

17. Soldering procedure

Method of works

- Assess pre-works information. Including Asbestos information and report.
- Cordon off area to avoid damage or injury from debris.
- PPE to be worn (gloves/eye protection). Wear face fitted FFP3 mask, where dust may arise. Regular breaks, undertake maintenance of tools.
- Ensure tools and equipment are not acting as a trip hazard.
- Ensure the site supervisor complete a **hot work permit** and that it is closely adhered to. Including a fire extinguisher in the immediate area.

Basic Steps of Soldering

- Mechanical clean - Scotch Brite pad, emery cloth

Application of flux

- Flux should be capable of removing oxides and stop them from reforming.
- Flux should permit displacement by the solder.
- Flux should promote wetting of the surface by the solder.
- Follow Flux MSDS

Application of heat:

- Heating the joints evenly or uniformly is of utmost importance to insure a sound joint.
- Use soldering iron or plumber's torch.

Applying the Solder takes place in two steps:

- Wetting the metal surfaces
- Filling the gap between the wetted surfaces with solder
- Depending upon conditions dictated by the application, each step can be done separately. This allows for more easily controlled conditions.

Cooling the Joint:

- As soon as possible after soldering the joint may be cooled using a water spray or air blast. Slow cooling could cause excessive alloying, resulting in a brittle joint.

Flux Residue Treatment:

- Non-corrosive fluxes are ones which are rosin base and do not require removal. Corrosive fluxes are fluxes containing zinc chloride. Removal is a must to prevent corrosion.
- Make good all areas affected by the installation or any other works, dispose of all debris and leave site in a clean and tidy condition.

See additional docs

Hot works permit
PPE

Risk Assessment

Hazard	Control Measures
COSHH	When using any chemicals, the COSHH safety data sheet will be followed to ensure that the safe working practice is followed. This includes storage and use, including the correct use of PPE. Common material sheets are within this document. Additional MSDS may be required for extra chemicals/substances ie Flux.
Hygiene	Good personal hygiene is a necessity washing of hands prior to any breaks (food – ingestion).
Asbestos	All operatives are to be Asbestos awareness trained. HSG264 R+D Asbestos survey is to be referred to before any works commence. Ensure asbestos are not disturbed during works. Tradesmen are to remain vigilant at all times when onsite and if any additional suspect materials are identified, site manager is to be informed immediately.
Hot Works	Site to have suitable fire extinguishers, also all WMS company vehicles hold a fire extinguisher and operatives are trained in the use. Site manager/Contracts supervisor to grant permission via a WMS hot works permit. No hot works are to take place without the permit in place! Combustible and or flammable materials are to be stored well away from ignition sources.

PPE

