

Kitchen safety



We all know that water and electricity make a lethal combination. So it's important that fixed electrical equipment is installed correctly, and that you use appliances in your kitchen with care.

- To avoid water coming into contact with electricity, make sure that your sockets or switches are fitted at a safe distance (at least 30 centimetres horizontally) from the sink.
- If appliances such as fridges, dishwashers and washing machines are fitted under worktops, getting to sockets may be difficult. Ideally, these appliances should be controlled by a switched fuse-connection unit mounted above the worktop where you can reach it easily.
- If a socket in the kitchen, or anywhere else in the house is likely to be used to supply portable equipment outdoors, it should have an RCD fitted. Under the national safety standard, all sockets in new electric installations and any new sockets added to an existing installation must have RCD protection.
- Take special care when using electrical appliances in the kitchen - the mixture of water, hot surfaces, flexes and electricity can be very dangerous. Check that flexible leads and appliances such as kettles and toasters are in good condition.

Don't:

- use any electrical equipment or switches with wet hands;
- wrap flexible cables around any equipment when it is still warm;
- clean an appliance such as a kettle while it is still plugged in;
- try to get toast that is stuck out of a toaster while it is plugged in, and especially not with a metal knife
 - there are often live parts inside; or
- fill a kettle or a steam iron while it is plugged in.

Bathroom safety



Water carries electricity efficiently. When the two mix, the result can kill. Because of this, from an electrical safety point of view, the bathroom is possibly the most dangerous room in the home. The consequences of an electric shock are far more severe in a bathroom or shower room as wet skin reduces the body's resistance. There are special requirements for electrical installations in bathrooms.



Sockets

- Sockets are not allowed in bathrooms or shower rooms (apart from shaver-supply units), unless they can be fitted at least three metres from the bath or shower.
- Shaver-supply units must be a safe distance from the bath or shower to avoid splashes.

Lights

- Enclosed ceiling lights are preferable to pendant (ones that hang down) light fittings. All light fittings, that are not enclosed, should be out of reach of someone using, or still wet from using, the bath or shower.
- A ceiling-mounted pull-cord switch with the cord made of insulating material is the safest option for a bathroom. Standard wall-mounted light switches are a possible danger because of dampness and wet hands.

Heaters and towel rails

- Central heating is the safest way of keeping a bathroom warm. But, if you do have an electric room heater, it must be fixed at a safe distance from the bath or shower.
- Electric and gas water heaters in a bathroom must be fixed and permanently wired, unless they are powered by a socket fitted three metres from a bath or shower.
- Electric heaters should preferably be controlled by a pull cord or a switch outside the bathroom.

Showers

- An electric shower must be supplied on its own circuit direct from the consumer unit.

Gardens



This page is intended to help you to use electrical equipment safely in the garden and avoid electrical accidents. The risk of an electric shock causing serious injury or death, is greater outdoors than indoors, due to possible wet conditions and physical contact with the ground.

Residual Current Devices

An RCD is a safety device that switches off the electricity automatically when it detects an earth fault. Any socket-outlet that may be used for plugging in portable electrical equipment that is to be used outdoors, should have RCD protection.

Check that you are protected by an RCD with a maximum rated residual operating current of 30 milliamperes (mA). If your socket-outlet is not protected by an RCD, purchase a good quality plug-in RCD adaptor from a reputable dealer, as a temporary measure. The safest option is to get a registered installer to install permanent RCD protection to all socket-outlets that may be used for plugging in 230 V outdoor portable electrical equipment.

RCDs need to be tested quarterly by the users of the electrical installation, in accordance with the notice that should be fixed near them. This normally involves pressing the test button and checking that the RCD switches off the supply immediately. Regular testing is important, to ensure correct operation of the RCD mechanism in the event of a fault.



Lawn mowing

Electric lawn mowers can cut through their own electric cables or those of other electric garden tools, causing a real risk of electric shock. There is also a risk of injury from contact with moving parts of the mower.

For Safety:

- buy a good quality lawn mower from a reputable retailer
- follow manufacturers' instructions closely
- keep the lawn mower, cables, connections and plug, free from damage
- check that the socket-outlet has RCD protection
- do not cut grass in wet conditions
- test the RCD using its test button unless you are certain that the RCD has been tested within the last 3 months
- wear shoes that give foot protection (not sandals)
- keep children well away from the lawn mower
- do not pull a lawn mower close to your feet or the flexible cable
- unplug* the lawn mower and wait until the blades have stopped rotating, before carrying out any activities such as cleaning grass blockages.

Following manufacturers' instructions, checking the lawn mower is in good order, and being careful when cutting the grass, will reduce the risk of an accident.

Hedge trimming

Electric hedge trimmers can cut through their own electric cables or those of other electric garden tools, causing the risk of electric shock. They may also injure anyone making contact with the blades.

For Safety:

- buy a good quality hedge trimmer from a reputable retailer



- follow manufacturers' instructions closely
- wear gloves and goggles to protect your hands and eyes
- keep children well away from the hedge trimmer
- do not cut hedges in wet conditions
- check that the socket-outlet has RCD protection
- test the RCD using its test button unless you are certain that the RCD has been tested within the last 3 months
- keep the hedge trimmer cable, connections and plug free from damage
- keep both hands on the handles provided
- unplug* the hedge trimmer before carrying out any activities such as removing jammed hedge trimmings.

Water pumps for garden ponds

Incorrectly installed or damaged 230 V electrical water pumps in garden ponds, may create a serious electric shock risk in and around the pond, resulting in injury or death. This is because the risk of electric shock is higher in the presence of water.

A 230 V electric water pump in the garden should be:

- good quality and be purchased from a reputable retailer
- protected by an RCD, that is tested by means of the integral test button at least every 3 months
- installed in accordance with manufacturers' instructions
- provided with cables that are protected against accidental damage
- maintained in good working order, including cables and any connections
- switched off when carrying out pond cleaning.

If any defects are found, switch off the water pump's electrical supply immediately and have the pump repaired by a competent electrician.



Flexible cables and connectors

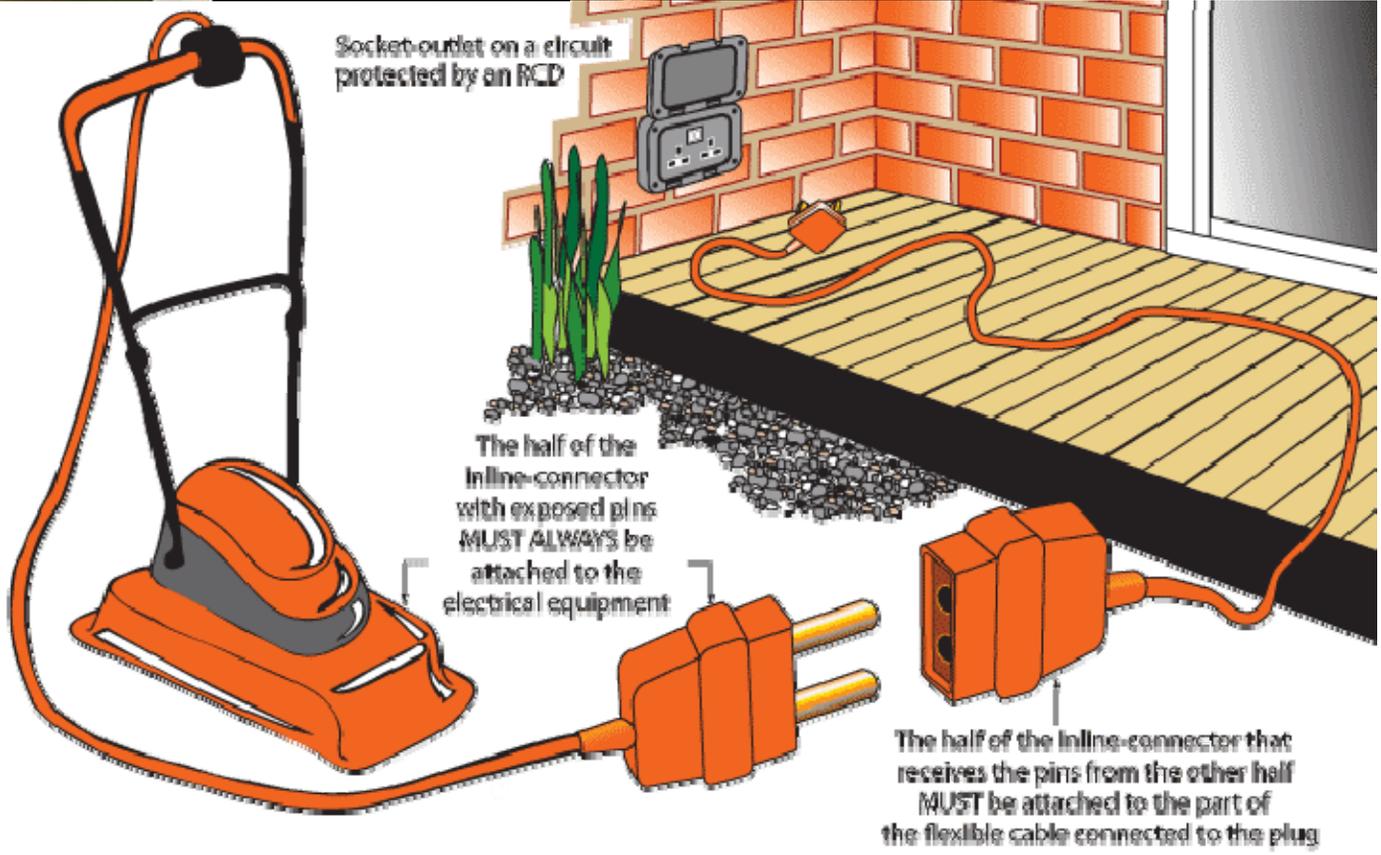
Cables and connections should be:

- good quality and be purchased from a reputable retailer
- suitable for use outdoors
- suitable for the equipment used
- free from damage and kept clean
- used in accordance with manufacturers' instructions
- switched off when carrying out pond cleaning.
- located to prevent anyone tripping over the cable
- routed to prevent them being damaged e.g. stepped on or cut
- kept as dry as possible.

If any damage is found, unplug* from the electrical supply immediately, and have the damaged items replaced. Always take care not to damage flexible cables and connectors.

If an 'inline-connector' (**example illustrated below**) is required it must be correctly connected to the flexible cable ends by a competent person, in order to avoid danger from any incorrect connections being made, which might result in serious injury or death!

* Unplug garden equipment before workings on it, for example, to remove a jam from the hedge trimmer blades or unblock grass cuttings from the lawn mower (as illustrated below).



The plug MUST be UNPLUGGED from the main socket-outlet BEFORE:

- OR
- ANY work is carried out on the electrical equipment.
 - the 2 halves of the inline-connector are separated.

The plug MUST NOT be plugged back in UNTIL:

- AND
- work carried out on the electrical equipment has been correctly completed.
 - both halves of the inline-connector are firmly connected together.

Unwinding extension cable from the reel

When in use, extension cables that are coiled up on a reel can overheat, causing damage to the cable, which may in extreme cases result in fire. Such extreme damage may also introduce a risk of electric shock, which could cause injury or prove to be fatal.



A fully unwound cable reduces the risk of it overheating, thereby minimizing the risks of fire or electric shock.

Wet conditions

Do not use electrical equipment when it is raining or in areas that are being watered. The risk of serious injury and even death from electric shock, are far higher in wet conditions, than in the dry. Ground conditions may also be slippery in the wet, which increases the risk of an accident. Electrical equipment may also suffer damage in wet conditions.

Using electrical equipment in the garden in dry conditions reduces the risk of an accident.

Garden lighting



Incorrectly selected, installed or damaged 230 V outdoor lighting installations may create a risk of electric shock, resulting in serious injury or even death.

For 230 V lighting in the garden:

- buy good quality electrical outdoor lighting equipment from a reputable retailer
- make sure outdoor lighting fittings (luminaires) are weatherproof
- ensure lighting fittings used for water features are waterproof



- have it installed by a competent electrician in accordance with manufacturer's instructions and BS 7671 - Requirements for Electrical Installations (IEE Wiring Regulations), which is the national safety standard for electrical installation work
- check for damaged lighting fittings, cables and connections
- remove leaves and dirt from lighting fittings

If any faults are found, switch off the electrical supply immediately, and have them repaired by a registered installer.

Extensions & leads



Many portable electric items like lamps and radios are supplied with a relatively short length of cable. Ensuring your home has sufficient socket-outlets at convenient points will minimize the need for extension leads and adapters, but occasionally their use will be unavoidable.

The use of extension leads can present the following dangers:

- tripping or falling
- cable damage due to wear, particularly where leads are walked over, flexed at a single point or stored badly. When leads are fitted to power tools, they can become tangled and one of the conductors may eventually fail, which could cause danger
- a greater capacity for overloading circuits, which increases the risk of fire

An extension lead should not be used whenever it is possible to reach a wall socket with the equipment cable. However, the equipment cable should never be stretched taut as this may cause a tripping hazard.



When the use of an extension cable is unavoidable:

- only use an extension lead which was bought ready assembled. It is recommended that no extension lead be more than 15 meters in length
- only use extension leads fitted with suitably-insulated connectors and plugs. Never be tempted to join two lengths of flex by twisting the bared ends of wires together, even if you bind them with insulating tape
- the extension lead should be positioned carefully to prevent any risk of damage to the cable
- if the cable has to cross a pathway, the risk of tripping and damage can be minimized by covering it with a rubber protector strip
- always check that leads, plugs and sockets are undamaged
- always check that the extension lead plug contains a correctly-rated fuse for the equipment to be used
- when a cable drum extension lead is in use, the cable must be completely unwound from the drum to avoid the cable overheating
- check that the cable has an earth wire if feeding Class I (metal-cored equipment). 2-core extension leads should not be used

Damaged extension leads should be taken out of use and replaced. Leads cannot be repaired satisfactorily using insulating tape as it does not have sufficient strength or stickiness, nor does it provide enough physical protection.

Adaptors

- multi-way adapters should not normally be used. If two appliances are regularly used from one power point, replace it with a double socket if possible
- when an adapter is used with a number of plugs, the angle and weight of the assembly increases the stress on the socket contacts. There is also a danger of electrical overload as the combined loads may exceed the ratings of the socket-outlet

When circumstances require more connection points, a multi-way trailing socket with minimum cable length should be used, though care should be taken not to overload the unit.



Fire safety

Top tips from the Communities & Local Government

- Install a smoke alarm on every level of your home and test it weekly.
- Don't overload plug sockets.
- Keep electrical appliances clean and in good working order to prevent them triggering a fire.
- The majority of house fires start in the kitchen, so never leave cooking unattended.
- Stub cigarettes out properly and dispose of them carefully. 'Put them out, right out.'
- Make sure that candles are secured in a proper holder and away from materials that may catch fire - like curtains.
- In the event of a fire you should 'Get Out, Stay Out, Call 999'.



Many local Fire and Rescue Services will come to your home and carry out a Home Fire Risk Check to help keep you and your family safe. For more information on fire safety, please visit www.direct.gov.uk/firekills, or contact your local Fire and Rescue Service (not 999).

In 2006, Government statistics showed that over 45,000 fires started by accident in UK homes were reported to the Fire and Rescue Service. A recent Government survey of houses in England recognised that fires reported to the Fire and Rescue Service only represented about a quarter of all fires in homes.

Most of us take electricity for granted. We use it every day and forget that it can be dangerous if we do not treat it with respect. Of reported fires, 16% are caused by electrical faults and a further 25% are caused by people not using electrical equipment



and appliances properly. So, it is important that we do all we can to reduce the risk of a fire in our home caused by an electrical problem.

Do

- **Do find out how old your wiring is**, and get the installation checked at least every 10 years and when you move into a new home. If you rent your home, the electrical installation and appliances provided are the landlord's responsibility. Ask to see a copy of the certificate or report confirming that the installation meets the UK national standard BS 7671 (Requirements for Electrical Installations) and is safe to use.
- **Do check your sockets regularly** – if you see burn marks or they feel hot, get a registered electrician to check if they need repairing or replacing.
- **Do turn off any electrical appliances** that you are not using, particularly at night, when a fire can spread quickly and cause more damage.
- **Do check flexible cables** to appliances regularly for damage, such as fraying and wear and tear to confirm that you can keep using them. Also check to see that the cable is fastened securely to the plug. You should always carry out these checks before you plug the appliance in.
- **Do be careful** when using hand-held electrical appliances and make sure that you switch them off and unplug them when you have finished using them. This is particularly important with items that get very hot such as hair dryers and curling tongs which, if you leave them on, can easily cause any flammable material that they are in contact with to catch fire.
- **Do check the current rating** of an electrical adaptor before you plug appliances in and always make sure that the total current used by the appliances are not more than the adaptor's rating.





Don't

- **Don't** overload electrical adaptors by plugging too many appliances in to one socket especially appliances with a high electrical current such as kettles, irons and heaters. It is much better to have extra sockets installed by a registered electrician.
- **Don't** put electric heaters near curtains or furniture, or dry clothes on them.
- **Don't** cover the air vents on storage heaters or fan heaters.
- **Don't** trail flexible cables under carpets or rugs.
- **Don't** use a bulb with a higher wattage than the one printed on the light fitting or lamp shade you are using.

Cooking appliances

Government statistics show that the largest number of reported fires caused by accident in the home, almost 11,500 each year, are caused by people misusing electrical cooking appliances, including microwaves. So you need to take special care to reduce the chance of a fire being caused by electrical appliances in your kitchen. You must: not let leads from other appliances, like kettles or toasters, trail across the cooker; never dry towels on, or near, the cooker; not let fat and grease build up on the cooker, especially in the grill pan where it can easily catch fire; and make sure that you turn the cooker off when you have finished using it.

Smoke Alarms

If a fire starts in your home, a smoke alarm will give you valuable time. You are more than twice as likely to die in a house fire if you do not have a working smoke alarm. Modern alarms are neat and tidy, cost under £10 and are easy to fit. In certain circumstances, your local fire and rescue service may install one for you, for free as part of a free home fire risk check.

Hazards in the home



We have listed some of the potential hazards that may be encountered in any home, along with ways of rectifying them to make your home a safer place.

Condition of flexible leads

A flexible cable with damaged insulation produces a risk of the cable overheating and catching fire. There is also a risk of a person receiving an electric shock from touching any live conductors that may be exposed. If the cable is damaged, have it replaced.

An undamaged, correctly-rated electrical cable ensures safety.

Fixing items to walls or partitions

Sometimes it is necessary to drill holes or fix nails into a wall or partition. This can be dangerous if there are concealed electrical cables or gas or water pipes. Penetrating a live cable with a drill or nail is extremely dangerous and could cause an electric shock, fire or burns. Do not drill holes or fix nails in walls or partitions unless you know that there are no cables or pipes located at that position.

The use of a cable and pipe detector may help identify the presence of concealed cables and metal pipes in a wall or partition.

Isolating electrical equipment

Simple maintenance on electrical equipment (such as changing a belt on the vacuum cleaner), which is not isolated (unplugged) from the electricity supply may create a risk of injury from electric shock, burns or rotating parts.



When the equipment is unplugged, there is no risk from electric shock, or moving parts. If parts have become hot while running, let them cool before you touch them. Maintenance of electrical equipment needs to be carried out by a competent person. Always follow the manufacturer's instructions.

Electrical equipment in the bathroom

Portable electrical equipment such as mains voltage radios, heaters or hairdryers are a very real danger in the bathroom and could result in injury or death through electrocution.

Electrical shavers plugged into shaver socket-outlets manufactured for use in bathrooms, which comply with the relevant British Standards, may be safely used in the bathroom. However, electric shavers plugged into a shaver socket-outlet should never be used when taking a bath, as when water and electricity mix there is always a risk of danger.

Adaptors

Misuse of adaptors can result in an overload, which can cause the electrical circuit to overheat or trip out, the adaptor can become hot. In extreme cases a fire can result. Never use adaptors plugged into other adaptors and check that the adaptor complies with an appropriate standard and is used in compliance with the user instructions.

Ensure the adaptor is in good condition, does not get hot and has no burn marks on it. If it is damaged, replace it with a suitable adaptor complying with an appropriate standard. Having a separate socket-outlet for each item of equipment provides the safest solution. Extra socket-outlets can be installed by a registered installer.

Light fittings overheating

Do not exceed the bulb wattage specified by the manufacturer. A bulb with a higher wattage than its light fitting can produce the risk of the light fitting overheating e.g. 100 Watt bulb in 60 Watt lighting fitting. This may result in the lamp scorching the shade, the lampholder breaking apart when touched and, in exceptional circumstances, catching fire.

By installing the correctly rated bulb in the fitting, the risk of damage from overheating will be stopped and the electricity bill could be lower. If you need more light or wish to save electricity, fit a low energy compact fluorescent lamp, which may last around eight times longer than a normal tungsten lamp.



If the lampholder or cables are damaged, have a registered installer replace the damaged parts.

Damaged electrical equipment

Damaged electrical equipment such as a socket-outlet, can create a risk of injury from electric shock, burns or fire. Check for burn marks, sounds of arcing (buzzing or crackling), fuses blowing, circuit breakers tripping or excessive heat.

Have a registered installer deal with this before it gets worse. Repair electrical equipment such as a socket-outlet, will help ensure safety.

Flexible lead trip hazard

Poorly positioned flexible cables can trip people up. Also, the cable may get damaged, which can create a risk of someone getting an electric shock or cause a fire to start.

Move the appliance so there is no trip hazard, or get a registered installer to fit an additional socket-outlet so the trip hazard is eliminated.

Coiled extension leads

Extension leads that are coiled up on a drum can overheat causing damage to the lead and a risk of fire.

Always remember to uncoil the lead - uncoiled and correctly-rated extension leads do not normally overheat.

Ventilation holes in electrical equipment

Electrical equipment is often provided with ventilation slots to prevent equipment overheating. If these slots get covered up, the equipment may over-heat and could even catch fire. Do not dry clothes by placing them over the ventilation slots of an electric heater. Electric convector heaters when covered may overheat and cause fire. Wet clothes dripping onto live parts creates electric shock and fire hazards. The ventilation slots on the back of computer monitors should never be covered.



Keeping ventilation slots clear on electrical equipment prevents it overheating. Keeping water away from electrical equipment is essential for safety. An electric convector heater with unobstructed ventilation slots lets the heat out safely.

Pulling the plug out of a socket

Pulling out a plug by the cable may damage the cable, put strain on the cable terminations in the plug, and may damage the contact between the plug and the socket-outlet. This may result in the plug overheating, wires becoming loose in the plug, or an electric shock (if the green and yellow earth wire becomes dislodged from the plug terminations).

Press the socket switch 'off' (where provided). Firmly grip either side of the plug and pull it out (making sure you do not touch the plug's pins).