








Safety &
Emergency
Management






Safe Work Procedure

Arc Welding Safety Procedures

OSEM 18.37.2

Program/Services Trades and Visual Arts	Safe Work Procedures		Department: Safety and Emergency Management
Personal Protective Equipment or Devices Used <ul style="list-style-type: none"> Safety Glasses Work Gloves Work Boots Hard Hat Respirator with HEPA filters Welding Helmet must be in good shape and have protective lenses meeting shade selection requirements Protective clothing (welding jacket, welding gloves, respirator) 	Training Requirements <ul style="list-style-type: none"> In class safety training Hands-on training in the shop 	Applicable Documents	Effective Date: April 23, 2019

<p>ELECTRICAL HAZARD</p>  <p>Do not attempt to service electrical wires.</p>	<p>PINCH POINTS</p>  <p>Use LOCK-OUT procedures when performing maintenance or conducting any work within 12" of an exposed pinch point.</p> <p>NEVER put your hands or feet near an exposed pinch point or gears!</p>	<p>HIGH SOUND LEVELS</p>  <p>HEARING PROTECTION is required when working in designated.</p> <p>Required when Sound levels exceed 85 dB areas.</p>	<p>FOOT INJURY</p>  <p>Approved protective footwear is required when there is the risk of foot injury due to slipping, uneven terrain, abrasion, crushing potential, temperature extremes, corrosive substances, puncture hazards, electrical shock and any other recognizable hazard.</p>	<p>FOOT INJURY FALLING OBJECTS</p>  <p>The appropriate ASTM or CSA approved footwear must be worn when job hazard analysis shoes it is required.</p>
---	--	---	---	---

EXPLOSIVE	EXPOSURE	UV LIGHT	COMPRESSED GASES	FIRE
 <p>Make sure volatile chemicals are stored and handled correctly.</p> <p>Proper grounding must be used for all containers</p>	 <p>Understand the chemicals(s) you are working in the vicinity of.</p> <p>Consult the SDS and wear the appropriate PPE.</p>	 <p>Ensure you are taking safety measures to protect yourself from UV rays while welding.</p>	 <p>Do not:</p> <ul style="list-style-type: none"><li>• Drop<li>• Keep near heat	 <p>Ventilate the CS.</p> <p>Complete a hot work permit as Work Safe BC requires it.</p>



ARC WELDING PROCEDURES

Setting up Work Piece on Fixtures

- Use mechanical hoists or get assistance from co-workers to set-up or adjust workpieces.
- Wear recommended footwear.
- Wear recommended gloves when handling workpieces with sharp edges.
- Ensure workpieces are securely clamped to the fixture where necessary.
- Clean work areas and surfaces of unused tools and materials.
- Workpieces should be clean and secure to fixture.

Energize and set arc welding machine amperage and current.

- Ensure welding machine is properly grounded
- Welder should be insulated from live electrical parts and kept dry.
- Inspect and replace cables, plugs, and leads that show any signs of defects.
- Wear recommended gloves and clothing
- Refer to Operator's sheet or welders manual for correct amperage and current to be used.

Turning on gas and setting the flow rate

- Consult Operator sheet or Welder manual for correct flow rate for the task.
- Practice caution around compressed gas cylinders.
- Protect gas cylinders from excessive heat, mechanical shock, and arcs.
- Ensure cylinder is insulated and fastened so it will not fall over.
- Do not use a compressed gas cylinder that appears to be damaged and/or defective.

Welding Workpieces

- Wear welding helmet with proper grade of the filter plate.
- Ensure you are wearing hearing protection at all times.
- Ensure flash curtains/ barriers are used to protect bystanders/observers
- Wear recommended protective clothing. Ensure any exposed skin is covered during the welding process. Do not wear metal jewelry and clothing with cuffs and or pockets. Stay a safe distance away from the arc.
- Use local exhaust ventilation and a fan to maintain good air circulation.
- Do not weld workpieces unless it is properly cleaned of oils or paint.
- Remove any combustible material from the immediate welding site. Keep a fire extinguisher readily available.
- When an electrode gets too short, stop welding and restart with a new electrode rod. Wear recommended gloves when welding and changing electrode rods.

Complete welding

- Ensure Arc welding machine power to the arc is electrically de-energized. When not in use electrode rod should be removed from the holder and the holder should be placed so it cannot make contact with conducting objects, flammable liquids, and /or compressed gas cylinders.

Removing Work Piece from Fixture and Transport to Inspection

- Use a mechanical hoist or get assistance from co-workers to transport workpieces.
- Ensure work areas and surfaces are clean and clear of unused tools and materials.
- Remove dust and debris regularly to maintain and clean work site.

ASSOCIATED DOCUMENTATION

Document Number	Document Title
S&EM 18.35.1	Welding Safety Procedures
S&EM 18.36.2	Safety for Oxyacetylene welding

RECORDS/VERIFICATION OF UNDERSTANDING

Records

- Training records shall be maintained by the Instructor

Verification of Understanding

- A training master log will be maintained by all Supervisors and Student Instructor

SUMMARY OF CHANGES

Revision #	Date	Change	Issued By
1	06/09/2014	NEW	OHS Officer
2	04/23/2019	Revisions and New Format	Safety Officer