SAFE OPERATING PROCEDURES

**Oxy-Fuel Gas Welder**

**DO NOT** use this system unless you have received authorization from the Shop Manager

- Eye protection must be worn at all times.
- Goggles (or equivalent) with the correct shade lens must be worn when welding or cutting.
- Respiratory protection may be required.
- Long and loose hair must be contained.
- Oil-free leather gloves must be worn.
- Appropriate protective clothing must be worn.
- Rings and jewelry must not be worn.
- Sturdy closed-toe footwear must be worn.
- Pants must not be rolled up nor tucked into boots.

**POTENTIAL HAZARDS AND INJURIES**

- Fire or explosion (trauma/burns)
- Fumes (respiratory hazard)
- Radiation (eye & skin damage)
- Molten metal/Hot surfaces (burn hazard)
- Flying sparks (burn hazard)

**PRE-OPERATIONAL SAFETY CHECKS**

- Locate and ensure you are familiar with all valves, check valves, flashback arrestors, and regulators.
- If using a portable welding unit, ensure the unit is on a reasonably level surface to avoid tip over.
- Check workspaces, walkways, and routing of gas hoses to ensure no slip/trip hazards are present.
- Ensure the work area is clean and clear of grease, oil and any flammable or combustible materials.
- Ensure your jacket, gloves, torch and hoses are in good condition (e.g., no cuts, tears, burns, melts, cracks, or kinks).
- Ensure cylinder gages read zero pressure, are in good condition (e.g., glass not cracked), and the regulator T-handles are unscrewed until slightly loose.
- Ensure torch valves are closed.
- Ensure cylinder valve protectors are installed securely.
- Start the fume extraction unit before welding or cutting. (In some cases, the Fire Marshal has allowed welding in areas without fume extraction.)
- Review the SDSs for the rod and gases to be used.
- Ensure personal hydration as PPE and direct exposure to heat can increase risk of heat illness.

**SAFE OPERATING PRACTICES**

- Stand to the side of the regulator gages when opening cylinder valves or adjusting regulators.
- Use only a striker to light the torch.
- Ignite acetylene first with torch’s acetylene valve slightly open and without much delay, and adjust flame. Then open the torch’s oxygen valve to the desired flame.
- Keep hoses away from hot surfaces at all times.
- Monitor hoses more closely during cutting operations.
- Bend upper end of rod to avoid poking hazard.
- Close the torch valves in manufacturer-specific order.

**ENDING OPERATIONS AND CLEANING UP**

- Close cylinder valves; then purge hoses and regulators; and, then ensure torch valves are closed.
- Unscrew regulator T-handles until slightly loose.
- Hang up the torch and hose.
- Turn off the fume extraction unit.
- Inspect area for fire risk, and label any hot items.
- Leave the work area in a safe, clean and tidy state.

**DON’T**

- Don’t use faulty equipment; report it immediately.
- Don’t leave the welding unit unattended when cylinder valves are open.
- Don’t use oil, grease, or any hydrocarbons on or near oxygen cylinders, valves, connections, lines, etc.
- Don’t work on drums, tanks, painted or plated materials, etc. without permission.

*SOP to be used in conjunction with an effective training program*  
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