

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

Two bath fans: 1 rated 1.2 amp/120 v, 1 rated 1.7 amp/120 v

Freestanding electric range: 13.2 kW/240 v

Electric Furnace: 10.5 kW/240 v (motor load 4.0 amp included)

Air conditioner: 24 amp/240 v (motor load 8.0 amp included)

Electric water heater: Upper element 4500 watts/240 v; Lower element 4500 watts/240 v

One laundry circuit

Range hood: 1.9 amp/120 v

Disposal: 7.3 amp/120 v

Dishwasher: 8.7 amp/120 v

Dryer Circuit: 21 amp/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.