Residential Electrical Service Requirements

The following criteria applies to Single Family Dwellings with a 100 amp or 200 amp service.

1. Show Load Sheet to Inspector.

2. The service disconnecting means shall be installed at a readily accessible location (230.70). If all panels are not located in the same area, provide a main disconnect/breaker before meter box or individual disconnects/breakers after the meter box.

3. Drip loop shall be minimum 10’ above surface and 3’ from openings and windows. (230.9, 230.24)

4. Two driven ground rods inside or outside the house, or proof of 25 Ohms resistance (250.56).

5. All metal piping (gas and water) bonded to ground.


7. Each breaker serves only one circuit.

8. No open holes in cover plates.

9. Only one wire in each main lug.

10. Service entrance cable not deteriorated.

11. Service entrance cable properly secured to building.

12. Able to close meter box with no holes.

Electrical Inspections required:
- Electrical Final, include Load Sheet
Load Sheet

This worksheet can be used to determine the required size of an electrical panel for an existing dwelling with 120/240 volt, three wire, single phase services (based on the 2008 National Electrical Code). This worksheet is provided as a courtesy and is not intended to mandate how electrical calculations must be done. Any load sheet that complies with NEC requirements may be used. If this Load Sheet does not apply correctly to the building, an appropriate Load Sheet must be used.

1. Lighting and Receptacles = ______ 6000 watts
2. Two 20 amp small appliance circuits: 1500 watts each = ______ 3000 watts
3. Laundry circuit, 1500 watts = ______ 1500 watts
   Total Watts = ______ 10500 watts
   First 3000 watts at 100% demand factor - 3000 watts
   Remainder at 30% = ______ 7500 watts
   X .3 = ______ 2250 watts
   + 3000 watts
4. Lighting and Receptacle load after demand factor = ______ 5250 watts
5. Heating/Cooling: 5000 watts = ______ 5000 watts
6. Electric stove if present: 5000 watts = __________ watts
7. Electric clothes dryer if present: 5000 watts = __________ watts
8. Other dedicated circuits: 1500 watts each = __________ watts
9. Other Loads:
   = __________ watts
   = __________ watts
   = __________ watts
10. Total Load

   Total items 4-9 = __________ watts

If the Total Load is less than 24,000 watts a 100 amp service is required.
If the Total Load is greater than or equal to 24,000 watts a 200 amp service is required.

<table>
<thead>
<tr>
<th>Service Feeder Wire Size</th>
<th>100 Amp</th>
<th>200 Amp</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>#4 AWG copper</td>
<td>2/0 AWG copper</td>
</tr>
<tr>
<td></td>
<td>#2 AWG aluminum</td>
<td>4/0 AWG aluminum</td>
</tr>
<tr>
<td>Grounding Electrode Conductor Size</td>
<td>#6 AWG copper</td>
<td>#6 AWG copper</td>
</tr>
<tr>
<td></td>
<td>#4 AWG aluminum</td>
<td>#4 AWG aluminum</td>
</tr>
</tbody>
</table>