

(39) *Utilization equipment* means equipment that utilizes electric energy for electronic, electromechanical, chemical, heating, lighting, or similar purposes.

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**§ 3280.803 Power supply.**

(a) The power supply to the manufactured home shall be a feeder assembly consisting of not more than one listed 50 ampere manufactured home power-supply cords, or a permanently installed circuit. A manufactured home that is factory-equipped with gas or oil-fired central heating equipment and cooking appliances shall be permitted to be provided with a listed manufactured home power-supply cord rated 40 amperes.

(b) If the manufactured home has a power-supply cord, it shall be permanently attached to the distribution panelboard or to a junction box permanently connected to the distribution panelboard, with the free end terminating in an attachment plug cap.

(c) Cords with adapters and pigtail ends, extension cords, and similar items shall not be attached to, or shipped with, a manufactured home.

(d) A listed clamp or the equivalent shall be provided at the distribution panelboard knockout to afford strain relief for the cord to prevent strain from being transmitted to the terminals when the power-supply cord is handled in its intended manner.

(e) The cord shall be of an approved type with four conductors, one of which shall be identified by a continuous green color or a continuous green color with one or more yellow stripes for use as the grounding conductor.

(f) The attachment plug cap shall be a 3-pole, 4-wire grounding type, rated 50 amperes, 125/250 volts with a configuration as shown herein and intended for use with the 50-ampere, 125/250 receptacle configuration shown. It shall be molded of butyl rubber, neoprene, or other approved materials which have been found suitable for the purpose, and shall be molded to the flexible cord so that it adheres tightly to the cord at the point where the cord enters the attachment-plug cap. If a right-angle cap is used, the configuration shall be so

oriented that the grounding member is farthest from the cord.

*Receptacle*



*Cap*



50-ampere 125/250 volt receptacle and attachment-plug-cap configurations, 3 pole, 4-wire grounding types used for manufactured home supply cords and manufactured home parks. Complete details of the 50-ampere cap and receptacle can be found in the American National Standard Dimensions of Caps, Plugs, and Receptacles, Grounding Type (ANSI/NEMA—WD-6-1997—Wiring Devices—Dimensional Specifications).

(g) The overall length of a power-supply cord, measured from the end of the cord, including bared leads, to the face of the attachment-plug cap shall not be less than 21 feet and shall not exceed 36½ feet. The length of cord from the face of the attachment-plug cap to the point where the cord enters the manufactured home shall not be less than 20 feet.

(h) The power supply cord shall bear the following marking: “For use with manufactured homes—40 amperes” or “For use with manufactured homes—50 amperes.”

(i) Where the cord passes through walls or floors, it shall be protected by means of conduit and bushings or equivalent. The cord may be installed within the manufactured home walls, provided a continuous raceway is installed from the branch-circuit panelboard to the underside of the manufactured home floor. The raceway may be rigid conduit, electrical metallic tubing or polyethylene (PE), polyvinylchloride (PVC) or acrylonitrile-butadiene-styrene (ABS) plastic tubing having a minimum wall thickness of nominal ¼ inch.

(j) Permanent provisions shall be made for the protection of the attachment-plug cap of the power supply cord and any connector cord assembly or receptacle against corrosion and mechanical damage if such devices are in an exterior location while the manufactured home is in transit.

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(k) Where the calculated load exceeds 50 amperes or where a permanent feeder is used, the supply shall be by means of:

(1) One mast weatherhead installation installed in accordance with Article 230 of the National Electrical Code, NFPA No. 70-2005, containing four continuous insulated, color-coded, feeder conductors, one of which shall be an equipment grounding conductor; or

(2) An approved raceway from the disconnecting means in the manufactured home to the underside of the manufactured home with provisions for the attachment of a suitable junction box or fitting to the raceway on the underside of the manufactured home. The manufacturer shall provide in his written installation instructions, the proper feeder conductor sizes for the raceway and the size of the junction box to be used; or

(3) Service equipment installed on the manufactured home in accordance with Article 230 of the National Electrical Code, NFPA No. 70-2005, and the following requirements:

(i) The installation shall be completed by the manufacturer except for the service connections, the meter and the grounding electrode conductor;

(ii) Exterior equipment, or the enclosure in which it is installed must be weatherproof and installed in accordance with Article 312.2(A) of the National Electrical Code, NFPA No. 70-2005, and conductors must be suitable for use in wet locations;

(iii) Each neutral conductor must be connected to the system grounding conductor on the supply side of the main disconnect in accordance with Articles 250.24, 250.26, and 250.28 of the National Electrical Code, NFPA No. 70-2005.

(iv) The manufacturer shall include in its written installation instructions one method of grounding the service equipment at the installation site;

(v) The minimum size grounding electrode conductor shall be specified in the instructions; and

(vi) A red "Warning" label shall be mounted on or adjacent to the service equipment. The label shall state:

"Warning—do not provide electrical power until the grounding electrode is installed and connected (see installation instructions)."

[40 FR 58752, Dec. 18, 1975. Redesignated at 44 FR 20679, Apr. 6, 1979, as amended at 52 FR 4589, Feb. 12, 1987; 58 FR 55019, Oct. 25, 1993; 70 FR 72051, Nov. 30, 2005]

EFFECTIVE DATE NOTE: At 78 FR 73990, Dec. 9, 2013, §3280.803 was amended by revising paragraphs (d), (f), (i), and (k)(2) and (3), effective June 6, 2014. For the convenience of the user, the revised text is set forth as follows:

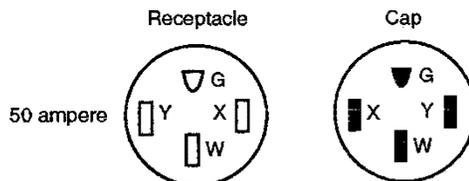
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(d) A suitable clamp or the equivalent must be provided at the distribution panel-board knockout to afford strain relief for the cord to prevent strain from being transmitted to the terminals when the power supply cord is handled in its intended manner.

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(f) The attachment plug cap must be a 3-pole, 4-wire, grounding type, rated 50 amperes, 125/250 volts, intended for use with the 50-ampere, 125/250-volt receptacle configuration, as shown below. The cap must be listed, by itself or as part of a power-supply cord assembly, for the purpose, and must be molded to or installed on the flexible cord so that it is secured tightly to the cord at the point where the cord enters the attachment plug cap. If a right-angle cap is used, the configuration must be so oriented that the grounding member is farthest from the cord.



Note: 50-ampere 125/250-volt receptacle and attachment plug cap configurations, 3-pole, 4-wire, grounding types used for manufactured home supply cords and manufactured home parks. Complete details of the 50-ampere cap and receptacle can be found *Wiring Device Dimensional Requirements* (ANSI/NEMA WD-6-1997).

Figure 1 to paragraph (f)

(i) Where the cord passes through walls or floors, it must be protected by means of conduits and bushings or the equivalent. The cord is permitted to be installed within the manufactured home walls, provided that a continuous raceway having a maximum size of 1¼ inch is installed from the branch-circuit panelboard to the underside of the manufactured home floor.

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(k) \* \* \*

(2) A listed metal raceway or listed rigid nonmetallic conduit from the disconnecting means in the manufactured home to the underside of the manufactured home, with provisions for the attachment of a suitable junction box or fitting to the raceway on the underside of the manufactured home. The manufacturer must provide written installation instructions stating the proper feeder conductor sizes for the raceway and the size of the junction box to be used; or

(3) Service equipment installed in or on the manufactured home, provided that all of the following conditions are met:

(i) In its written installation instructions, the manufacturer must include information indicating that the home must be secured in place by an anchoring system or installed on and secured to a permanent foundation;

(ii) The installation of the service equipment complies with Article 230 of the National Electrical Code, NFPA 70-2005 (incorporated by reference, see §3280.4). Exterior service equipment or the enclosure in which it is to be installed must be weatherproof, and conductors must be suitable for use in wet locations;

(iii) Means are provided for the connection of the grounding electrode conductor to the service equipment and routing it to the conductor outside the structure;

(iv) Bonding and grounding of the service must be in accordance with Article 250, NFPA 70-2005, National Electrical Code (incorporated by reference, see §3280.4);

(v) The manufacturer must include in its installation instructions one method of grounding the service equipment at the installation site. The instructions must clearly state that other methods of grounding are found in Article 250 of NFPA 70-2005, National Electrical Code;

(vi) The minimum size grounding electrode conductor must be specified in the instructions; and

(vi) A red warning label must be mounted on or adjacent to the service equipment. The label must state the following: WARNING—DO NOT PROVIDE ELECTRICAL POWER UNTIL THE GROUNDING ELECTRODE(S) IS INSTALLED AND CONNECTED (SEE INSTALLATION INSTRUCTIONS).

#### § 3280.804 Disconnecting means and branch-circuit protective equipment.

(a) The branch-circuit equipment is permitted to be combined with the disconnecting means as a single assembly. Such a combination is permitted to be designated as a distribution panelboard. If a fused distribution panelboard is used, the maximum fuse size of the mains must be plainly marked with lettering at least ¼-inch high and that is visible when fuses are changed. (See Article 110.22 of NFPA 70-2005, National Electrical Code, concerning identification of each disconnecting means and each service, feeder, or branch circuit at the point where it originated and the type marking needed.)