



2000 Main Street 3rd Floor
 Huntington Beach, Ca 92648
 714/536-5241

Optional Method Service Load Calculation for a Single Dwelling Unit (CEC 220.82)

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|---|--|---|--------------------------|
| 1. General Lighting and Receptacle Loads 220.82(B)(1) Do not include open porches, garages, or unused or unfinished spaces not adaptable for future use. | $3 \times \underline{\hspace{2cm}} =$ (sq ft using outside dimensions) | 1 | |
| 2. Small-Appliance Branch Circuits 20.82(b)(2) At least two small-appliance branch circuits must be included. 210.11(C)(2) | $1500 \times \underline{\hspace{2cm}} =$ (minimum of two) | 2 | |
| 3. Laundry Branch Circuit(s) 220.82(B)(2) At least one laundry branch circuit must be included. 210.11(C)(2). | $1500 \times \underline{\hspace{2cm}} =$ (minimum of one) NOTE: 1500 VA shall be included for each laundry branch circuit. | 3 | |
| 4. Appliances 220.82(B)(3) and (4) Use nameplate rating of all appliances (fastened in place, permanently connected, or connected to a specific circuit), ranges, ovens, cooktops, motors, and clothes dryers. Convert any nameplate rating given in amperes to volt-amperes by multiplying the amperes by the rated voltage. | Do not include any heating or air-conditioning equipment in this section. <u>water heater/</u> _____ / _____ <u>dishwasher /</u> _____ / _____ <u>clothes dryer/</u> _____ / _____ <u>disposal /</u> _____ / _____ <u>range /</u> _____ / _____ <u>EV /</u> _____ / _____ | Total volt-amperes of all appliances. LISTED BELOW | 4 |
| 5. Apply 220.82(B) demand factor to the total of lines 1 through 4. _____ - 10,000 = _____ x 40% = _____ + 10,000 = _____ (total of line 1 through 4) | | 5 | |
| 6. Heating or Air-Condition System 220.82(C) Use the nameplate ratings in volt-amperes for all applicable systems in lines 'a' through 'c'. | A) Air-Conditioning and cooling systems, including heat pumps without any supplemental electric heating: _____ x 100% = _____ | A | |
| B) Electric thermal storage and other heating systems where the usual load is expected to be continuous at full nameplate value. Systems qualifying under this section shall not be figured under any other selection in 220.82(C). _____ x 100% = _____ | C) Supplemental electric heating equipment for heat-pump systems. Include the heat-pump compressor(s) at 100%. If the heat-pump compressor is prevented from operating with the supplement heat, omit the compressor. _____ x 65% = _____ | B | C |
| 7. Total Volt-Ampere Demand Load: _____ + _____ = _____ (largest VA rating from line 6a through 6c) (line 5) | | 7 | |
| 8. Minimum Amperes Divide the total Volt-amperes by the voltage. _____ ÷ _____ = _____ (line 7) (voltage) | 8 | 9 | (minimum is 100 amperes) |
| 9. Minimum Size Service or Feeder 240.6(A) | | 9 | |
| 10. Size the Service or Feeder Conductors. Use 310.15(B)(6) to find the service conductors up to 400 amperes. Ratings in excess of 400 amperes shall comply with Table 310.16. 310.15(B)(6) also applies to feeder conductors serving as the main power feeder. | Minimum Size Conductors | 10 | |
| 11. Size the Grounding Electrode Conductors. Use line 10 to find the grounding electrode conductor in Table 250.66. Size the Equipment Grounding Conductor (for Feeder). 250.122. Use line 9 to find the equipment grounding conductor in Table 250.122. Equipment grounding conductor types are listed in 250.118. | Minimum Size Conductors | 12 | |