

# Safe use of Thermal Cutting Equipment.

Before using any thermal cutting equipment, the area **must** be clear of all flammable material, i.e., paper, cardboard, rags, paint, thinners, etc. or any other flammable liquids/material etc.

When using any Thermal Cutting process, adequate ventilation equipment **must** always be used.

## Plasma Cutting.

(The Plasma Cutting Process can be used to cut ferrous and non-ferrous materials).



Before operating plasma cutting equipment all cables, hoses, tips and electrodes must be checked for damage.

The correct items of PPE for plasma cutting, in addition to the normal workshop PPE, are tinted glasses, face shield or welding mask set to the grinding setting, (this setting depends on the amps being used, the higher the amps the darker shade required), and leather gloves.

The material being cut must be supported, this includes the parts being cut, to prevent them falling when cut, this could injure the operator, or damage the cables or hoses.

To prevent the cables and hoses getting damaged they should not be on the floor near the area where the parts or sparks could damage them.

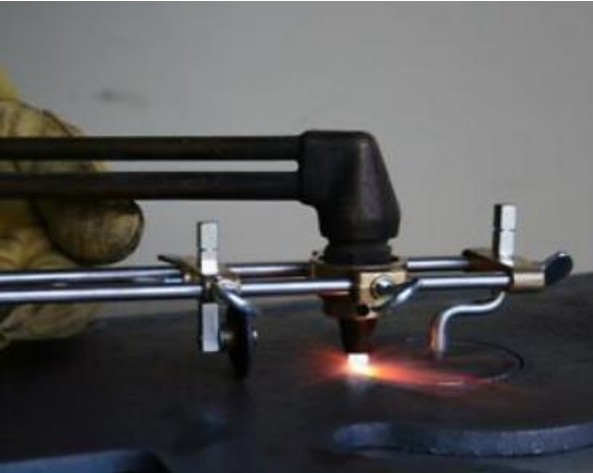
To ensure a clean cut the current return lead must be connected directly on to the material being cut, not to the bench the material is supported on.

The material should also be earthed, (this is normally covered by the steel bench being on the concrete floor).

**Safety It is important, that at all times, when working in an engineering environment, safety glasses, steel toe cap boots, overalls and ear defenders, ARE WORN AT ALL TIMES**

## Oxy/Fuel Gas Cutting.

(The Oxy/Fuel Gas Cutting Process can only be used to cut ferrous material).



Oxy/Fuel gas cylinders **must** be used in the upright position and secured either in a purpose made trolley or to secure brackets bolted to a steel column or a solid wall.

The common fuel gases used in the UK are either Acetylene or Propane, all the equipment, on all industrial fuel gases have left-hand threaded connections, with the oxygen having right-hand threaded connections, this is to prevent the wrong parts being fitted to the incorrect cylinder etc.

The required outlet pressures will depend on the thickness of ferrous metal being cut and this will also determine the nozzle size to use.

To set the pressures the cylinder valve must be turned on slowly, then the knob on the regulator turned clockwise until the correct pressure is shown on the gauge on the regulator, this must be done with the relevant valve being open on the cutting torch, to give a correct flow pressure, once this is achieved the torch valve must be closed. The same procedure should be carried out on the other cylinder.

Before lighting the flame, all the hoses and connections must be checked for leaks, with a leak detection spray or fluid.

The correct items of PPE for oxy/fuel gas cutting, in addition to the normal workshop PPE, are tinted glasses, face shield or goggles, and leather gloves.

The material being cut must be supported, this includes the parts being cut, to prevent them falling when cut, this could injure the operator, or damage the hoses.

To prevent the hoses getting damaged they should not be on the floor near the area where the parts or sparks could damage them.

To achieve a good clean cut the surface of the material must be clean, dry and free from oil, paint and rust.

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