

Circuits Kit

ASEP



EM0970-001

Description:

This is a small but useful kit of parts to permit the creation of basic circuits using batteries, globes and different types of wire. It is part of the old ASEP teaching system. The concept of heat generation and the operation of fuses in electrical circuits can be learned. The actual experiments to be performed are provided by text books and the science instructor.

Kit Contents:

- 3m Nichrome wire 26gauge 0.457mm diam.
- 1m Nichrome wire 32gauge 0.274mm diam.
- 1m Copper fuse wire 8 amp 0.32mm diam.
- 1m Copper fuse wire 15 amp 0.50mm diam.
- 1m Copper fuse wire 0.2 amp 0.05mm diam.
- 2 x Lamp sockets MES screw fitting
- 2 x Dry cell batteries, type 'D' 1.5 V.
- 4 x Fahnstock clips for connections.

Length: 100mm	Width: 50mm	Height: 50mm	Weight: 280g
---------------	-------------	--------------	--------------

INDUSTRIAL EQUIPMENT & CONTROL PTY.LTD.

61-65 McClure St. Thornbury. 3071 Melbourne. Australia
 Tel: 61 (0)3 9497 2555 Email: iec@iecp.com.au www.iecp.com.au

1



Explanations:

Nichrome wire is an alloy of Nickel and Chromium and it has a high resistance. As fairly small currents flows through this material it becomes hot. It can become hot enough to glow red. When it becomes very hot it does not melt, so it is used as heating elements for ovens and room heaters and many other devices.

Fuse wire, although it appears to look silver in colour, it is made from copper but it is plated with tin so that it does not corrode. Copper wire has a very low resistance and a large current can flow before it becomes warm.

When it is used as a fuse wire, a large current flows through the copper wire to make the wire hotter until finally it melts and becomes 'open circuit'. This means the fuse has 'blown' and the circuit is off.

The size of the fuse wire depends on the current drawn by the circuit, therefore low current circuits must have very fine copper wire as a fuse.

Caution:

All circuits that cause heat or cause wire to melt are dangerous.
The wire reaches temperatures that can easily burn through flesh.

Always supervise these experiments.

Designed and Manufactured in Australia