shall be protected by a listed arc- fault circuit interrupter, combination-type, installed to provide protection of the branch circuit."

MISCELLANEOUS:

- ❖ Load Calculations will be required on your existing service to show room for expansion when more than five (5) devices are being added. Please note a fan equals two (2) devices.
- ❖ All outside receptacles shall consist of weatherproof construction. All receptacles in garages, bathrooms, outdoor crawl spaces, unfinished areas of basements not intended as habitable rooms, kitchen areas within 6-ft of sinks, boathouses, bathtubs or shower stalls and laundry rooms shall be GFCI protected.
- ❖ All forced air heating systems must be on a dedicated circuit and dishwashers, trash compactors and microwave ovens must have a dedicated minimum 20-ampere circuit.
- ❖ Hallways 10 ft. (10') or longer require a receptacle outlet. (2017 NEC 210.52H).