

This requirement correlates with 230.2(E) in that, if a building has multiple sources of supply, permanent identification at each supply (service, feeder, and branch circuit) disconnecting means is required. Permanent identification must have long-term durability. Such identification is an important safety feature during an emergency, because in many cases first responders will not be familiar with the electrical distribution system of the facility.

See also

700.7(A) for emergency power sources
701.7(A) for legally required standby sources
702.7(A) for optional standby sources
705.10 for parallel power production sources
706.21 for energy storage systems (ESS)
710.10 for stand-alone systems

225.38 Disconnect Construction. Disconnecting means shall meet the requirements of 225.38(A) through (D).

(A) Manually or Power Operable. The disconnecting means shall consist of either (1) a manually operable switch or a circuit breaker equipped with a handle or other suitable operating means or (2) a power-operable switch or circuit breaker, provided the switch or circuit breaker can be opened by hand in the event of a power failure.

(B) Simultaneous Opening of Poles. Each building or structure disconnecting means shall simultaneously disconnect all ungrounded supply conductors that it controls from the building or structure wiring system.

(C) Disconnection of Grounded Conductor. Where the building or structure disconnecting means does not disconnect the grounded conductor from the grounded conductors in the building or structure wiring, other means shall be provided for this purpose at the location of the disconnecting means. A terminal or bus to which all grounded conductors can be attached by means of pressure connectors shall be permitted for this purpose.

In a multisection switchboard or switchgear, disconnects for the grounded conductor shall be permitted to be in any section of the switchboard or switchgear, if the switchboard section or switchgear section is marked to indicate a grounded conductor disconnect is contained within the equipment.

(D) Indicating. The building or structure disconnecting means shall plainly indicate whether it is in the open or closed position.

225.39 Rating of Disconnect. The feeder or branch-circuit disconnecting means shall have a rating of not less than the calculated load to be supplied, determined in accordance with Parts I and II of Article 220 for branch circuits, Part III or IV of Article 220 for feeders, or Part V of Article 220 for farm loads. Where the branch circuit or feeder disconnecting means consists of more than one switch or circuit breaker, as permitted by 225.33, combining the ratings of all the switches or circuit breakers for determining the rating of the disconnecting means shall be permitted. In no case shall the rating be lower than specified in 225.39(A), (B), (C), or (D).

(A) One-Circuit Installation. For installations to supply only limited loads of a single branch circuit, the branch circuit disconnecting means shall have a rating of not less than 15 amperes.

(B) Two-Circuit Installations. For installations consisting of not more than two 2-wire branch circuits, the feeder or branch-circuit disconnecting means shall have a rating of not less than 30 amperes.

(C) One-Family Dwelling. For a one-family dwelling, the feeder disconnecting means shall have a rating of not less than 100 amperes, 3-wire.

(D) All Others. For all other installations, the feeder or branch-circuit disconnecting means shall have a rating of not less than 60 amperes.

225.40 Access to Overcurrent Protective Devices. Where a feeder overcurrent device is not readily accessible, branch-circuit overcurrent devices shall be installed on the load side, shall be mounted in a readily accessible location, and shall be of a lower ampere rating than the feeder overcurrent device.

• N 225.41 Emergency Disconnects. For one- and two-family dwelling units, an emergency disconnecting means shall be installed.

N (A) General.

N (1) Location. The disconnecting means shall be installed in a readily accessible outdoor location on or within sight of the dwelling unit.

N (2) Rating. The disconnecting means shall have a short-circuit current rating equal to or greater than the available fault current.

N (3) Grouping. If more than one disconnecting means is provided, they shall be grouped.

N (B) Identification of Other Isolation Disconnects. Where equipment for isolation of other energy source systems is not located adjacent to the emergency disconnect required by this section, a plaque or directory identifying the location of all equipment for isolation of other energy sources shall be located adjacent to the disconnecting means required by this section.

Informational Note: See 445.18, 480.7, 705.20, and 706.15 for examples of other energy source system isolation means.

N (C) Marking. The disconnecting means shall be marked as EMERGENCY DISCONNECT.

Markings shall comply with 110.21(B) and all of the following:

- (1) The marking or labels shall be located on the outside front of the disconnect enclosure with red background and white text.
- (2) The letters shall be least 13 mm (½ in.) high.