

(4) Any metallic roof and exterior covering shall be considered bonded if (i) the metal panels overlap one another and are securely attached to the wood or metal frame parts by metallic fasteners, and (ii) if the lower panel of the metallic exterior covering is secured by metallic fasteners at a cross member of the chassis by two metal straps per manufactured home unit or section at opposite ends. The bonding strap material shall be a minimum of 4 inches in width of material equivalent to the skin or a material of equal or better electrical conductivity. The straps shall be fastened with paint-penetrating fittings (such as screws and star washers or equivalent).

[40 FR 58752, Dec. 18, 1975. Redesignated at 44 FR 20679, Apr. 6, 1979, as amended at 58 FR 55020, Oct. 25, 1993]

§ 3280.810 Electrical testing.

(a) *Dielectric strength test.* The wiring of each manufactured home shall be subjected to a 1-minute, 900 to 1079 volt dielectric strength test (with all switches closed) between live parts and the manufactured home ground, and neutral and the manufactured home ground. Alternatively, the test may be performed at 1080 to 1250 volts for 1 second. This test shall be performed after branch circuits are complete and after fixtures or appliances are installed. Fixtures or appliances which are listed shall not be required to withstand the dielectric strength test.

(b) Each manufactured home shall be subject to:

(1) A continuity test to assure that metallic parts are properly bonded;

(2) Operational test to demonstrate that all equipment, except water heaters, electric furnaces, dishwashers, clothes washers/dryers, and portable appliances, is connected and in working order; and

(3) Polarity checks to determine that connections have been properly made. Visual verification shall be an acceptable check.

[58 FR 55020, Oct. 25, 1993]

§ 3280.811 Calculations.

(a) The following method shall be employed in computing the supply cord and distribution-panelboard load for

each feeder assembly for each manufactured home and shall be based on a 3-wire, 120/240 volt supply with 120 volt loads balanced between the two legs of the 3-wire system. The total load for determining power supply by this method is the summation of:

(1) Lighting and small appliance load as calculated below:

(i) Lighting volt-amperes: Length time width of manufactured home (outside dimensions exclusive of coupler) times 3 volt-amperes per square foot; e.g. Length × width × 3=lighting volt-amperes.

(ii) Small appliance volt-amperes: Number of circuits time 1,500 volt-amperes for each 20-ampere appliance receptacle circuit (see definition of "Appliance Portable" with Note): e.g. Number of circuits × 1,500=small appliance volt-amperes.

(iii) Total volts-amperes: Lighting volts-amperes plus small appliance=total volt-amperes.

(iv) First 3,000 total volts-amperes at 100 percent plus remainder at 35 percent=watts to be divided by 240 volts to obtain current (amperes) per leg.

(2) Nameplate amperes for motors and heater loads (exhaust fans, air conditioners, electric, gas, or oil heating). Omit smaller of air conditioning and heating except include blower motor if used as air conditioner evaporator motor. When an air conditioner is not installed and a 40-ampere power supply cord is provided, allow 15 amperes per leg for air conditioning.

(3) 25 percent of current of largest motor in paragraph (a)(2) of this section.

(4) Total of nameplate amperes for: Disposal, dishwasher, water heater, clothes dryer, wall-mounted oven, cooking units. Where number of these appliances exceeds three, use 75 percent of total.

(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.