Unit 201: Health and safety in building services engineering

Outcome 3

Electrical safety requirements

Electrical supply

Electricity at Work Regulations

B7671

AC operating Voltage	Voltage colour	Use
25V	Violet	Damp conditions
50V	White	Damp conditions
110V	Yellow	General site voltage
230V	Blue	Domestic and site offices
400V	Red	Fixed machinery

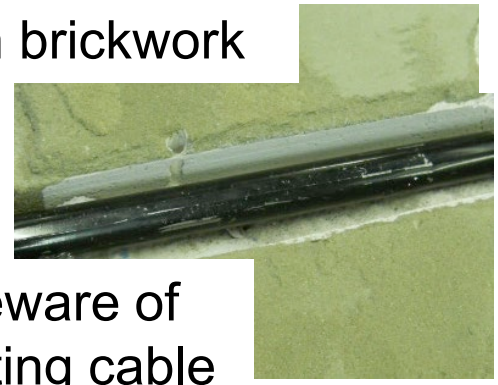
Site electricity

- Battery operated
- 110v single phase ac (site)
- 230v single phase ac can
- Use a step-down transformer.

SmartScreen.co.uk
Dedicated online support

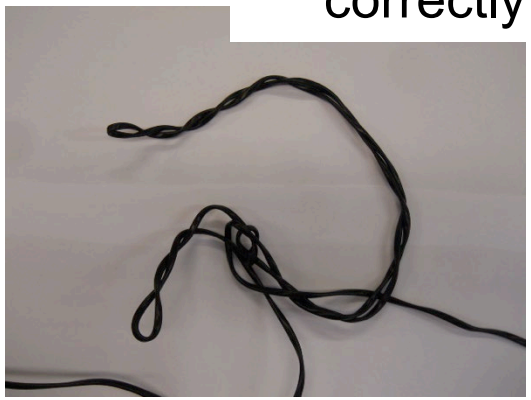
Electrical hazards

Beware of hidden conduit in brickwork



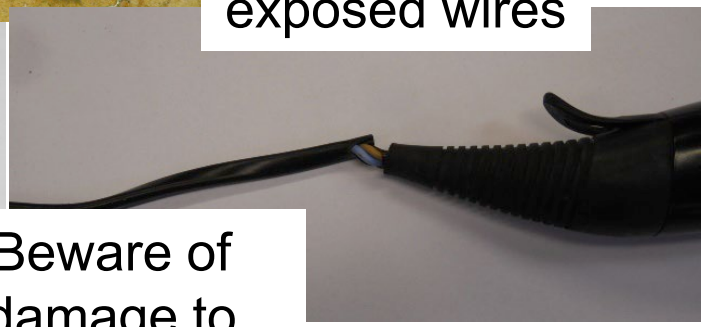
Beware of chafing cable

Beware of storing cable correctly



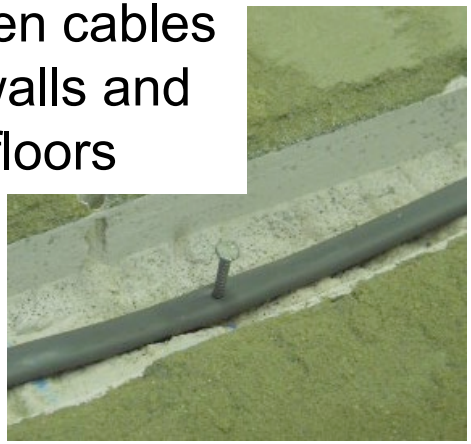
Beware of melting cable with heated tube

Beware of exposed wires



Beware of damage to power tool casing

Beware of hidden cables in walls and floors



Beware of cables when soldering

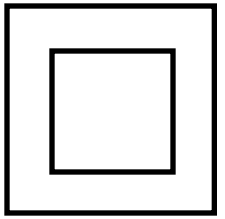
Electrical hazards

- Faulty installations
- Faulty equipment
- Misuse
- Trailing, buried, hidden – or cables too close to pipework
- Incorrect fuse
- Overloading sockets
- Neglect
- Wet conditions.

Electrical checks

Visually inspect:

- Cables
- Casing
- Lead condition
- Length of leads
- Use a cable finder
- Take care when lifting floorboards
- Report to supervisor
- PAT test label
- Double insulated
- RCD for 230v.



Electrical safe isolation

All electrical circuits must be properly switched off, isolated, labelled, locked off and proven **dead**.

- Identify circuit or appliance
- Check with customer before isolating
- Select voltage indicator and test
- Prove circuit is **live**
- Pull fuse or switch off MCB
- Lock and label
- Prove circuit is dead
- Test voltage indicator
- Start work.

Electrical safety

- Whenever you cut or remove a section of pipe always use **temporary continuity bonds**
- Two crocodile clips joined with 10mm^2 earth cable. When used, these prevent electric shocks if there is a fault.