


UC SANTA BARBARA Environmental Health & Safety Design, Facilities & Safety Services		Procedure No.: SS-MHA-E/ARC-WLD
Title: Shop Equipment Hazard Analysis & Management Form		Authorized/Approved By: John M. Seaman, EHS Industrial Safety Manager
Issue Date: 05/07/2013	Review Date: 10/05/2021	Page Number: 1 of 4

1. Hazard Management Details - General		
Shop/Equipment Item: <b>ARC WELDER – ELECTRIC</b>	Make/Model No.:	Serial No.:
Department:	Work Location:	
Person(s) Conducting Hazard Analysis: <b>JOHN M. SEAMAN</b> <i>EHS, Industrial Safety Manager</i>		Date Conducted: <i>May 7, 2013</i>
Equipment Photo:	Description of Use:	Summary of Key Risks: (refer to appropriate subsections)
	<p>Arc welding is a type of welding that uses a welding power supply to create an electric arc between an electrode and the base material to melt the metals at the welding point.</p> <p>They can use either direct (DC) or alternating (AC) current, and consumable or non-consumable electrodes. The welding region is usually protected by some type of shielding gas, vapor, or slag.</p> <p>Arc welding processes may be manual, semi-automatic, or fully automated.</p>	<ul style="list-style-type: none"> <li>• <b>Inhalation</b></li> <li>• <b>Eye Injury</b></li> <li>• <b>Trauma/Burns</b></li> <li>• <b>Foot Injury</b></li> <li>• <b>Fire</b></li> <li>• <b>Electrical Shock</b></li> </ul>

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**2. Documentation:**

Relevant Legislation/Standards	Y / N	Comments:
a. Is equipment required to be registered?	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	
b. Is a user license/Certification required?	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	
c. Key Reference Materials Required:	<i>OSHA requirements outlined in 29 CFR 1910.252 and 1910.254.</i>	
Equipment Documentation	Y / N	Comments:
a. Are operator's manuals accessible?	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
b. Is this a restricted use item?	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	<i>Operator must be <u>trained and authorized</u> prior to use</i>
c. Does this equipment require safe use document(s)/test?	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	

**3. Personal Protective Equipment (PPE) Required** (Check the box for required PPE)

 Gloves	 Face Masks	 Eye Protection	 Face Shield	 Hearing Protection	 Safety Footwear	 Protective Clothing	 Welding Mask
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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4. Hazard Analysis

TASK	HAZARD	CAUSE	PREVENTIVE MEASURE
a. Routine Operation	Inhalation	Hazardous fumes, gases, dusts	Appropriate ventilation, as required appropriate respirators
	Eye Injury	Projectiles, fumes, dusts, flashes	Helmets, goggles, appropriate noncombustible or flame-proof screens
	Trauma	Projectiles, burns	Situational awareness, PPE, protective clothing, switch guards
	Foot Injury	Drop object on foot	Wear safety shoes/boots
	Fire	Heat, sparks, slag	Remove all combustibles and fire hazards from welding area. Keep appropriate fire extinguisher nearby.
	Electrical Shock	Improper grounding, improper operations and maintenance, improper switching device	Lockout/tagout, proper grounding of secondary and case portable welding transformers, manufacturer's instructions strictly followed, proper switching for shutting down machine
b. Routine Maintenance or Repair	Trauma/Burns	Uncontrolled/unexpected start up of machine	Use appropriate energy isolation procedures prior to beginning maintenance work
c. Shutdown and Isolate Unit	Electrical Shock/Burns	Failure to follow Lockout/Tagout procedures	Strictly adhere to established Lockout/Tagout protocols

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Equipment/Machine: ARC WELDER - ELECTRIC

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**Equipment Procedures/ Requirements**

1. Before cutting or welding is permitted the area shall be inspected by an individual responsible for authorizing cutting and welding operations.
2. Operate equipment in strict accordance with Manufacturer's instructions.
3. Employee's assigned to operate equipment will be familiar with the OSHA requirements outlined in 29 CFR 1910.252 and 1910.254.
4. Only authorized users may operate equipment.
5. Connections and machine grounding shall be checked prior to use.
6. Report any observed defect or safety hazard to your supervisor immediately.
7. Where any object handled would possibly cause injury to feet if dropped, safety shoes will be worn.
8. Where any object handled could possibly cause cuts, punctures or abrasions to hands, appropriate gloves will be worn.
9. Keep hands, hair and loose clothing clear of all moving parts.