

Division of Codes and Standards
Manufactured Home Electrical Load Worksheet
Title 24. Housing and Urban Development Section 3280.811

NOTE: 1 WATT = 1 VOLT-AMPERE

DTN: _____

Existing Home Amps: _____

- A. Lighting:** Length of home times width of home (outside dimensions) = square foot, times 3 watts per square foot
Length _____ X Width _____ x 3 watts.....= _____ watts
- B. Small Appliances:** Enter number of 20-amp small appliance (exclude laundry) circuits, times 1,500 Watts.
Number of circuits _____ x 1,500 watts.....= _____ watts
- C. Laundry:** Include 1,500 watt minimum if installed.....= _____ watts
- D. Total (the sum of lines A, B and C):**.....= _____ watts
- E.** First 3,000 watts at 100%.....= _____ watts
- F.** _____ minus 3,000 = _____ watts multiplied by 35% (.35).....= _____ watts
(FROM LINE D)
- G.** Net computed load (SUM OF LINE E AND LINE F).....= _____ watts
- H.** _____ watts divided by 240 volts.....= _____ amps per leg
(FROM LINE G)

LOADS IN AMPS - PART 1	LEG A	LEG B
1. Lighting & small appliances (line H above)		
2. Bath fan 1		
3. Bath fan 2		
4. Range hood		
5. Freestanding electric range ***		
6. Electric furnace *		
7. Electric space heater		
8. Exhaust Fans		
9. Air conditioner *		
10. Gas furnace blower motor *		
11. Other		
12. Add 25% of the largest motor from line 6, 7, 8, 9 or 10 above		
13. SUB-TOTAL		
LOADS IN AMPS - PART 2		
14. Disposal		
15. Electric water heater		
16. Dishwasher		
17. Electric wall mounted oven		
18. Electric cooktop		
19. Electric clothes dryer **		
20. Other		
21. SUB-TOTAL		
22. If 4 or more appliances are used in Part 2, use 75% of line 21		
23. TOTAL LOAD IN AMPS (combine Parts 1 & 2)		

- 1 kW = 1000 watts; 1 volt ampere = 1 watt; watts divided by volts = amps
- Use nameplate ratings on fixtures/appliances for load values.
- Determine values for freestanding range based on name plate rating and table below. (A reduction is allowed)
- If de-amping an MH-unit, a permit from HCD is required. Use HCD 415 Application, include \$196.00 in fees, complete and attach this form and indicate on the HCD 415 what electrical loads will be reduced or eliminated to reduce the loads to the desired level.
- A 15 amp evaporative cooler circuit must be included in the calculations if the home is de-amped to 50 amps.
- * Omit smaller of air conditioning and heating ampere load.
- ** If home is wired for electric dryer but the dryer is not installed, use 21 amp value.
- *** Derive amps for free-standing range (as distinguished from separate oven and cooking units) by dividing values below by 240 volts.

FREESTANDING RANGE REDUCTION TABLE

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

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Example:

A 24 x 60 MH-unit is equipped with the following equipment. Calculate all loads and "balance" the 120 v load.

Two small appliance circuits	One laundry circuit
Two bath fans: 1 rated 1.2 amp/120 v, 1 rated 1.7 amp/120 v	Range hood: 1.9 amp/120 v
Freestanding electric range: 13.2 kW/240 v	Disposal: 7.3 amp/120 v
Electric Furnace: 10.5 kW/240 v (motor load 4.0 amp included)	Dishwasher: 8.7 amp/120 v
Air conditioner: 24 amp/240 v (motor load 8.0 amp included)	Dryer Circuit: 21 amp/240 v
Electric water heater: Upper element 4500 watts/240 v; Lower element 4500 watts/240 v	

- A. Lighting:** Length of home times width of home (outside dimensions) = square foot, times 3 watts per square foot
Length 60 X Width 24 x 3 watts.....= 4320 watts
- B. Small Appliances:** Enter number of 20-amp small appliance (exclude laundry) circuits, times 1,500 Watts.
Number of circuits 2 x 1,500 watts.....= 3000 watts
- C. Laundry:** Include 1,500 watt minimum if installed.....= 1500 watts
- D. Total (the sum of lines A, B and C):**.....= 8820 watts
- E. First 3,000 watts at 100%:**.....= 3000 watts
- F. 8820 minus 3,000 = 5820 watts multiplied by 35% (.35):**.....= 2037 watts
(FROM LINE D)
- G. Net computed load (SUM OF LINE E AND LINE F):**.....= 5037 watts
- H. 5037 watts divided by 240 volts:**.....= 20.9 amps per leg
(FROM LINE G)

LOADS IN AMPS - PART 1	LEG A	LEG B
1. Lighting & small appliances (line H above) (20.9 amps)	20.9	20.9
2. Bath fan 1 (1.2 amps)	1.2	
3. Bath fan 2 (1.7 amps)		1.7
4. Range hood (1.9 amps)	1.9	
5. Freestanding electric range (13.2 kW or 13,200 watts)	35.0	35.0
6. Electric furnace (10.5 kW or 10,500 watts)	43.7	43.7
7. Electric space heater (n/a)		
8. Exhaust Fans (n/a)		
9. Air conditioner (24.0 amps, Omit smaller load than furnace)		
10. Gas furnace blower motor (n/a)		
11. Other (n/a)		
12. Add 25% of the largest motor from line 6, 7, 8, 9 or 10 above	2.0	2.0
13. SUB-TOTAL	104.7	103.3
LOADS IN AMPS - PART 2		
14. Disposal (7.3 amps)	7.3	
15. Electric water heater (9000 watts, combine upper and lower elements)	37.5	37.5
16. Dishwasher (8.7 amps)		8.7
17. Electric wall mounted oven (n/a)		
18. Electric cooktop (n/a)		
19. Electric clothes dryer (21 amp circuit)	21.0	21.0
20. Other (n/a)		
21. SUB-TOTAL	(65.8)	(67.2)
22. If 4 or more appliances are used in Part 2, use 75% of line 21	65.8 x .75%=49.4	67.2 x .75 = 50.4
23. TOTAL LOAD IN AMPS (combine Parts 1 & 2)	154.1	153.7

- All loads for this example must be converted to amps.
- Voltages for equipment in this example are 120 v or 240 v.
- The electric range load is 13.2 kW (13200 watts) using the freestanding electric range reduction table, a 13200 watt load reduces to 8400 watts. 8400 watts divided by 240 volts = 35 amps.
- If the home is equipped with air conditioning, omit the smaller of either the heating (gas or electric) load or the a/c load. In this example, the heating load is 43.8 amps and the a/c load is 24 amps, hence the a/c load is omitted from the calculations.