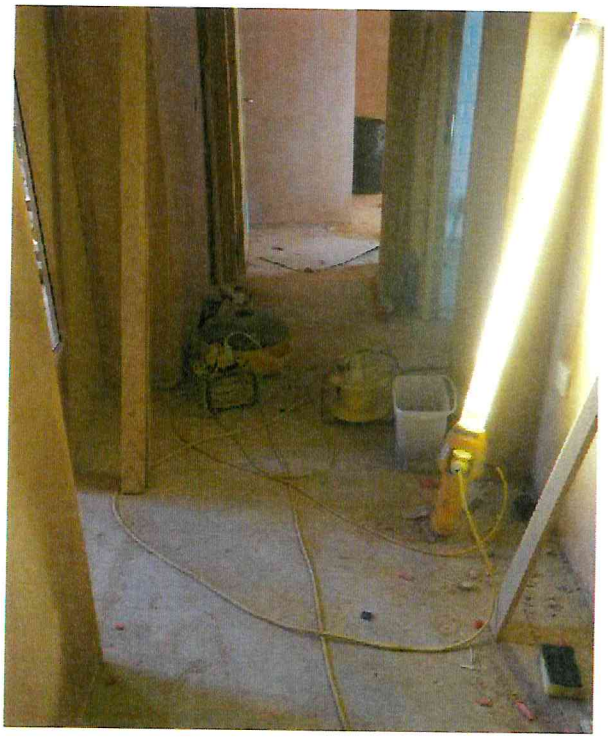
Electrical safety

Reason	Electricity can kill – you cannot see, feel, hear or smell electricity. There is no advance warning of danger. Work on electrical equipment must only be carried out by competent persons.
Outline	This talk covers the general risks and precautions to be taken when working with electricity and actions to take in the event of an emergency.



Poorly routed cables will increase the risk of damage and electrocution

Electrical lock-off devices

Danger of death

Electrocution risk

Plug and socket colour should indicate the equipment voltage.

Colour coding	
YELLOW	110 volt
BLUE	230 volt
RED	400 volt

On average, around three workers are fatally electrocuted every year on UK construction sites. Many more suffer life-changing injuries.
Electricity travels at the speed of light – more than 186,000 miles per second. You don't!

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1. On average, around three workers are fatally electrocuted every year on UK construction sites. Many more suffer life-changing injuries.
2. There are two types of **site electrical system**.
   - The temporary system, which provides lighting and power for work to be completed.
   - The permanent fixed system (usually a new installation or the existing system).
3. Accidents can happen with electrical equipment or cables that are:
   - not visible or not identified
   - assumed to be dead or isolated but are live
   - known to be live but the correct precautions are not taken or followed
   - faulty or poorly maintained.
4. **Residual current devices (RCDs)** should be used on site if you are using 230 volt tools.
   - These work by cutting the power quickly if there is a fault.
   - Portable RCDs fit between the plug and socket and should be tested before use.

Safe systems of work

1. Always check whether a permit is required to work on or near electrical systems.
2. Never touch any switches, boxes or cables when lock-off procedures are in place.
3. If in any doubt, check with your supervisor.

Precautions

1. Never assume that exposed cables or wires are dead or isolated.
2. Always carry out pre-use checks on plugs, cables and tools and report any visible damage.
3. Make sure electrical equipment is serviced and maintained. Do not carry out temporary repairs.
4. Never overload cables or equipment.
5. Make sure extension cables are routed overhead or protected and they are uncoiled (coiled cables can overheat). Do not route cables across waterlogged ground.
6. Use battery-powered tools or 110 volt equipment, where possible.

Electric shock action

1. Approach with extreme caution and **never** touch the person who is receiving the electric shock.
2. If possible, switch off the power and shout for help.
3. If it is safe to do so, move the person, or move the source away from the person, with something wooden (such as a broom). Never use an object that could conduct electricity.
4. Get first-aid help straight away.

How can accidents involving electricity happen?
What is a residual current device?
What is the purpose of a permit to work?

Now inform your workers of company policy regarding electrical work and installations.