

Garmong Construction Services					
<i>EMPLOYEE SAFETY POLICY HANDBOOK – Welding and Cutting</i>					
Last Revised:	January 25, 2012	By	Douglas Mahurin, MS, CSP	This Copy Printed:	1/25/2012 4:51:00 PM

WELDING & TORCH CUTTING

General

Only trained personnel wearing the proper personal protective equipment are authorized to conduct welding and burning activities.

Always inspect cutting and welding equipment before starting work. Examine hoses before attaching to welding torch handles or regulators. Never use a defective hose or a hose in doubtful condition.

Ensure adequate ventilation is in place before starting a welding or cutting task.

Inspect all work areas and place required shields or blankets before welding or cutting. See that there are no explosives, dangerous gasses, or flammable materials nearby.

When welding and cutting there may be times that you need a fire watch assigned to your work. Check with your supervisor. Keep a correct type fire extinguisher handy and within reach at all times.

Be sure all floor gratings are covered, with no cracks, through which sparks can drop to levels below.

A fire extinguisher must be within 25' of any hot work

Personal Protective Equipment

Do not allow co-workers to stand too near the work or stare at the art. Helpers must be as well protected as the worker welding or torch cutting, and must be wearing the proper eye and face protection.

Some plated and/or painted metals can give off harmful fumes or vapours when heated. Proper ventilation and/or respiratory protection may be required.

When chipping slag, be sure to wear eye and face protection.

A welding jacket and gloves are required when torch cutting or welding.

The proper shade of lens is required when torch cutting or welding.

Pancake face shields are not permitted on this project.

Hard hats may be removed while making welds on a pipe or welding in other positions that make the hardhat hard or impossible to keep on. If the hard hat is removed it must be kept in the immediate vicinity of the worker and put back on as soon as the weld is completed.

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The following are recommended shades of lenses for welding & burning operations:

<u>Operation</u>	<u>Shade Number</u>
Soldering	2
Torch Brazing	3 or 4
Light Cutting up to one inch	3 or 4
Medium Cutting up to six inches	4 or 5
Heavy Cutting, six inches and over	5 or 6
Shielded metal-arc welding, 1/16 to 5/32 inch electrodes	10
Inert-gas metal-arc welding (nonferrous), 1/16 to 5/32 inch electrodes	11
Inert-gas metal-arc welding (ferrous), 1/16 to 5/32 inch electrodes	12
Shielded Metal-arc welding 3/16 to ¼ inch electrodes	12
Shielded Metal-arc welding 5/16 to 3/8 inch electrodes	14
Carbon-arc welding	14

Welding & Torch Cutting Safe Practices

1. Keep oil and grease away from oxygen valves.
2. Oxygen and fuel gas hoses are not interchangeable. They must be easily distinguishable by either color or surface characteristics sensitive to touch.
3. Keep welding hoses clear of any failing metal, slag or sparks.
4. Only qualified technicians should clean or repair a regulator. Do not tamper with the relief valve or remove it from a regulator.
5. Never perform any welding or cutting operation without proper eye/face protection.
6. Always keep gas cylinders secured properly and in a vertical position. Keep valve protection caps in place whenever cylinders are not in use.
7. Always open cylinder valves slowly and carefully. Close valves completely on empty cylinders.
8. When a cylinder wrench is needed on the valve, keep the wrench close at hand so the valve can be turned off quickly if necessary.
9. If using a welding machine mounted on a vehicle, the vehicle must be temporarily grounded while the welding machine is in operation.

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Gas Cylinder Safe Practices

Do's

- You must always keep cylinders in a secure and upright position.
- Keep the protective valve cap in place when a cylinder is not in use.
- Mark the cylinder 'Empty' or 'MT' when the gas has been used.
- Keep oil and grease away from oxygen cylinders (oil and oxygen can ignite spontaneously).
- Open valves slowly, using the valve wheel or T-handle wrench provided by the supplier.
- Store oxygen and fuel gas cylinders at least 20 feet apart or separated by a 5 foot high barrier.
- If the cylinder is too heavy to handle use a hand truck to move it, or ask a co-worker for help.
- Acetylene should not be used in pressures exceeding 15 psi.

Don'ts

- Don't permit sparks, flames, or molten metal to contact the cylinder.
- Never use grease or oil on valves.
- Don't lift cylinders without safety caps in place.
- Never use oxygen to blow or dust off your work clothes.
- Don't roll cylinders horizontally on the ground.
- Never drop cylinders on the ground or other work surfaces.
- Don't store oxygen cylinders with other fuel gas cylinders.
- Never use a leaking gas cylinder. Take it out of service immediately.
- Never mix or match acetylene gauges with oxygen gauges.