

# THE SAFE USE OF ELECTRICITY IN THE HOME



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## Introduction

Enjoy the benefits of electricity and use it safely.

Electricity is so much part of modern living that we can often take it for granted. It is a powerful and versatile energy but can be dangerous if it is not used properly.

Serious accidents with electricity in the home are rare but each year there is a small number of fatalities and serious injuries. Most of the accidents that occur are due either to carelessness or to a lack of awareness of some basic rules that should always be observed when using electricity.

This information booklet is produced by ESB Networks in cooperation with ETCI (Electro Technical Council of Ireland). It contains essential information on electrical safety in general, and also hints and rules which you should always follow. These will help you get the most from electricity – safely.

## Responsibility for Safety

The safety of the electrical wiring installation in your home is your responsibility. So also is the way in which electric appliances are used and maintained.

## Your House Wiring

The number of electrical appliances used in modern homes continues to grow, putting extra demands on your electrical system. For this reason you should make sure that the electric wiring in your home is adequate for this increased load. Many older houses contain cables and fittings that may have deteriorated with time and which should be replaced. Some of the tell-tale signs which may indicate a potential safety problem are:

- Overheating plugs and sockets
- Cables heating
- Deteriorating lampholders
- Sparking/Arcing signs on fittings
- Fuses (or MCBs) blowing frequently

If one or more of these signs are present you should have the installation checked by a competent electrical contractor.

## General Guidelines for Maintaining a Safe Installation

**Replace** socket outlets if, after constant use, the plug fits loosely in the socket or if it shows signs of heating; a loose contact is potentially dangerous.

**Fit** double sockets instead of single ones in new installations or when replacing sockets; this will reduce the need to use adaptors.

**Replace** plastic-type lampholders if they show tell-tale signs of deteriorating – cracking or discolouration. Replace them with heat-resistant types and renew the flex.

**Do** not exceed the maximum bulb wattage recommended for fittings or lampholders.

**Do** ensure that all fluorescent fittings and metal chandeliers are earthed.

## New Installations

If you are having a new house wired or having existing wiring renewed or extended you should get an ETCI Completion Certificate from your electrical contractor. This certificate is your contractor's statement that the installation complies with the National Wiring Rules. This certificate will also be required by ESB Networks before a new supply can be connected. In all new installations make sure that you include sufficient double socket outlets in all rooms, especially the kitchen and sitting/dining rooms. Insufficient outlets may tempt you to use adaptors or makeshift extensions and may also result in the use of long trailing flexes.

## The Electricity Connection to your Home

The electricity connection to your home comes through ESB Network's main fuse and meter. Both of these items are sealed by ESB and must never be interfered with. Newer installations have an isolating switch between the ESB meter and the customer's distribution board; older installations have direct connections between the meter and the distribution board. The customer is responsible for the electrical installation on his or her side of the ESB meter.

## Residual Current Device – RCD

The ordinary fuses or MCBs in the distribution board respond to overloaded circuits by 'blowing' or switching off the flow of electricity in the circuit. Additional protection against the hazards of electric shock or fire is provided by an RCD. In fact, new domestic installations must be provided with an RCD on all socket, waterheater and electric shower circuits.



In simple terms an RCD detects an abnormal flow of electricity out of a circuit when, for instance, a cable is damaged or a fault develops in an appliance allowing electricity to 'leak' out. The RCD responds instantaneously to such 'leakage' and disconnects the supply from the circuit. The RCD used to be called an Earth Leakage Circuit Breaker (ELCB).

RCDs are supplied in a range of current-carrying capacities and sensitivities. A high-sensitivity one – 30 milli amps – gives the highest level of protection and is required in domestic installations. Your electrical contractor will advise you on the current-carrying capacity to suit your installation.

RCDs are usually fitted at the customer's distribution board but they are also available to fit at a socket outlet as a plug-in item. Plugs which incorporate an RCD are also available and should be used for tools and outdoor equipment if there is no RCD fitted at the distribution board.



### Test

All RCDs have a test button to check that the mechanism is working properly. This test button should be operated at regular intervals, say once a month. Remember to reset the switch after testing.

## Making the Connection – Plugs and Cable Colours

Almost all new electric appliances now come complete with a fitted 13 Amp 3-pin plug. If the appliance you buy has no plug fitted or if your home has two-pin or 3-pin round plug sockets you will need to fit an appropriate plug-top. If you are not sure how to wire a plug, have it done by a competent person. Remember, a wrongly wired plug can result in a serious or fatal accident.

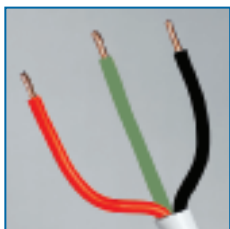
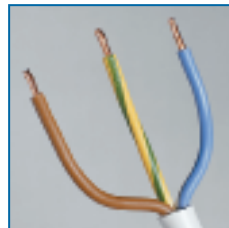
The first thing to know is the colour code for connecting the cables to the appropriate pin/terminal in the plug.

The colour code for cables is:

BROWN to the Live (L) terminal

GREEN/YELLOW to the Earth (E or  sign) terminal

BLUE to the Neutral (N) terminal




You may have old appliances with cables that have an OBSOLETE colour code and in this case the connections are made as follows:

RED to the Live terminal

BLACK to the Neutral terminal

GREEN to the Earth terminal

If you find an appliance with colour codes other than those mentioned, look for advice from a competent person before connecting a plug.

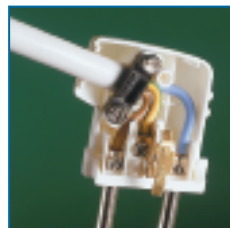
When an appliance is 'Double insulated' and carries the symbol  it does not need to be earthed. These appliances will have just two wires, the brown LIVE and blue NEUTRAL; they do not have a green/yellow earth wire.

## Wiring a Plug Safely

When you connect each wire to the appropriate terminal it is most important that no loose strands of wire are exposed and that all the screw connections are fully tightened. You should also leave a little extra slack on the green/yellow earth wire within the plug in order to avoid strain on this vital connection should the cord grip loosen.

When the wires are securely connected to the terminals make sure that the flex is properly anchored in the plug by the cord grip; make sure that the grip secures the outer cover of the flex and is not simply gripping the coloured insulated wires. Do NOT use a plug if the cord grip is missing or if it can't be fully tightened.

Some plugs have a cord grip consisting of two 'wings' that tighten on the flex if it is pulled. In such cases make sure that the complete flex is firmly pressed between the two wings for a secure grip. Fit the correct size fuse.



## What Size Load?

The common flat-pin 13 Amp plus is suitable for appliances with a loading of up to 2.9 kW and this covers most of the commonly used 'non-fixed' appliances in the home – heaters, washing machine, dryer, microwave, tools, entertainment equipment, etc. Continental-type 16 Amp plugs may be used with appliances up to 3.6 kW loading but this type of plug and socket fitting is becoming rare in Irish homes and it may also be associated with an older wiring installation. In general it is wise to use the 2.9 kW loading as the maximum for portable appliances. Appliances with a loading greater than 2.9 kW should be permanently connected through a switch to their own circuit. In some cases manufacturers may recommend this practice even where the loading is below this figure. See page 8 for information on fixed appliances.



# Using Appliances Safely

## Fixed appliances

Fixed appliances such as a cooker, waterheater, storage heater, electric shower as well as any appliance rated above 3.6 kW must be permanently wired through a switched outlet; they must not be connected through a plug and socket. If you are buying an electric cooker – other than the small portable plug-in type – check beforehand with your local ESB office that your electricity connection is adequate for the load. Remember that an electric cooker requires a separate control unit (double-pole isolating switch) and heavier wiring than that used for socket outlets. This also applies to instantaneous electric showers.

**N.B.** Heavily loaded equipment on farms such as welders, milking machines, coolers and pumps have special requirements (See note on Farm Safety on page 26).

## Free standing and portable appliances

Always read the manufacturer's instructions carefully before using a new appliance and keep the instructions for reference. The most vulnerable part of many appliances is the connecting flex and its plug. Most electrical accidents associated with electric appliances are caused either by damaged or badly-repaired flexes or through wrongly-wired plugs. For your own safety, keep electric appliances well maintained and don't abuse them.

The following **DOs** and **DON'Ts** will help;

### Flexes...

**DO** check flexes regularly for signs of wear, particularly on electric irons, kettles, vacuum cleaners and portable tools.

**DO** make sure you have a long enough flex to comfortably work at an ironing board or when vacuuming without straining the flex.



**DON'T** make joints in a flex, replace it with one of adequate length.

**DON'T** repair a defective or damaged flex; replace it.

**DON'T** use 'bell-wire' or telephone/alarm wire for any mains-voltage appliances or connections.





## Handling and using appliances

**DON'T** drag an appliance by the flex or pull on the flex to remove a plug from the socket.

**DON'T** plug any appliance into a light bulb holder.

**AVOID** using multiple outlet adaptors; use fused multi-socket boards instead; better to have additional sockets fitted.

**TRY** to avoid 'spaghetti-junction' type cable connections behind music systems or computer equipment. Try to keep power cables separate from other connecting cables.

**DO** note the maximum load allowed for a coiled extension lead – its rating is much lower with the cable fully wound than fully unwound. Many leads cannot safely handle electric heaters; they are only suitable for smaller appliances such as light portable tools.

## Remember

If a plug shows signs of damage or defective operation – cracked or broken casing, signs of excessive heating, marked pitting of the metal contact – replace it without delay.



## Using Electric Heaters Safely

Portable electric heaters are very popular and are available in a wide range of models and sizes. Here are some common-sense guidelines for their safe use.

### Radiant Fires

The familiar portable radiant fire is in widespread use for occasional heating. Because the radiant bar gets extremely hot you should take special care when using this type of heater.

The heater must have a close-mesh wire guard which will prevent direct finger contact with the heating element or the connecting terminals. If you have one of the very old models, it is likely that the wire guard does not meet current safety standards (the space between the wire bars may be too wide).



Some of the older designs are also more likely to topple over. It is advisable that you replace these obsolete ones with heaters that meet today's safety standards.

Take special care with radiant fires when there are young children or elderly people about. Use an ordinary fire-guard with any radiant heater in the presence of small children.

Radiant bar heaters should never be used close to flammable materials such as bedding or curtains nor should clothes or bedding be aired near this type of heater.

Never drape clothing over any kind of electric heater; this can upset the airflow through the heater or through safety cut-outs and lead to a risk of fire.



## Using heaters with separated or built-in time-switches

Many electric heaters, such as panel radiators, oil-filled radiators and convector types (i.e. ones that do not have exposed elements), come with built-in timeswitches while others may be used with independent timeswitches. This is a convenient means of switching the heater on and off at pre-set times.

Care should always be taken to ensure that there is nothing close to the heater that could catch fire when the timeswitch turns the heater on. There is also an additional risk that someone may move a portable heater to a potentially dangerous position not realising that the timeswitch will switch it on later.

In the case of wall-mounted panel heaters, with or without timeswitches, make sure that they are not positioned close to bedding or where curtains drape over them.

### Remember

Timeswitches must never be used to control heaters with exposed radiant elements, e.g. electric fires.



### Storage Heaters

Always isolate the supply to a storage heater at the distribution board before carrying out any work on the heater.

### Combination Storage/Convactor Heaters

Many all-electric homes are fitted with combined storage and panel-convactor heaters. It is important to remember that there are two separate electric circuits to these heaters. One circuit to the panel-convactor is potentially live at all times. The other circuit is under the control of the NightSaver time-switch and is live during the NightSaver hours. When any maintenance work is being carried out on these heaters both circuits must be isolated.

## Electrical Safety in the Kitchen

Special care should be taken when using appliances in the kitchen, where the combination of electricity, water, trailing flexes and hot surfaces makes it potentially more dangerous.

The following **DOs** and **DON'Ts** will help to reduce the risk of accidents:

### General

**DO** unplug an electric kettle before filling it and make sure that the element is covered by the water.

**DO** unplug a steam iron before filling it.

**DON'T** ...have flexes trailing across either the cooker hob or sink.



**DON'T** ...wrap flexes around kettles, irons or toasters while they are still hot; the flexes may be damaged.

**DON'T** ...clean or wash any appliance while it is still plugged in.

**DON'T** ...try to release jammed toast from a toaster while it is still plugged in.

**DON'T** ...handle plugs or switches when your hands are wet; dry them first.

**DON'T** ...line the grill pan with cooking foil; the foil could make contact with the live terminals.



## Fire Risk when deep frying in oil

Carelessness when using an old style 'chip pan' for deep-fat frying is the cause of many kitchen fires. Hot oil can ignite suddenly and the fire can quickly get out of control.

Most fire authorities recommend that householders get rid of these chip pans and switch to a safer method of deep-fat frying, such as an electric deep fat fryer.



### If you continue to use a deep-frying pan:

**DO** use a pan which completely covers the cooker ring OR use one of the smaller cooker rings which will be completely covered by the pan.

**DO NOT** fill it more than ONE-THIRD full with oil or fat.

**DO NOT** put wet potato chips directly into the hot oil; dry them first.

**NEVER** leave the pan unattended; the hot oil can quickly overheat and ignite without warning.

**BUY** a fire blanket and keep it near the cooker.

### Know what to do if a chip pan catches fire:

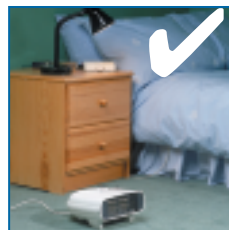
1. Switch off the cooker ring.
2. Try to extinguish the fire by covering the pan with a fire blanket, lid or a dampened towel.
3. Do not try to move the pan.
4. **NEVER** use water to try to extinguish a chip pan fire; it could help it spread.

### Electric deep-fat fryer

The main safety features of an electric deep-fat fryer are the thermostatic control that prevents the oil from overheating and the absence of a source of ignition. To ensure that the thermostat continues to operate properly, you should remember to keep the air filter clean.

## Electrical Safety in the Bedroom

Electric heaters and electric blankets/duvets are the appliances most often used in the bedroom.



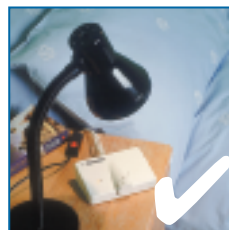
### Electric blankets and duvets



Great care should be taken with electric blankets and electric duvets, especially where elderly or infirm people are concerned. A wide range of extra-safe electric blankets is now available for all-night use. It is very important, however, to carefully read and follow the manufacturer's instructions for the individual blanket you use.

### There are three basic types of electric blanket now available:

1. The over-blanket or duvet that can be left switched on all night.
2. The pre-heating underblanket that must always be switched off before getting into the bed.
3. The extra-safe under-blanket that can be left on all night – but subject to strictly following the user instructions.



### The following guidelines apply to the use of all electric blankets:

**DO NOT** put heavy items such as coats, pillows or thick bedding on the bed when the blanket is switched on.

**DO CHECK** regularly for obvious signs of wear or damage, such as scorch marks, frayed flexes, deep/sharp creases or loose connections.

**DO NOT** attempt to repair a defective blanket or duvet; return it to its service agent or supplier.

## Electric Heaters in Bedrooms

Wall-mounted panel radiators, portable fan heaters, convectors and oil-filled radiators are the safest heaters to use in bedrooms. Whatever heater you use keep it away from bedclothes, clothing and curtains to avoid any risk of fire.



- Never drape clothes over heaters.
- Clean out fluff and dust from convector and fan heaters from time to time with a vacuum cleaner.

## Electrical Safety in the Bathroom

Special precautions are necessary regarding wiring and the use of appliances in the bathroom. That's because the wet surroundings pose a greater risk of electric shock than anywhere else in the house.

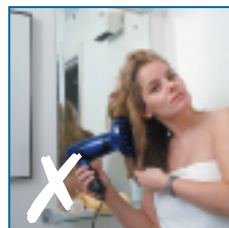
### Socket Outlets and Portable Appliances



**No socket outlets**, other than specially designed shaver outlets, are allowed in bathrooms. Under no circumstances should portable appliances, especially hair dryers, electric fires, washing machines or even a mains-operated radio be brought into a bathroom **EVEN** if it is plugged in outside the room.

### Electric Heaters and Towel Rails

Wall-mounted fan-heaters, small storage heaters and heated towel rails are typically used in bathrooms. All electric heaters and waterheaters in a bathroom must be fixed and permanently wired; none should be used through a plug and socket. In addition, a room heater must be fixed out of reach of a person in the bath, i.e. greater than 0.8 metre from the nearest edge of the bath. It must only be controlled by a pull-cord switch or by a switch located outside the bathroom.



### Electric Showers

An instantaneous electric shower must always be wired back through its own circuit to the customer's distribution board and the circuit must be protected by an RCD (see page 3).

### En-suite Showers/Bathrooms

The same requirements regarding wiring and the use of appliances apply in en-suite units.



## Electrical Safety in the Garage/Workshop

Garages and workshops usually have concrete flooring which increases the risk of electric shock. In addition, electric equipment and tools are generally more susceptible to damage here and in the garden than in other locations around the home.



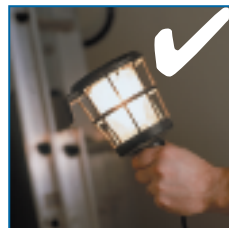
### Socket Outlets



If the house wiring is old the sockets are less likely to be protected by an RCD. If there is no RCD protecting the socket outlets then one should be installed on the garage circuit. If it can't be installed at the distribution board a socket outlet incorporating an RCD can be fitted in the garage OR a plug-in type RCD should be used with all tools and outdoor equipment.

### Portable Hand Lamps

When you need a portable light to work under the car, for example, or in the attic, use a specially-made hand lamp. This has a body of tough rubber or plastic, a guard to protect the lamp and a tough flex. Never use a makeshift homemade lamp with an ordinary lampholder and flex; it can be highly dangerous.



### Hiring Tools

When you hire tools from a hire centre check the equipment before you take it home for the following points:

1. Is the plug intact and the flex undamaged and firmly secured in the plug?
2. Are there any exposed electrical connections?
3. Make sure that the electrical loading is not excessive for a domestic installation.
4. Select tools operating at 110 volts from a step-down transformer for greater safety.

## Working Out of Doors

Special care is needed when using mains-operated (230 volt) appliances such as a lawnmower or garden tools out of doors. That's because the user is in direct contact with the 'earth' and is in greater danger of serious electric shock if a fault develops in the appliance.

### Choosing appliances for outdoors use

When buying equipment or tools for use outdoors, choose 'all-insulated' or 'double-insulated' equipment. This will provide a greater degree of protection than equipment which requires 'earthing'. Double insulated appliances are indicated by a special symbol.



Tools designed to operate at 110 volts or less, through an appropriate transformer, will provide extra protection. Always use a plug-in RCD unit or an RCD plug top for outdoor equipment if the socket circuits are not protected by an RCD on the distribution board.

### Water Pumps

If you are buying a pump for a garden pond or fountain select an extra-low voltage (12 or 24 volt) unit and have it installed by an electrical contractor.

### Outdoor Lighting

Permanent outdoor lighting in the garden or along a driveway should be installed strictly in accordance with the National Rules for Wiring Installations. This is particularly important where cables are buried in the ground. All such installations should be carried out by an electrical contractor. Temporary outdoor lighting should be of the low-voltage (12 or 24 volt) type for greater safety.

## General advice when using tools and garden equipment

**DO...**Check appliances, flexes and plug-tops before use.

**DO...**replace a damaged flex or plug-top; don't repair it.

**DO...**keep trailing flexes well clear of cutting edges of lawnmowers, hedge-trimmers and electric saws; keep the flex behind you.

**DO...**unplug a lawnmower or hedge-trimmer before removing grass or debris from the blades.

**DO...**wear stout rubber boots when using appliances in the garden; rubber gloves will also give added protection.

**DO...**follow manufacturer's user instructions regarding the use of protective clothing, goggles or footwear.

**DO...**treat all powered cutting tools with care.

**DO NOT...**extend a flex by jointing or with home-made plug and socket assemblies; buy one of adequate length for outdoor use or use approved extension reels.

**DO NOT...**leave garden appliances or tools unattended when they are plugged in, especially if there are children about.



# Buying Electric Appliances

## Electrical Safety Marks

It is an offence under Irish and EU laws to sell unsafe electric appliances. In general, you may assume that appliances for sale in reputable outlets are safe. Any appliance carrying one of the recognised safety approval marks (a selection is shown) has been manufactured to accepted safety standards.

Alternatively the manufacturer may enclose a declaration to the effect that the appliance complies with EU safety requirements.


If you come across an appliance which has neither a safety mark nor a manufacturer's declaration you should ask for written assurance from the seller that the appliance complies with EU safety requirements.



## Nameplate information

Look for the nameplate on the appliance; it should state:

- The manufacturer's name or trademark.
- The voltage, wattage (or current) and frequency.
- A 'double-insulated' symbol if appropriate.
- Model and serial numbers.

Model	Serial no.	
JK205	0029092	
220-240v ~	50-60Hz	1.85-2.2 KW
CAPACITY: 1.7 LITRES (3 PINTS)		
(N)		CE
MADE IN IRELAND		APP. No. N/14153
ELECTRIC APPLIANCES LTD.		

230 volts is now the standard in Ireland and other European countries.

## Guarantees and servicing

When buying an appliance make sure it has a guarantee from the manufacturer or the Irish distributor that an after-sales service will be available.

## Energy labelling

New laundry and refrigeration appliances will now have an energy-rating label to help you choose the most energy-efficient model.

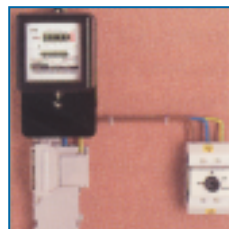
## Buying second-hand used appliances

Be extra careful when buying a used appliance. Ideally it should be checked by a competent person for safety and performance before you buy.

## Basic Maintenance

### The Electricity connection to your home

The electricity connection in your home comes through ESB Network's main fuse and meter. Both of these items are sealed and must never be interfered with. Newer installations have an isolating switch between the ESB meter and the customer's distribution board; older installations have direct connections between the meter and the distribution board. The customer is responsible for the electrical installation on his or her side of the ESB meter.



Repair work on the fixed electrical installation or to electrical appliances should only be carried out by a competent and qualified person and should not be attempted by the lay person. There are, however, some basic electrical jobs that can be safely undertaken by the layman – wiring plugs, replacing light bulbs and fuses.

### Remember

Before working on any electrical appliance make sure to unplug it from its socket.

### Fuses and MCBs (miniature circuit breakers)



The customer's distribution board (or fuseboard) contains the MCBs or fuses which protect individual circuits that carry electricity to your sockets, cooker, lights, etc. These circuits have different size wires (large for a cooker, small for the lights) and, for this reason, have different strengths of MCBs or fuses protecting them. The strength is measured in Amps and will be clearly marked on the MCB or fuse.

An MCB or fuse is a safety device which cuts off the flow of electricity to a circuit if a fault in the circuit or in an appliance causes an overload. An MCB can be reset when the fault is identified and repaired; a blown fuse must be replaced with one of similar strength. It is most important when a fuse fails that it is replaced by one of the same strength and **NEVER** by a stronger one.

A fuse has a small coloured disc in the base and the colour identifies the strength.

Disc colour	Strength	Circuit
Green	6 Amp	Lights
Red	10 Amp	Lights
Brown	16 Amp	Socket outlets – radial
Blue	20 Amp	Waterheater, storage heater
Black	35 Amp	Socket outlets – ring Cooker Electric Shower

## Replacing a Fuse

When a fuse fails the coloured disc usually falls out so the fuse can be identified.

1. If the fuse failure leaves you without light do not attempt to replace it without the aid of a torch – and a safe platform to stand on if the fuse is above your normal reach.
2. Switch OFF or unplug the appliance being used when the fuse failed.
3. Unscrew the fuse holder and discard the failed fuse.
4. Insert the new fuse in the fuseholder and screw it back firmly in place. Switch on the appliance.
5. If the new fuse fails immediately or when the appliance is switched on it usually indicates a fault in the wiring circuit or in the appliance; this should be checked by an electrical contractor.
6. **NEVER** attempt to repair a blown fuse; this can be very dangerous because it removes the protection a fuse provides.



## MCBs

Most modern installations will have MCBs fitted instead of fuses. They are more convenient to use. When the fault-overload which caused the MCB to switch off is located and remedied the MCB is reset to the upward ON position.

## Replacing Light Bulbs

1. Before replacing a bulb turn the light switch OFF. Whereas this is a sensible precaution it is not a guarantee that power to the lampholder is disconnected – never touch the pins in the lampholder.
2. Make sure that the chair or stepladder you use to stand on is safe and steady.
3. Allow the bulb to cool down and use a dry cloth to remove it; bulbs can get very hot and can break easily. If the bulb breaks in the lampholder or if the glass envelope comes away from its base take special care because bare wire connections may be exposed. In this case remove the fuse (or switch off the MCB) protecting the lighting circuit and you should be able to remove the broken bulb using a pliers. However, if you are in any doubt about removing it safely call in a competent person.
4. Hold the lampholder with one hand and fit the replacement bulb. Make sure that the retaining pins of the bulb are firmly fitted into the receiving slots on the lampholder.
5. When replacing a bulb in an appliance such as a fridge or fuel-effect heater unplug the appliance before you start.



## General

Lampholders can become brittle with age, especially where high wattage bulbs are used for long hours. With white plastic lampholders there is often a fishy odour as they deteriorate. Have both the lampholder and flex replaced with heat-resistant types.

# Appliance Faults – Dealing with Repair Services

Repairing electric appliances should be left to qualified people. Before you call an appliance repair service it is worthwhile to run through the following checklists (or the specific checks listed in the manufacturer's instruction leaflet). It may actually avoid the need for a service call. As a general rule you should keep the manufacturer's instruction book and guarantee form to refer to if a fault should occur.

## Calling for a Repair service – essential information

When you have carried out basic checks and a service call is necessary it will help the service company – and, perhaps, speed up the repair – if you can give all the following information when you call.

1. Details of the make and model number of the appliance; this can usually be found in the instruction book or on the rating plate.
2. Full and accurate description of the symptoms of the fault.
3. Your name and address with clear instructions on how to get there.
4. A telephone contact number.
5. Approximate times when access can be gained.

## You should also:

6. Enquire whether there is a minimum charge or other fixed charges.
7. Ask if you need to pay the service person on completion or if credit/charge arrangements are in place.
8. Have proof of purchase if a claim is to be made under a guarantee.

If you must cancel a service appointment, give the service organisation reasonable notice.



# Appliance Fault List

## All appliances

Fault	Possible cause	What to check
Not working	Not plugged in	Is plug firmly in socket?
	Not switched on or controls incorrectly set	Set all controls to <b>off</b> and Re-set machine according to instructions.
	Faulty plug	Is flex correctly wired to plug? Is the plug fuse blown?
	Faulty socket	Does another item, e.g. a table lamp operate in the socket?
	Fuse blown	Is fuse blown at fuseboard? Replace it if necessary (see page 20).
	Damaged flex	Unplug and check flex for any obvious damage, especially where flex enters the appliance.

## Cooker with automatic timer

Fault	Possible cause	What to check
Oven does not heat	Timer set to <b>auto</b>	Re-set timer to <b>manual</b> .

# Appliance Fault List

## Automatic Washing Machines

Fault	Possible cause	What to check
Machine does not fill	Water supply off	All taps/stopcocks on the water supply to machine.
	Kink in hose	Position of hose or machine.
	Detergent dispenser not closed	Is it fully closed?
Water leaks from machine	Loose or deteriorated hose connection	Turn off water and tighten hose on connection; check condition of hose.
	Incorrect or excess detergent used	Use correct detergent and amount.
	Water valve filters blocked	Clean filter, following cleaning instructions.

## Dishwashers

Fault	Possible cause	What to check
Water will not enter machine	Inlet hose kinked	Straighten hose and reset machine.
Water enters but programme will not start	Outlet hose not high enough at discharge point – allowing water to leave the machine	Reposition outlet hose to height recommended in user's guide. Consult plumber if machine is permanently plumbed-in.
Water/Foam leaks on floor	Loose hose connections	Tighten connections.
	Wrong detergent	Use correct detergent and amount.

# Appliance Fault List

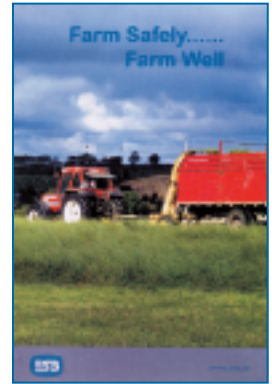
## Fridges and Freezers

Fault	Possible cause	What to check
Motor runs too long	Defective door seal	Check seal for damage.
	Defective thermostat	Set control dial to a lower setting to see if motor switches off. Use fridge or freezer thermometer to ensure correct temperature is maintained.
	Leak in system	Call service agent.
	Insufficient air circulation	Reposition to allow better circulation of air behind the unit.
Interior light	Dust on grid/wires on back of unit	Unplug the appliance and dust or vacuum the grid.
	Bulb failed or faulty	Unplug unit before attempting to replace the bulb.  If the bulb is 'iced in' leave the door open until ice melts.  Take special care with a broken bulb.

## Electrical Safety on Farms

Farm buildings have special safety requirements in regard to electrical installations and equipment. The working conditions on farms and the particular hazards that exist place much heavier demands on electrical equipment. There are special wiring rules that apply to farm buildings and these must be followed to avoid the risk of accidents.

**A crucial point is that domestic-type equipment is not suitable for use in farm buildings.**



ESB and ETCI have published a separate booklet called ***Farm Well . . . Farm Safely*** and this contains essential information on electrical safety for farmers and their families.

## Useful addresses and Phone Contacts

### ESB Networks

Supply Failure and Emergencies, Reporting dangerous situations or damage to electricity networks: Tel: 1850 372 999

New electricity connections, increased capacity, voltage enquiries, safety and technical queries: Tel: 1850 372 757

Email address for queries: [esbnetworks@esb.ie](mailto:esbnetworks@esb.ie)

Website: [www.esb.ie/esbnetworks](http://www.esb.ie/esbnetworks)

ESB's Website [www.esb.ie](http://www.esb.ie) also provides useful information on electrical safety.

### CER

Commission for Energy Regulation,  
Plaza House, Belgard Road, Tallaght, Dublin 24. Tel: (01) 4000 800

### ECSSA

Electrical Contractors Safety and Standards Association

Coolmore, Park Road, Killarney. Tel: (064) 37266

### ETCI

Electro Technical Council of Ireland

Unit H12, Centrepont Business Park, Oak Road, Dublin 12, Ireland. Tel: (01) 4290088

### RECI

Register of Electrical Contractors of Ireland

Unit K9, KCR Industrial Estate, Ravensdale Park, Kimmage, Dublin 12. Tel: (01) 492 9966

