

# SMSA – Safe Work Procedure

## OXY-FUEL GAS WELDING



**DO NOT use this equipment unless you have been instructed in its safe use and operation and have been given permission**

### PERSONAL PROTECTIVE EQUIPMENT



Welding goggles must be worn at all times in work areas.



Long and loose hair must be contained.



Oil free leather gloves must be worn.



Sturdy footwear must be worn at all times in work areas.



Close fitting/protective clothing must be worn.



Rings and jewellery must not be worn.

### PRE-OPERATIONAL SAFETY CHECKS

- ✓ Locate and ensure you are familiar with all machine operations and controls.
- ✓ Check workspaces and walkways to ensure no slip/trip hazards are present.
- ✓ Keep area clean and free of grease, oil and any flammable materials.
- ✓ Ensure gas hoses are in good condition and do not create a tripping hazard.
- ✓ Before lighting up, check all equipment for damage.
- ✓ Check that the area is well ventilated. Start the fume extraction unit before beginning to weld.
- ✓ Ensure the unit is fitted with working flashback arresters.
- ✓ Ensure work return earth cables make firm contact to provide a good electrical connection.

### PRESSURE SETTING

- ✓ Check that the oxygen and acetylene regulator adjusting knobs are loose.
- ✓ Check that both blowpipe valves are closed.
- ✓ Slowly open the cylinder valves on each cylinder for half a turn only.
- ✓ Screw in the regulator adjusting knobs slowly until the delivery pressure gauges register 70kPa.
- ✓ Purge and check for constant oxygen gas flow:
  - Open the oxygen blowpipe valve for 2 seconds and check the delivery gauge.
  - If necessary re-adjust the oxygen regulator to achieve a 70kPa pressure.
  - Close the oxygen blowpipe valve.
- ✓ Purge and check for constant acetylene gas flow:
  - Open the acetylene blowpipe valve for 2 seconds and check the delivery gauge.
  - If necessary re-adjust the acetylene regulator to achieve a 70kPa pressure.
  - Close the acetylene blowpipe valve.

### LIGHTING UP

- ✓ Open the acetylene blowpipe valve slightly and light the blowpipe with a flint lighter.
- ✓ Continue to slowly open the acetylene valve until the flame no longer produces soot.

- ✓ Slowly open the oxygen blowpipe valve until a neutral flame is produced.

### SHUTTING OFF BLOWPIPE

- ✓ Close the acetylene blowpipe valve first.
- ✓ Then close the oxygen blowpipe valve.

### ENDING OPERATIONS

- ✓ Close down both cylinder valves.
- ✓ Open oxygen blowpipe valve to allow the gas to drain out.
- ✓ When oxygen gauges read zero, unscrew regulator-adjusting knob.
- ✓ Close oxygen blowpipe valve.
- ✓ Turn off acetylene cylinder valve.
- ✓ Open acetylene blowpipe valve and release gas.
- ✓ When acetylene gauges read zero, release regulator adjusting knob.
- ✓ Close acetylene blowpipe valve.

### CLEANING UP

- ✓ Hang up welding blowpipe and hoses.
- ✓ Switch off the fume extraction unit.
- ✓ Leave the work area in a safe, clean and tidy state.

### POTENTIAL HAZARDS

- ⓘ Burns.
- ⓘ Radiation damage to eyes.
- ⓘ Flying sparks.
- ⓘ Combustible materials.
- ⓘ Fumes.
- ⓘ Explosion by gas leakage.
- ⓘ Flashbacks.
- ⓘ Oil and grease.

### DON'T

- ✗ Do not use faulty equipment. Immediately report suspect equipment.
- ✗ Do not light the blowpipe with matches or lighters.
- ✗ Do not use oil, grease or other hydrocarbons.
- ✗ Do not use oxygen as a substitute for compressed air.

**This SWP does not necessarily cover all possible hazards associated with this equipment and should be used in conjunction with other references. It is designed as a guide to be used to complement training and as a reminder to users prior to equipment use.**

*This information is provided by Frontline Safety*