

SOLDERING

Soldering is a process for joining two metals by the application of molten material. Nearly all metals and metal alloys, brass, copper, iron etc, can be soldered. There are two types of soldering: hard soldering and soft soldering.

Hard soldering is a process carried out at temperatures over 450°C. The hard soldering alloys (for hard soldering, brazing and silver soldering) are made of metal alloys that are first melted at temperatures that cannot be achieved by a soldering iron.

Soft soldering is a process carried out at temperatures below 400°C, and this appliance is designed for soft.

The surfaces to be soldered should be kept clean and free from oil and dirt. Never use household detergents since they often contain silicon. The oxide coating can be removed by using either the chemical corrosion method, emery paper, or by filing or scraping. If the corrosion method is used, avoid using hydrochloric, sulphuric or nitric acid. Citric acid, at a 10% dilution ratio, is recommended. When cleaning is finished, do not touch surfaces to be soldered. The correct temperature is attained when tin deposited on the tips forms a smooth coat. The formation of small clots means the correct temperature has not been attained. If tin 'pearls' are formed, the tip is not properly clean.

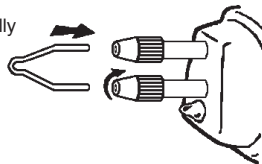
Operating Instructions For The Soldering Gun Before using the soldering gun please carry out the following checks:

1. Check that the voltage displayed on the nameplate is the same as the mains power source.
2. Before switching on, make sure the soldering tip is properly in position and that the tip clamp screws are tight.
3. Connect to an appropriate 230 volt mains outlet socket, and switch the socket on (if applicable).
4. Press the trigger and the operating light will illuminate indicating that the gun is heating. The temperature will rise to 300 degrees in 20 seconds, the gun is now at its operating temperature.
5. Never try to lock the trigger in the 'On' position by any means. This will cause overheating and burn out the tip, resulting in permanent damage to the gun and to the transformer.
6. Soldering tips must only be removed when the soldering gun is cool and disconnected from the mains supply. Loosen the two clamping screws and slide the soldering tip out carefully, without using excess force.
7. Do not heat up the soldering gun without the soldering tip fitted in place.
8. After use, allow the soldering gun to cool down naturally in the air (do not attempt to speed up the cooling process by applying water or any other liquid).
9. The power lead fitted to the soldering gun is a special high quality cable, and it is resistant against short-time contacts with hot metal parts. In the event of damage to the power lead, it cannot be exchanged due to the special construction of the soldering gun. The gun can then no longer be used according to the safety prescriptions.

CAUTION

1. Always use an appropriate soldering stand, and any other soldering aids which are designed to avoid burns.
2. Always check that the soldering tip is fitted firmly in place before switching on. The soldering tip must be pushed fully into the heating unit, and tightly fastened with its clamping screw.
3. After use, allow the soldering iron to cool down naturally in the air (do not attempt to speed up the cooling process by applying water or any other liquid).

Insert the new tip fully into the gun and tighten the two retaining screws.



100 Watt Soldering Gun



Instruction Manual

Replacement tips are available from your local Faithfull Tools stockist or online from www.toolbank.com

Please ensure that these instructions are read by the operator before using the product, and that all the safety guidelines are understood. Please keep these instructions for future reference.

For your own safety, please read these instructions carefully



- 1 100 watt soldering gun
- 2 Solder wire
- 3 Resin flux
- 4 2 spare gun tips

General Safety Rules

Soldering can be dangerous if safe and proper operating procedures are not followed. As with all tools, there are certain hazards involved with the operation of this product. Using the tool with respect and caution will considerably reduce the possibility of personal injury. Please note that personal injury to the operator may occur if normal safety precautions are overlooked or ignored.

Safety equipment may reduce the likelihood of potential injury to the operator, but it is no substitute for good judgment, care and attention. Always exercise caution in the workshop.

REMEMBER:

your personal safety is your responsibility.

This tool was designed for soldering applications only. We strongly recommend that it is neither modified nor used for any applications other than those for which it was designed.

WARNING

Failure to follow these rules may result in serious personal injury.

1. **For your own safety, read these instructions before operating this soldering tool.** Get to know the tool's applications and limitations.
2. **Make sure this appliance is earthed.** This tool is supplied complete with a factory fitted 13 amp 3-pin plug. The green and yellow conductor in the core is the earth wire; never connect this wire to a live terminal.
3. **Do not use in a dangerous environment.** Do not use the gun in the vicinity of flammable liquids or materials. Never use an electrical appliance in the rain, in wet areas or with wet hands, because using an electrical appliance under these conditions greatly increases the possibility of electric shock.
4. **Unauthorised people, especially children should be kept clear of the work area.** Never leave a soldering tool unattended.
5. **Do not use this tool for work beyond its prescribed capacity.** Do not apply excessive pressure or otherwise force the tool. Do not drop or treat it roughly. Mishandling can weaken insulation and other safety features.
6. **Never lift soldering tools or hang them on hooks or nails by their cables.** This may cause a short or damage the power cable.
7. **Always use the right tool for the job and only for the purpose for which it was designed.** Do not attempt to adapt or modify a tool for an alternative purpose, or to gain a greater working capacity than for which it was intended.
8. **Dress appropriately.** Non-slip footwear is recommended. Wear protective hair covering to contain long hair.
9. **Always maintain a good firm foothold.** Keep well balanced and keep the work and floor areas clean.
10. **Wear safety glasses.** Everyday glasses only have impact resistant lenses, and they offer much less protection than safety glasses.
11. **Prior to operation, carefully inspect the tool for abnormalities and damage.** Any part that is damaged, including the casing or the cable, should be properly and safely repaired or replaced.
12. **Turn off the power supply switch and unplug the soldering tool if you are leaving it unattended, vacating the work area, or in the event of an electrical failure.**
13. **Drugs, alcohol or medication.** Do not operate the machine while under the influence of drugs, alcohol or any medication.
14. **Warning:** Always use the soldering gun in a well-ventilated area.

SAFE USE OF POWER SUPPLY

Voltage

The standard voltage throughout all European Union countries is 230 volts. Safety and performance will not be affected on equipment currently rated at 240 volts. Ensure that the supplied voltage is the same as that specified on the nameplate of the machine.

Plugs

Under CE regulations, all new domestic appliances, including DIY power tools, must be sold with a plug already pre-fitted to the machine. Currently, industrial power tools are covered by separate legislation, and some 230 volt industrial power tools may not have a plug fitted. Ensure that any plug is fitted correctly. If in doubt, ask a qualified electrician to do it for you. Ensure that the correctly rated fuse is fitted to the plug to suit the appliance being used.

Use of an RCD

When using an electrical tool (particularly outdoors), we recommend the use of a residual current device (RCD) such as the Faithfull Tools model, product code FPP RCD, or a power circuit breaker, for enhanced protection. To check that the socket is correctly wired, we recommend the use of a 13 amp socket tester.

General Electrical Connections

Connecting your soldering gun to the power supply (230 Volt Only)

To eliminate the possibility of an electric shock your soldering gun has been fitted with a BS approved plug which incorporates a fuse, the value of which is indicated on the pin face of the plug. Should the fuse need to be replaced, an approved BS1362 fuse of the same rating must be used. If the fitted plug is not suitable, it should be removed and the correct type of plug should be fitted by a qualified electrician.

FLUXES

Soldering alloys (soft soldering) are produced in a wire form only for the DIY market and there are two types of soldering wire:

- Soldering wire without flux
- Soldering wire with flux core

Flux is used to remove the oxide coating from the surfaces prior to soldering, as well as preventing the formation of oxide during soldering.

Fluxes are available in paste and liquid form.

After soldering, remove excess paste and liquid fluxes with a brush or a cloth. Resin fluxes (rosin) should not be removed.


WARNING

A plug with bare flexible wires exposed is hazardous if plugged into a live power socket.

WARNING: THIS APPLIANCE MUST BE EARTHED

Green & Yellow	-	Earth
Blue	-	Neutral
Brown	-	Live

If these colours do not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured green and yellow must be connected to the terminal in the plug which is marked with the letter 'E' or by the earth symbol  or coloured green and yellow.

The wire which is coloured blue must be connected to the terminal which is marked with the letter 'N' or coloured black or blue.

The wire which is coloured brown must be connected to the terminal which is marked with the letter 'L' or coloured red or brown.

Extension Lead Chart:

Extension lead sizes shown assure a voltage drop of not more than 5% at the rated load of the machine.

AMPERE RATING	3	6	10	13
Extension cable length (Metres)	Wire size mm ²			
7.5	0.75	0.75	1.0	1.25
15	0.75	0.75	1.0	1.5
22.5	0.75	0.75	1.0	1.5
30	0.75	0.75	1.25	1.5
45	0.75	1.25	1.5	2.5

SOLDER AND FLUXES

ALLOYS

Electronics: Melting point 185°C, low melting point alloy. Used in electronics.

Radio: Melting point approx. 230°C. Used for thin soldering and model making.

General purpose: Melting point approx. 255°C. For general soldering.

Tin solder paste: Cold material to be spread on surfaces to be jointed.

Tin paste: Replaces tin wire and flux.

Tip cleaning blocks: Used for cleaning soldering tips.

Paste flux: Flux supplied in paste form.

Liquid flux: For use on delicate-to-reach points.