

Standard Method for Dwelling Service Calculations Worksheet for the EVITP

Using the Standard Method complete this worksheet to perform a service load calculation. An example of standard loads is shown below.

Owner: poxek
Address: sa
Contractor: LA Solar Group, Ara Petrosyan,



Step 1: Section 220.12 – Lighting load for listed occupancies.

1,708	Sq.ft X	3	VA =	5,124	VA
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Step 2: Section 220.52 – Small Appliance and Laundry load.

1,708	Sq.ft x	3	VA =	5,124	VA
3	Appliances Circuits X	1,500	VA =	4,500	VA
1	Laundry Circuit X	1,500	VA =	1,500	VA
General Lighting Load			=	11,124	VA

Step 3: Table 220.42 Apply demand factors to the general lighting load.

First	3,000	VA at 100%	=	3,000	VA
Remainder at 35% (8,124	X 0.35	=	2,843	VA
Net Load			=	5,843	VA

Step 4: 220.53 – Demand Factor – Appliance Loads – Dwelling Units.

Disposal	=	7,400	VA
Dishwasher	=	2,850	VA
Microwave	=	2,600	VA
Refrigerator	=	4,300	VA
Garage gate	=	2,600	VA
	=		VA
	=		VA
	=		VA
	=		VA
	=		VA
Total	=	19,750	VA
75% of total; four or more appliances	=	14,813	VA

Step 5: 220.54 – Clothes Dryer – The greater of 5 kW or nameplate value.

5,000	kW Electric Dryer	=	5,000	VA
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Step 6: Table 220.55 Household cooking Equipment

Oven	=	5,000	VA
Range	=	5,000	VA
	=		VA
Total	=	10,000	VA

Step 7: Article 220.60 – Noncoincident Loads

Air conditioning

41	A X	240	V X	1	(#)	=	9840	VA
	A X		V X		(#)	=	0	VA

Electric Heat

	A X		V X		(#)	=	0	VA
	A X		V X		(#)	=	0	VA
	A X		V X		(#)	=	0	VA
Largest load						=	9840	VA

Step 8: 220.50 – 25% of largest motor FLA.

41	A X	240	V X	25%	=	2460	VA
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Remember that although the voltages shown in the tables in Article 430 indicate that motors are rated for 115, 230 and 460 Volts, Section 220.5(A) requires nominal voltages of 120, 240 and 480 Volts to be used for load calculations.

Step 9: 220.14(A) Other Loads – EVSE

_____ A X _____ V X _____ (#) = _____ VA

Sum of Calculated Loads

Lighting, Sm. Appliance, Laundry (Step 3)	=	5,843	VA
Fastened in Place Appliances (Step 4)	=	14,813	VA
Clothes Dryer (Step 5)	=	5,000	VA
Cooking Equipment (Step 6)	=	10,000	VA
Noncoincident Heat – A/C (Step 7)	=	9840	VA
25% of Largest Motor (Step 8)	=	2460	VA
Other Loads – (Step 9)	=	0	VA
Total Calculated Load	=	47,956	VA

Step 10: Table 310.15 (B)(6) – Size the service and conductors.

47,956 VA / 240V = 199.82 Amps

Conductor Size _____ CU _____ AL

Step 11: Grounding Electrode Conductor – Table 250.66

GEC Size _____ CU _____ AL