Housekeeping

1. The work area must have a fireproof floor.

2. Work benches or tables used during welding, cutting, and heating operations must have fireproof tops.

3. Use heat resistant shields or other approved material to protect nearby surfaces from sparks and hot metal.

4. Move all combustible material away from the work area.

5. Ventilate welding, cutting, and heating work areas adequately to prevent accumulation of explosive or toxic concentrations of gases. When working with lead, lead bearing materials, steel coated with lead paints, cadmium-coated materials or any objects containing metals that may generate or give off toxic fumes, always ensure that suitable respiratory protection equipment is utilized.

6. When welding be sure to read and understand the Material Safety Data Sheet (MSDS) for the alloy being used.

7. Place the oxygen and fuel cylinders close to the location to where you are working. Ensure the cylinders are at a safe distance from sparks or hot metal. Individually chain or otherwise secure the cylinders to a wall, bench, post, cylinder cart, etc. to keep the cylinders upright and secure them from falling over.

Protective Apparel

1. Protect yourself from sparks, flying slag, and flame brilliance at all times. Gas flames produce infrared radiation that may have a harmful effect on the skin and especially on the eyes. Select the appropriate goggles or mask with tempered lenses shaded 5 or darker to protect your eyes from injury and provide good visibility of the work.

2. Always wear appropriate protective gloves and flame resistant clothing to protect skin and clothing from sparks and slag. Keep collars, sleeves, and pockets buttoned. DO NOT roll up sleeves or cuff pants.

3. Remove all flammable and readily combustible materials from your pockets, such as matches and cigarette lighters.

4. Keep all clothing and protective apparel completely free of oil or grease.

5. Do not wear clothing that is easily ignited, such as polyester pants or shirts.

Fire Prevention

Welding, cutting, and heating operations use fire or combustion as a basic tool. The process is very useful when properly controlled. However, it can be extremely destructive if not performed correctly in the proper environment.

Practice fire prevention techniques whenever oxy-fuel operations are in progress. A few simple precautions can prevent most fires and help minimize damage in the event a fire does occur.

1. ALL apparatus clean and free of grease, oil, and other flammable substances. Inspect oxy-fuel apparatus for oil, grease, or damaged parts. DO NOT use the oxy-fuel apparatus if oil or grease are present, or if damage is evident.

2. Never use oil, grease, or lubricant on or around any oxy-fuel apparatus. Even a trace of oil or grease can ignite and burn violently in the presence of oxygen.

3. Keep flames, heat, and sparks away from cylinders, regulators, and hoses.

4. Flying sparks can travel up to a distance of 35 feet or more. Remove all combustible materials away from areas where oxy-fuel operations are being performed.

5. Operators may not become aware of a fire starting while operating apparatus. Their vision is seriously hampered by the welding goggles and dark lenses. Depending upon the circumstances of the work location, it may be advisable to have a fire watcher to operate an extinguisher and sound a fire alarm in case of a fire.

6. Keep an approved fire extinguisher of the proper size and type in the work area. Inspect it regularly to ensure that it is in proper working order. Know how to use the fire extinguisher.

7. Use heat resistant shields or other approved material to protect nearby surfaces, ceilings and equipment from sparks and hot metal.

8. Only use oxy-fuel equipment with the fuel gas it was designed for.

9. After the equipment has been properly set up, open the acetylene cylinder valve approximately 3/4 of a turn, but NO MORE than 1-1/2 turns. Keep the cylinder wrench, if one is required, on the cylinder valve so the cylinder may be turned off quickly if it becomes necessary.

10. All gases except acetylene: Open the fuel gas cylinder valve completely to seal the cylinder back seal packing.

11. Never test for gas leaks with a flame. Use an approved leak-detector solution.

12. Never perform welding, cutting, and heating operations on a container that has held toxic or combustible liquids or vapors.

13. Never perform welding, cutting, and heating operations in an area containing combustible vapors, flammable liquids, or explosive dust.

14. Never perform welding, cutting, and heating operations on a closed container or vessel, which may explode when heated.

15. Avoid operating the equipment in rooms with sprinkler systems unless there is sufficient ventilation to keep the area cool.

16. When the work is complete, inspect the area for possible fires or smoldering materials.

Cylinders

All Government and insurance regulations relating to the storage of oxygen, acetylene and LPG cylinders should be closely observed.

Industrial gas cylinders are made to rigid specifications and are inspected each time they are refilled by your supplier. They are safe if properly handled.

For additional information on the safe handling of gas cylinders, contact your gas supplier or refer to the Compressed Gas Association publication P-1, “Safe Handling of Compressed Gases in Containers”.

* Keep all cylinders, empty or full, away from radiators, furnaces and other sources of heat.
* Avoid contact with electrical circuits.
* Keep oil and grease away from cylinders.
* Cylinders should be screened against direct rays from the sun.
* Protect cylinder valves from bumps and falling objects.
* Inspect the cylinder valves for damaged parts. Keep the valves clean, free from oil, grease, and all foreign materials.
* Close cylinder valves when not in use, when empty, or when moving cylinders.
* Always be sure the cylinder valve is tightly closed before removing the regulators.
* Always replace the cylinder valve cap, if applicable, when the cylinder is not in use.
* Never allow anyone to strike an arc or tap an electrode against any cylinder.
* Never try to fill a cylinder or mix gases in a cylinder. Never draw gas from cylinders except through properly attached pressure regulators or equipment designed for the purpose. If damaged, send the regulator to the supplier or qualified repair technician for repairs. Do not tamper with or alter cylinder numbers or markings.
* Never use cylinders as supports or rollers.
* When transporting cylinders with a crane, use an approved cylinder cradle only. Never use a “magnet” crane to move cylinders
* Never lift the cylinder by its protective cap.
* If you are unable to make a gas-tight seal between the cylinder valve and a regulator nipple, check to see if the connection nut is tight. If so, check the regulator inlet connection for damage. If the cylinder valve is damaged, remove the cylinder from service and notify the gas supplier.
* Never insert washers of lead or other material between the regulator and cylinder valve. Never use oil or grease on the connections.
* NEVER use compressed gas cylinders without a pressure reducing regulator attached to the cylinder valve.
* Never drag cylinders or roll them on the bottom edge, use a suitable cylinder cart.
* Never transport gas cylinders inside a passenger vehicle. Only transport gas cylinders in a suitable ventilated service vehicle. See CGA PS-7, “CGA Position statement on the Safe Transportation of Cylinders in Passenger Vehicles”.
* Use only standard cylinder keys to open cylinder valves, never extend the length of these keys under any circumstances. If valves cannot be opened by hand, do not use a hammer or a wrench; notify the supplier.
* Leave the cylinder key in position when fuel gas cylinder valves are open.
* Some cylinder valves, most notably acetylene cylinder valves, may require adjustment of the valve packing. Consult your gas supplier for the proper method of adjusting the packing. DO NOT use the cylinder if the packing is leaking.

WARNING

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| Cylinders are highly pressurized. Handle with care. Serious accidents can result from improper handling or misuse of compressed gas cylinders. DO NOT drop the cylinder, knock it over, expose it to excessive heat, flames or sparks. DO NOT strike a cylinder in any manner. |