

Standard Method Load Calculation for One-Family Dwellings

1 General Lighting and Receptacle Loads 220.12 <i>Do not include open porches, garages, or unused or unfinished spaces not adaptable for future use</i>					3	X		=	1	
							(Sq ft using outside dimensions)			
2 Small Appliance Branch Circuits 220.52(A) <i>At least two small-appliance branch circuits must be included. 210.11(C)(1)</i>					1500	X		=	2	
							(Minimum of two)			
3 Laundry Branch Circuits 220.52(B) <i>At least one laundry branch circuit must be included 210.11(C)(2)</i>					1500	X		=	3	
							(Minimum of one)			
4 Add lines 1,2,3		4	Lines 5 through 8 Utilize the demand factors found in Table 220.42							
5 _____ -3000 = 5 _____ (Line 4)		(If 117,000 or less, skip to line 8)		6 _____ -117000 = 6 _____ (line 5, if more than 117,000)						
7 _____ X 25% = 7 _____ (Line 6)		0		8 _____ X 35% = 8 _____ (Smaller of line 5 or 117,000)						
9 Total General Lighting and Receptacle Load					3000 +		+		= 9	
					(Line 7)		(Line 8)			
10 Fastened-In-Place Appliances 220.53 <i>Use the name plate rating. Do not include electric ranges, clothes dryers, space-heating equipment, or air-conditioning equipment.</i>					Item	VA	Item	VA	Total Number of Appliances	
					Dish Washer					
					MicroWave					
					Check boxes if Voltage is 120 Volts					
If fewer than four units, put total volt-amperes on line 10 If four or more units, multiply total volt-amperes by 75%							X 75%	=	10	
					(volt-amps of four or more)					
11 Clothes Dryers 220.54 <i>(If present; otherwise skip to line 12) Use 5000 watts or the nameplate rating, whichever is larger. (The neutral demand load is 70% for feeders. 220.61(B))</i>										11
12 Ranges, Ovens, Cooktops, and Other Household Cooking Appliances Over 1750 Watts 220.55 <i>(If present; otherwise skip to line 13) Use Table 220.55 and all applicable Notes (The neutral demand load is 70% for feeders. 220.61(B))</i>					Range(s) # of _____ Load _____ VA		_____ VA Cook Top _____ VA Oven _____ VA Oven		12	
					Complete this section only if not doing separate items					
13 Heating or Air-Conditioning Systems (Compare the heat and A/C, and omit the smaller.) 220.60 <i>Include the air handler when using either one. For heat pumps, include the compressor and the maximum amount of electric heat that can be energized while the compressor is running.</i> <i>Complete the following for Sizing of Neutral Conductor were applicable</i>					<input type="checkbox"/> Electric Heat/Furnace _____ VA		<input type="checkbox"/> AHU Blower _____ VA		13	
					<input type="checkbox"/> A/C Compressor _____ VA		<input type="checkbox"/> Condenser Fan _____ VA			
					Check boxes if Voltage is 120 Volts					
14 Largest Motor (one motor only) 220.50 and 430.24 <i>Multiply the volt-amperes of the largest motor by 25%</i>					<input type="checkbox"/> _____		X 25%	=	14	
					Check box if Voltage is 120 Volts					
15 Total Volt-Ampere Demand Load: Add lines 9 through 14 to find the minimum required volt-amperes										15
16 Minimum Amperes <i>Divide the total volt-amperes by the voltage</i>					(Line 15)	/	(Voltage)	= 16	(Minimum Amperes)	
							Minimum Size 17 Service or Feeder 240.6(A)		17	
18 Size the Service or Feeder Conductors. <i>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.</i>					Minimum Size Conductors				18	
19 Size the Neutral Conductor 220.61 <i>310.15(B)(6) states that the neutral service or feeder conductor can be smaller than the ungrounded (hot) conductors, provided the requirements of 215.2, 220.61, and 230.42 are met. 250.24(C)(1) states that the neutral cannot be smaller than the required grounding electrode conductor specified in Table 250.66.</i>					Minimum Size Neutral Conductor				19	
					Amps					
20 Size the Grounding Electrode Conductor (for Service). 250.66 <i>Use line 18 to find the grounding electrode conductor in Table 250.66. Size the Equipment Grounding Conductor (for Feeder) 250.122. Use line 17 to find the equipment grounding conductor in Table 250.122. Equipment grounding conductors types are listed in 250.118</i>					Minimum Size Grounding Electrode Conductor				20	