RESIDENTIAL ELECTRICAL SERVICE LOAD CALCULATIONS

Based on California Electrical Code Article 220.82

Type	Quantity	Load	Results Quantity x Load
General Lighting and Receptacles (Sq. Ft. of structure not including garages, porches.)		3 VA per SQ FT	
Small Appliance Circuits	2 Min. Req.	1500 VA each	3000 VA
Additional Small Appliance Circuits		1500 VA each	
Laundry Circuit	1 Min Req.	1500 VA each	1500 VA
Additional Laundry Circuits		1500 VA each	
Dishwasher		1200 VA each	
Disposal		800 VA each	
Microwave		VA from label (Typical 1500 VA)	
Compactor		VA from label (Typical 1000 VA)	
Built-in Freezer or Refrigerator		VA from label (Typical 1200 VA)	
Range (cooktop/oven)		VA from label (Typical 12000 VA)	
Single Oven		VA from label (Typical 8000 VA)	
Double Oven		VA from label (Typical 12000 VA)	
Cook Top		VA from label (Typical 4000 VA)	
Clothes Dryer		VA from label (Typical 5000 VA)	
Electric Water Heater		VA from label (Typical 8000 VA)	
Pool Pump		VA from label (Typical 4800 VA)	
SPA		VA from label (Typical 12000)	
Electric Vehicle Charger		VA from label	
Other Permanent Electrical Loads		VA from label	
		Sum of VA from above (Line 1):	
		First 10000 VA @ 100% from Line 1 (Line 2):	10000 VA
		(Line 1 – Line 2) x 40% (Line 3):	
		Line 2 + Line 3 =Total VA (Line 4):	
First Air Conditioning or Electric Heating VA from label @ 100% (Typical VA for A/C below):			
Second Air Conditioning or Electric Heat VA from label @ 100% (Typical VA for A/C below):			
Third Air Conditioning or Electric Heat VA from label @ 100% (Typical VA for A/C below):			
Line 4 + Sum of all A/C and Electric Heating VA=Total Volt Amps			
TOTAL VOLT AMPS ÷ 240 Volts = Required Service Size in Amps			

Typical A/C : (1.5 Ton, 600-950 sq ft, 2800 VA)(2 Ton, 950-1400 sq ft, 3500 VA)(3 Ton, 1401-1900 sq ft 4750 VA) (4 Ton, 1901-2500 sq ft 6650 VA)(5Ton, 2501-3100 sq ft 8950 VA)

Common Calculation : (Volts Amps ÷ Volts = Amps), (Amps x Volts= Volt Amps)