

Safe Operating Procedure #11 – Plasma Machine

	Activities	Procedures	Hazards/Risks	Controls
1	Transferring work piece to plasma machine	Use of crane for moving heavy pieces. Manually moving pieces if light enough.	<p>Manual handling injuries</p> <p>Risks/hazards associated with use of overhead crane (See SOP 02 – Use of Gantry Crane)</p>	<p>If necessary to manually handle the work at all, assess the weight and where it has to go and only handle it alone if safe to do so. Use someone to assist you and use mechanical equipment where necessary.</p> <p>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> <p>See SOP 02.</p>
2	Operation of compressor	Visual inspections of compressor	Malfunctioning compressor resulting in oil and/or electrical fires.	<p>Preoperational safety check undertaken by operator to ensure</p> <ul style="list-style-type: none"> - Operator familiar with operation including use of the emergency stop - Fire extinguishers are readily available (ABE or CO2) - Air hoses are attached and in good condition - Electrical leads are tested and tagged for the current period and in good condition - Compressor service tag shows current maintenance - Regulator set to appropriate pressure - Sufficient oil level - the inner compartments are clear of oil or any other combustible or flammable materials

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				<p>During operation, operators to ensure:</p> <ul style="list-style-type: none"> - Operation of compressor is monitored for any air leaks, sudden pressure changes - The compressor is never left unattended <p>Before breaks or end of working day, operators are to ensure:</p> <ul style="list-style-type: none"> - Work areas are left clean and tidy - Operator or fire-watch checks for any fires
3	Check condition of equipment	Check torch tip and check oxygen and argon. Change torch parts if necessary	Electrocution, burns, electric shock	Disconnect power before checking, cleaning or changing torch tip. Isolate coolant pump prior to changing cutting head. Ensure that the torch is a Hypertherm torch. Wear eye protection.
4	Check electrical safety	Conduct check of electrical gear and ensure electrical safety	Electrocution, burns, electric shock	<p>Ensure clothes are dry and wear insulated gloves and protective footwear with soles that are in good condition and can guard against slip. Check that RCD protection and cord/leads are in proper condition and area is not wet.</p> <p>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>
5	Check safety of work area	Ensure general area is safe	Trip or slip injuries and risk of fire	<p>Ensure that supply covers are in place.</p> <p>Ensure that the work area is free of any trip or slip hazards and any flammable chemicals.</p>

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6	Operate plasma machine	Use plasma machine to cut steel	Flash or glare and infra-red or ultra-violet rays, hot slag and sparks, fumes. Noise. Moving parts of the machine.	<p>Prior to operating the machine, ensure you are aware of the locations of the emergency stop buttons which are to be used in a situation where the machine needs to be immediately shut down. These are located next to the controls as well as on the opposite side.</p> <p>Keep other personnel away from the machine operating area and clear of flash or glare and ensure screens are in place.</p> <p>Do not cut any steel that is coated without consulting the Supervisor.</p> <p>Keep clear of all hot surfaces and the torch area.</p> <p>Wear eye protection with side shields and proper lens shading to protect against ultra violet and infra-red radiation.</p> <p>Ensure that there is adequate ventilation and if using a fan that it is not exhausting fumes to other personnel.</p> <p>Wear hearing protection</p>
7	Remove work pieces from machine	Use of crane for moving heavy pieces. Manually moving pieces if light enough.	<p>Manual handling injuries</p> <p>Hot material causing burns</p> <p>Risks/hazards associated with use of</p>	<p>Ensure enough time has elapsed to allow material to cool and wear gloves</p> <p>See SOP 02.</p>

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			overhead crane (See SOP 02 – Use of Gantry Crane)	
8	Clean up debris	Ensure any waste or debris is freed from plasma machine areas using compressed air if required	Hand injuries from sharp metal fragments and eye contamination	Wear protective gloves and eye protection with side shields

- Personal Protective Equipment that must be used: Insulated gloves, eye protection with side shields and proper lens shading or else a proper welding helmet, insulated footwear, hearing protection



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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.