

**§ 3280.812**

(5) Derive amperes for free-standing range (as distinguished from separate ovens and cooking units) by dividing values below by 240 volts.

Nameplate rating (in watts)	Use (in watts)
10,000 or less .....	80 percent of rating.
10,001 to 12,500 .....	8,000.
12,501 to 13,500 .....	8,400.
13,501 to 14,500 .....	8,800.
14,501 to 15,500 .....	9,200.
15,501 to 16,500 .....	9,600.
16,501 to 17,500 .....	10,000.

(6) If outlets or circuits are provided for other than factory-installed appliances, include the anticipated load. The following example is given to illustrate the application of this Method of Calculation:

*Example* A manufactured home is 70x10 feet and has two portable appliance circuits, a 1000 volt-ampere 240 volt heater, a 200 volt-ampere 120 volt exhaust fan, a 400 volts-ampere 120 volt dishwasher and a 7000 volt-ampere electric range.

Lighting and small appliance load	Volt-amperes
Lighting 70x10x3 .....	2,100
Small Appliance .....	3,000
<b>Total</b> .....	<b>5,100</b>
1st. 3,000 Volt-Amperes at 100% .....	3,000
Remainder (5,100 - 3,000 =2,100, at 35% .....	735
<b>Total</b> .....	<b>3,735</b>

	Amperes per leg A	Amperes per leg B
Lighting and small Appliance .....	15.5	15.5
Heater 240 volt .....	4.1	4.1
Fan 120 volt .....	1.7	.....
Dishwasher 120 volt .....	.....	3.3
Range .....	23.3	23.3
<b>Total</b> .....	<b>44.6</b>	<b>46.2</b>

Note: Based on the higher current calculated for either leg, use one 50-A supply cord.

(b) The following is an optional method of calculation for lighting and appliance loads for manufactured homes served by single 3-wire 120/240 volt set of feeder conductors with an ampacity of 100 or greater. The total load for determining the feeder ampacity may be computed in accordance with the following table instead of the method previously specified. Feeder conductors whose demand load is determined by this optional calculation shall be permitted to have the neutral load determined by section 220-22 of the National Electrical Code (NFPA

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No. 70-1993). The loads identified in the table as "other load" and as "Remainder of other load" shall include the following:

(1) 1500 volt-amperes for each 2-wire, 20-ampere small appliance branch circuit and each laundry branch circuit specified.

(2) 3 volt-amperes per square foot for general lighting and general-use receptacles.

(3) The nameplate rating of all fixed appliances, ranges, wall-mounted ovens, counter-mounted cooking units, and including 4 or more separately controlled space heating loads.

(4) The nameplate ampere or kVA rating of all motors and of all low-power-factor loads.

(5) The largest of the following:

(i) Air conditioning load;

(ii) The 65 percent diversified demand of the central electric space heating load;

(iii) The 65 percent diversified demand of the load of less than four separately-controlled electric space heating units.

(iv) The connected load of four or more separately-controlled electric space heating units.

**OPTIONAL CALCULATION FOR MANUFACTURED HOMES WITH 110-AMPERE OR LARGER SERVICE**

Load (in kilowatt or kilovoltampere)	Demand factor (percent)
Air-conditioning and cooling including heat pump compressors .....	100
Central electric space heating .....	65
Less than 4 separately controlled electric space heating units .....	65
1st 10 kW of all other load .....	100
Remainder of other load .....	40

[40 FR 58752, Dec. 18, 1975. Redesignated at 44 FR 20679, Apr. 6, 1979, as amended at 58 FR 55021, Oct. 25, 1993]

**§ 3280.812 Wiring of expandable units and dual units.**

(a) Expandable or multiple unit manufactured homes shall use fixed-type wiring methods and materials for connecting such units to each other.

(b) Expandable or multiple unit manufactured homes not having permanently installed feeders and which are

to be moved from one location to another, shall be permitted to have disconnecting means with branch circuit protective equipment in each unit when so located that after assembly or joining together of units the requirements of § 3280.803 will be met.

**§ 3280.813 Outdoor outlets, fixtures, air-conditioning equipment, etc.**

(a) Outdoor fixtures and equipment shall be listed for use in wet locations, except that if located on the underside of the home or located under roof extensions or similarly protected locations, they may be listed for use in damp locations.

(b) A manufactured home provided with an outlet designed to energize heating and/or air conditioning equipment located outside the manufactured home, shall have permanently affixed, adjacent to the outlet, a metal tag which reads:

This Connection Is for Air Conditioning Equipment Rated at Not More Than \_\_\_\_\_ Amperes, at \_\_\_\_\_ Volts, 60 Hertz. A disconnect shall be located within sight of the appliance.

The correct voltage and ampere ratings shall be given. The tag shall not be less than 0.020 inch, etched Brass, stainless steel, anodized or alclad aluminum or equivalent or other approved material (e.g., .005 inch plastic laminates). The tag shall be not less than 3 inches by 1¾ inches minimum size.

[40 FR 58752, Dec. 18, 1975, as amended at 42 FR 961, Jan. 4, 1977. Redesignated at 44 FR 20679, Apr. 6, 1979, as amended at 58 FR 55021, Oct. 25, 1993]

**§ 3280.814 Painting of wiring.**

During painting or staining of the manufactured home, it shall be permitted to paint metal raceways (except where grounding continuity would be reduced) or the sheath of the non-metallic cable. Some arrangement, however, shall be made so that no paint shall be applied to the individual wires, as the color coding may be obliterated by the paint.

**§ 3280.815 Polarization.**

(a) The identified (white) conductor shall be employed for grounding circuit conductors only and shall be connected

to the identified (white) terminal or lead on receptacle outlets and fixtures. It shall be the unswitched wire in switched circuits, except that a cable containing an identified conductor (white) shall be permitted for single-pole three-way or four-way switch loops where the connections are made so that the unidentified conductor is the return conductor from the switch to the outlet. Painting of the terminal end of the wire shall not be required.

(b) If the identified (white) conductor of a cable is used for other than grounded conductors or for other than switch loops as explained above (for a 240 volt circuit for example), the conductor shall be finished in a color other than white at each outlet where the conductors are visible and accessible.

(c) Green-colored wires or green with yellow stripe shall be used for grounding conductors only.

[40 FR 58752, Dec. 18, 1975. Redesignated at 44 FR 20679, Apr. 6, 1979, as amended at 58 FR 55021, Oct. 25, 1993]

**§ 3280.816 Examination of equipment for safety.**

The examination or inspection of equipment for safety, according to this standard, shall be conducted under uniform conditions and by organizations properly equipped and qualified for experimental testing, inspections of the run of goods at factories, and service-value determinations through field examinations.

**Subpart J—Transportation**

**§ 3280.901 Scope.**

Subpart J of this standard covers the general requirement for designing the structure of the manufactured home to fully withstand the adverse effects of transportation shock and vibration without degradation of the integrated structure or of its component parts and the specific requirements pertaining to the transportation system and its relationship to the structure.

**§ 3280.902 Definitions.**

(a) *Chassis* means the entire transportation system comprising the following subsystems: drawbar and coupling mechanism, frame, running gear assembly, and lights.