

## Safe Operating Procedure #05 – Welding (Arc/MIG)

	Activities	Procedures	Hazards/Risks	Controls
1	Check gas supply and general equipment including UV mask	<p>Check Argon gas supply and check all connections are firm and that all protective equipment is in good condition.</p> <p>Check correct choice of electrodes.</p>	<p>Valve leaks, UV exposure and eye damage through broken or faulty welding mask.</p> <p>Excessive or dangerous fumes due to incorrect electrodes or coatings on metals to be welded.</p>	<p>Check that valve guards are in place and all connections are correct.</p> <p>E3615-15 electrodes should not be used as they produce toxic fumes.</p> <p>Do not weld metal that is coated without consulting the Supervisor. (see Step 5)</p> <p>Check that all gear is in good working order. In the event of a fault, do not proceed until Supervisor instructs you to however Supervisor must document fault in Works Diary. Repair to be arranged and alternate safe-to-use equipment to be provided.</p>
2	Check work area is safe	Check work area is free of combustible materials and area of work is slip & trip free and welding screens are in place	Risk of combustion causing burns or fire, risk of operator slipping or tripping, exposure of operator or others to UV Radiation causing skin or eye cancers	Ensure all combustible materials are clear of welding area. Ensure floor areas are clear of trip or slip hazards. Do not wear synthetic clothing – use flame-proof material. Ensure screen protection is in place for welding radiation and sparks. Ensure adequate ventilation and clearance under screens for air flow. Ensure operator uses gloves/gauntlets, and eye protection with welding UV mask. Ensure long sleeve shirt and pants are worn.
3	Secure or position the steel to be welded and earth	Ensure steel to be welded is secured and cannot move and that	Steel moves or is moved by hand causing manual handling injury.	Ensure steel is in position after being moved or craned or wheeled to cutting area –

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		MIG gear is earthed	Work clamp or cables too hot causing hand burns.  Burns possible.  Exposure to ultra violet radiation	do not manually handle unless you have assessed that it is safe to do so. Earth to “clean” surfaces to avoid overheating cables or earth clamp.
4	Use MIG system to weld steel	Ensure work is secured against movement and proceed to weld	Welding point moves over clothing or body parts or spatter lands onto hands or sparks fly to face or eyes	Ensure leather apron or equivalent body protection is worn, leather gloves are worn, eye and UV mask protection is worn and others are clear of work area
5	Spot welds on galvanised steel	Ensure you are only required to carry out minimal spot welding on galvanised steel and that it can be carried out in a well-ventilated area	Welding fumes are hazardous to health particularly if welding galvanised steel	Weld in well-ventilated area and only minimal welding such as spot welds of brackets permitted
6	Welding	Fumes given off	Toxic fumes affecting operator or other in close vicinity	Ensure work area is well ventilated, take regular rests in fresh air environments and avoid crouching over the work with face over the fumes. Ensure hoses are clear of any hot fragments that may fall onto them.
7	Welding complete	Steel cooling/weld seam cooling	Surfaces remain hot causing burns	Wait for cooling before handling steel pieces. Wear leather gloves when handling steel that is cooling.

- Personal Protective Equipment that must be used: welding UV mask, leather apron or equivalent, eye protection (mask), leather gloves/gauntlets, steel capped footwear, flame resistant clothing ie not synthetic

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This SOP has been developed in consultation with me and I agree to follow it and carry out tasks in a safe manner, reporting any problems to my immediate Supervisor.

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