

**2016 California Electrical Code  
Kitchen Receptacles and Small Appliance Circuits  
Ground-Fault Circuit Interrupters  
GFCI Receptacles at Kitchens**

**Requirements**

**(b) Small Appliances.**

Section 210-52(b) requires two or more 20-ampere circuits for all receptacle outlets for the small-appliance loads, including refrigeration equipment, in the kitchen, dining room, pantry, and breakfast room of a dwelling unit. The countertop receptacle outlets in kitchens must be supplied by no fewer than two small-appliance branch circuits. These circuits may also supply receptacle outlets in the pantry, dining room, and breakfast room, as well as an electric clock receptacle and electric loads associated with gas-fired appliances; but, these circuits are to have no other outlets. See Sections 210-8(a)(6) and (7) for GFCI requirements.

No restriction is placed on the number of outlets connected to a general lighting or small-appliance branch circuit. The minimum number of receptacle outlets in a room is determined by Section 210-52(a). It is desirable to provide more than the minimum number of receptacle outlets required, thereby further reducing the need for extension cords.

Figure 210.26 illustrates the application of the requirements of Sections 210-52(b)(1), (2), and (3). The circuits illustrated are not permitted to serve any other outlets, such as might be connected to exhaust hoods or fans, disposals, or dishwashers. The countertop receptacles are also required to be supplied by these two circuits. Receptacles installed to serve countertop surfaces are required to be GFCI protected in accordance with Section 210-8(a)(6). The dining room switched receptacle on a 15-ampere general-purpose branch circuit is permitted according to Section 210-52(b)(1), Exception No.1. The refrigerator receptacle supplied by a 15-ampere individual branch circuit (Figure 210.26, bottom) is permitted by Section 210-52(b)(1), Exception No. 2.

(1) In the kitchen, pantry, breakfast room, dining room, or similar area of a dwelling unit, the two or more 20-ampere small-appliance branch circuits required by Section 210-11(c)(1) shall serve all wall & floor receptacle outlets covered by Sections 210-52(a) and (c) and receptacle outlets for refrigeration equipment.

Exception No. 1 permits switched receptacles supplied from general-purpose 15-ampere branch circuits to be located in kitchens, pantries, breakfast rooms, and similar areas. See Section 210-70(a) and Figure 210.26 for details and an illustration.

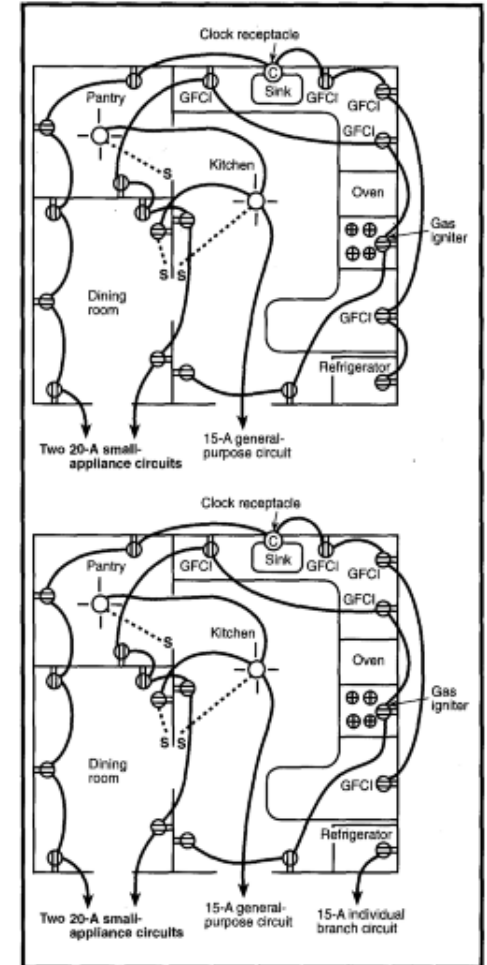
Exception No. 2 is intended to allow a choice for refrigeration equipment receptacle outlets located in a kitchen or similar area. An individual 15-ampere or larger branch circuit may serve this equipment, or it may be included in the 20-ampere small-appliance branch circuit. Refrigeration equipment is also exempt from the GFCI requirements of Section 210-8. See Figure 210.26 for an illustration.

(3) Receptacles installed in a kitchen to serve countertop surfaces shall be supplied by not less than two small-appliance branch circuits, either or both of which shall also be permitted to supply receptacle outlets in the same kitchen and in other rooms specified in Section 210-52(b)(1). Additional small-appliance branch circuits shall be permitted to supply receptacle outlets in the kitchen and other rooms specified in Section 210-52(b)(1). No small-appliance branch circuit shall serve more than one kitchen.

(c) **Countertops.** In kitchen, pantry, breakfast room, dining room & similar areas of dwelling units, receptacle outlets for counter spaces shall be installed in accordance with (1) through (5).

(1) **Wall Counter Spaces.** A receptacle outlet shall be installed at each wall counter space that is 12 in. (300 mm) or wider. Receptacle outlets shall be installed so that no point along the wall line is more than 24 in. (600 mm), measured horizontally from a receptacle outlet in that space.

Exception: Receptacle outlets shall not be required on a wall directly behind a range or sink in the installation described in Figure 210.52.



**Figure 210.26** Small-appliance branch circuits as applied to the requirements of Sections 210-52(b)(1), (2), and (3) for all receptacle outlets in the kitchen (including refrigerator), pantry, and dining room.

# Guide to the Kitchen Remodels, Receptacles and Small Appliance Circuits

- (2) **Island Counter Spaces.** At least one receptacle shall be installed at each island counter space with a long dimension of 600 mm (24 in.) or greater and a short dimension of 300 mm (12 in.) or greater. Where a rangetop or sink is installed in an island counter and the width of the counter behind the rangetop or sink is less than 300 mm (12 in.), the rangetop or sink is considered to divide the island into two separate countertop spaces as defined in 210.52(C)(4).
- (3) **Peninsular Counter Spaces.** At least one receptacle outlet shall be installed at each peninsular counter space with a long dimension of 24 in. (610 mm) or greater and a short dimension of 12 in. (305 mm) or greater. A peninsular countertop is measured from the connecting edge.
- (4) **Separate Spaces.** Countertop spaces separated by range tops, refrigerators, or sinks shall be considered as separate countertop spaces in applying the requirements of (1), (2), and (3).
- (5) **Receptacle Outlet Location.** Receptacle outlets shall be located above, but not more than 20 in. (500 mm) above the countertop. Receptacle outlets shall not be installed in a face-up position in the work surfaces or countertops. Receptacle outlets rendered not readily accessible by appliances fastened in place or appliances occupying dedicated space shall not be considered as these required outlets.

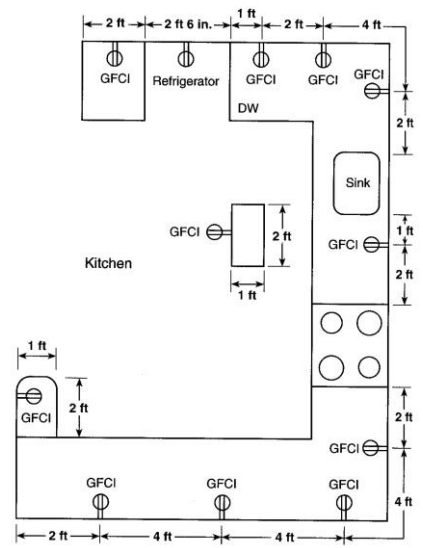


Figure 210.27 Dwelling unit receptacles serving countertop spaces in a kitchen and installed in accordance with Section 210-52(c).

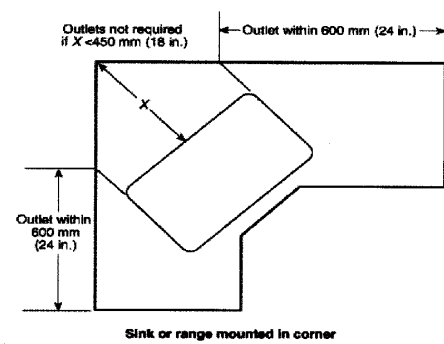
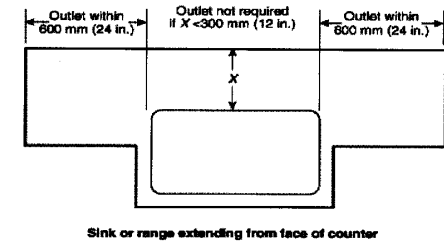


Figure 210.52 Determination of Area Behind Sink or Range.

Exception: To comply with the conditions as specified in (1) or (2), receptacle outlets shall be permitted to be mounted not more than 12 in. (305 mm) below the countertop. Receptacles mounted below the countertop in accordance with this exception shall not be located where the countertop extends more than 6 in. (153 mm) beyond its support base.

- (1) Construction for the physically impaired.
- (2) On island and peninsula countertops where the countertop is flat across its entire surface (no backsplashes, dividers, etc.) and there are no means to mount a receptacle within 20 in. (500 mm) above the countertop, such as an overhead cabinet.

NOTE: All receptacles specified in Section 210.52 shall be listed tamper-resistant receptacles. 406.11 CEC



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