TABLES

The ability to obtain information from a table is an important skill in the electrical trade. Electricians need to refer to the SAA Wiring Rules to establish the requirements for electrical installations. The SAA Wiring Rules contains numerous tables which provide information and data about current carrying capacity of busbars, dimensions of conduit, mass of cables, fire protective clearances.

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Symbol</th>
<th>Units</th>
<th>Abbreviations</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMF</td>
<td>E</td>
<td>volts</td>
<td>V</td>
</tr>
<tr>
<td>Voltage</td>
<td>V</td>
<td>volts</td>
<td>V</td>
</tr>
<tr>
<td>Current</td>
<td>I</td>
<td>amperes</td>
<td>A</td>
</tr>
<tr>
<td>resistance</td>
<td>R</td>
<td>ohms</td>
<td>Ω</td>
</tr>
</tbody>
</table>

LEARNING OUTCOME

- Obtain information from a table

PERFORMANCE CRITERIA

- Locates specific data
- Interprets and records information accurately
- Time is used efficiently
Tables are an effective method of organising a great deal of related information in a neat, concise way. A table shows information in a compact form and allows you to find quickly what you want to know.

Each part of a table has a purpose:

- The **title** tells what it is about.
- The **headings** tell what kinds of facts are listed.
- The **facts** give the information. They are usually listed in some kind of order.
TABLE 2

Typical Power Ratings of Household Appliances

<table>
<thead>
<tr>
<th>APPLIANCE</th>
<th>WATTS (W)</th>
</tr>
</thead>
<tbody>
<tr>
<td>air conditioner</td>
<td>2500-9000</td>
</tr>
<tr>
<td>clock</td>
<td>2</td>
</tr>
<tr>
<td>clothes dryer</td>
<td>4500</td>
</tr>
<tr>
<td>dishwasher</td>
<td>2400</td>
</tr>
<tr>
<td>electric kettle</td>
<td>1500</td>
</tr>
<tr>
<td>electric oven</td>
<td>1800</td>
</tr>
<tr>
<td>freezer (200L)</td>
<td>160</td>
</tr>
<tr>
<td>hair dryer</td>
<td>1500</td>
</tr>
<tr>
<td>heater - fan type</td>
<td>2000-7000</td>
</tr>
<tr>
<td>heater - strip</td>
<td>550-1500</td>
</tr>
<tr>
<td>iron</td>
<td>1000</td>
</tr>
<tr>
<td>light - globe</td>
<td>25-100</td>
</tr>
<tr>
<td>light - fluorescent</td>
<td>18-38</td>
</tr>
<tr>
<td>microwave</td>
<td>650</td>
</tr>
<tr>
<td>refrigerator - 1 door</td>
<td>170</td>
</tr>
<tr>
<td>refrigerator - frost free</td>
<td>260</td>
</tr>
<tr>
<td>stereo</td>
<td>200</td>
</tr>
<tr>
<td>toaster</td>
<td>600</td>
</tr>
<tr>
<td>TV</td>
<td>200</td>
</tr>
<tr>
<td>vacuum cleaner</td>
<td>500-1000</td>
</tr>
<tr>
<td>video recorder</td>
<td>100</td>
</tr>
<tr>
<td>washing machine</td>
<td>900</td>
</tr>
</tbody>
</table>

The amount of power used by different electrical appliances varies. This power rating is measured in watts (W). The higher the power rating, the more energy is used per second so the more expensive the appliance is to run.
READING THE TABLE

- What is the typical power rating of an electric kettle?

FINDING THE ANSWER -

Run your finger down the column headed "Appliance" until you find electric kettle. Then run your finger straight across to the right.

Answer The typical power rating of an electric kettle is 1500W.

- What appliance has a typical power rating of 260W?

Run you finger down the column headed "Watts" until you find 260W. Then run your finger straight across to the left.

Answer A frost free refrigerator has a typical power rating of 260W.
EXERCISE 1

Use Table 2. Typical Power Ratings of Household Appliances to complete the following statements.

a) The typical power rating of a hairdryer is …………..W

b) Two appliances which have a typical power rating of 200W are …..and………………

(c) The…………………………..has the lowest typical power rating of all the appliances in the table.

d) A……………………………………..heater has a higher typical power rating than a …………………………………heater.

e) The following appliances can have power ratings greater than 4000W
(i) ……………………………………………………...
(ii) ……………………………………………………...
(iii) ……………………………………………………

f) A fluorescent light is more expensive to run than a………………
…………………………………………………………………………

g) A……………………………………..refrigerator is cheaper to run than a……………………………………..refrigerator.
### TABLE 3

Types of Fire Extinguishers

<table>
<thead>
<tr>
<th>Type</th>
<th>water</th>
<th>foam</th>
<th>carbon</th>
<th>dry</th>
<th>halon</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour</td>
<td>red</td>
<td>blue</td>
<td>black band</td>
<td>white band</td>
<td>yellow</td>
</tr>
</tbody>
</table>

- For Class A fires
  - wood, paper, cloth

- For Class B fires
  - flammable liquids

- For Class C fires
  - flammable gases

- For Class D fires
  - combustible metals

- Fires involving live electrical equipment

Table taken from Phillips, P. 1993 Electrical Fundaments. Nelson, Victoria Page 157

The above table indicates which types of fire extinguisher can be used for different classes of fire.
EXERCISE 2

Using the table, tick (✓) the correct answer. There may be more than one correct answer.

a) If there was a fire involving flammable gases I could use
   i. a foam extinguisher
   ii. an extinguisher that has a red band
   iii. a carbon extinguisher
   iv. any of the fire extinguishers in the table

b) The water type extinguisher
   i. Class D fires
   ii. is red in colour
   iii. has a white band
   iv. can only be used to fight fires involving wood, paper and or cloth

c) An electrical fire can be fought with
   i. an extinguisher containing foam
   ii. the same extinguishers as for a Class C fire
   iii. an extinguisher with a white or blue band
   iv. only two types of extinguishers
### TABLE 4
Minimum Aerial Conductor and Catenary
Supported Cable Clearances

#### MINIMUM AERIAL CONDUCTOR AND CATENARY SUPPORTED

**CABLE CLEARANCES**

<table>
<thead>
<tr>
<th>Type of aerial conductor</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bare live conductors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>5.5</td>
<td>5.0</td>
<td>3.0</td>
<td>3.0</td>
<td>2.0</td>
<td>2.0</td>
<td>0.5</td>
<td>5.0</td>
<td></td>
<td>Not permitted</td>
</tr>
<tr>
<td>Insulated live conductors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4.5</td>
<td>3.0</td>
<td>3.0</td>
<td>2.0</td>
<td>1.0</td>
<td>2.0</td>
<td>0.5</td>
<td>3.0</td>
<td>5.5</td>
<td></td>
</tr>
<tr>
<td>Double insulated neutral-screened cable</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4.5</td>
<td>3.0</td>
<td>2.0</td>
<td>0.5</td>
<td>1.0</td>
<td>2.0</td>
<td>0.5</td>
<td>3.0</td>
<td>4.5</td>
<td></td>
</tr>
<tr>
<td>Cable supported by a calenary (see clause 3.14.5)</td>
<td></td>
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</tbody>
</table>

Above areas where sailing craft, irrigation pipes, are used

Taken from the Australian Standard SAA Wiring Rules
EXERCISE 3

Using Table 4 Minimum Aerial Conductor and Catenary Supported Cable Clearances (above), answer the following questions:

a) What is the minimum height a bare live conductor can be over an area not used by vehicles?
   ................................................metres?

b) Can an electrician install a cable supported by a catenary 2.5 metres from a television aerial?
   ..................................................................................................

c) What is the minimum distance an insulated live conductor must be from a building wall?
   ..........................................................metres


d) You want to install an aerial conductor 4.0 metres above a swimming pool. What kind of conductor must it not be?
   ..................................................................................................


e) What is the minimum height I can install an insulated live conductor above a harbour of a yacht club?
   ..........................................................metres

f) If an insulated live conductor is installed it must be a minimum of
   .................................metres over a carport roof
g) Aerial conductors cannot be installed less than……………………….metres
over the roof of a house.

h) The types of aerial conductors that can be installed 5.0 metres above a driveway are:

...............................................................................................................................
...............................................................................................................................
..................................................................................................................
.............................................................................................................................

☑️ Use the answer sheet to check your work
ANSWERS:

EXERCISE 1

a. The typical power rating of a hairdryer is 1500W.
b. Two appliances which have a typical power rating of 200W are a stereo and television.
c. The clock has the lowest typical power rating of all the appliances in the table.
d. A strip heater has a higher power rating than a fan type heater.
e. The following appliances can have power ratings greater than 4000W.
   i. air conditioner
   ii. clothes dryer
   iii. heater-fan type
f. A fluorescent light is more expensive to run than a clock.
g. A 1 door refrigerator is cheaper to run than a frost free refrigerator.

EXERCISE 2

a. iii a carbon extinguisher
b. ii is red in colour
   iv. can only be used to fight fires involving wood, paper and or cloth
   iv. the same extinguishers as for a Class C fire

EXERCISE 3

a. 5.0 metres
b. YES
c. a minimum of 1 metre
d. bare live conductor
e. 5.5 metres
f. 4.5 metres
g. 0.5 metres

h. Insulated live conductors
   Double insulated neutral-screened cable
   Cable supported by a catenary