

Manual Section 7	Issue Date 03/17/16	Revision Date 01/01/24	Policy Number LLCP-060
	Compressed Gas Cylinders		

Purpose

This Standard Operating Procedure provides guidance in the safe storage, handling and use of compressed air and gas cylinders. The job pre-planning based on hazard analysis determines the requirements for each project.

Scope

All LLC Companies including, Blanchard Industrial, LLC, GIS Engineering, LLC, Grand Isle Shipyard, Inc., and GWIS, Mack Steel, NuWave, Sun Industries, Valvemax, Discovery Industries, Inc.; hereafter identified as “Company”.

Handling Gas Cylinders

- Cylinders must be transported in a vertical secured position using a cylinder basket or cart, and must not be rolled. Regulators should be removed and cylinders capped before movement. Cylinders should not be dropped or permitted to strike violently and protective caps are not used to lift cylinders.
- Cylinders handled by hoisting equipment shall be carried in a cradle or similar device and care taken to prevent them from being dropped. Slings, ropes, or an electromagnet shall **never** be used to move cylinders.
- Cylinders shall **never** be dropped or allowed to strike each other violently.
- Cylinders shall never be used for any purpose other than to contain gas.
- Empty cylinders shall be marked or labeled "Empty". Valves shall be tightly closed and the valve protection caps replaced.
- Cylinders to be transported shall be loaded and secured in an upright position unless specifically designed for horizontal service.
- Valve protection caps shall never be used for lifting the cylinder.
- When a cylinder cap cannot be removed by hand, cylinder shall be tagged "Do Not Use" and returned to the designated storage area for return to vendor.
- Cylinder valves shall be kept closed with the valve protection cap in place during handling.

Use

- Prior to use a visual inspection shall be conducted to determine that compressed gas cylinders are in a safe condition.
- Acetylene cylinders shall be used in a secured and upright position.
- Valve protector caps shall be kept on cylinders except when the regulator is attached or the cylinder is connected to a manifold system.
- Never mix gases in a cylinder and only professionals should refill cylinders. Empty cylinders must be handled as carefully as full cylinders.
- Threads on a regulator or union shall correspond to those on the cylinder valve outlet. Connections shall not be forced.
- A cylinder of compressed gas shall never be used without a pressure-reducing regulator attached to the cylinder valve.
- Regulators and pressure gauges shall only be used with the gases for which they are designed and intended and should be inspected for grease, oil, dirt and solvents. (Oil or grease shall never be used as a lubricant on valves or attachments to oxygen cylinders, since oil and oxygen under pressure can be a fire hazard. Also, oxygen regulators shall not be handled with oily or greasy hands or gloves.

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- The cylinder valve shall always be opened or closed with the tool supplied by the supplier.
- Sparks, molten metal, electrical currents, excessive heat, or flames shall not be permitted to come in contact with the cylinder or attachment. This includes propane or acetylene and space heaters.
- Cylinder contents shall never be used for purposes other than those for which they were intended.

Examination

- Compressed gas cylinders shall bear all markings and be hydrostatically tested as required by U.S. Department of Transportation (DOT) regulations.
- Cylinders shall be examined for signs of corrosion or other damage.
- Leaking cylinders shall be reported and taken out of service immediately. It should be moved to an isolated, well-ventilated area, away from ignition sources and observed until safely depressurized. Soapy water should be used to detect leaks. If the leak is at the junction of the cylinder valve and cylinder, do not try to repair it, mark or label it as “DAMAGED” and contact the supplier and ask for response instructions.
- Gas identification should be stenciled or stamped on the cylinder or affixed with a label. No compressed gas cylinder should be accepted for use that does not legibly identify its content by name.
- Hoses and connections should be inspected regularly for damage. Hoses should be stored in cool areas and protected from damage.

Storage

- Oxygen cylinders shall not be stored within 20 feet of fuel gas cylinders or combustible/flammable materials (especially oil or grease), unless protected by a noncombustible barrier at least 5 feet high having a fire resistance rating of at least 30 minutes.
- Cylinders, both empty and full, shall be stored and secured in an upright position, unless designed for horizontal use. Cylinders shall be secured with a chain or by some other acceptable means to prevent from being knocked over, and kept in a safe, dry, well ventilated place that is not exposed to heat or the direct rays of the sun.
- Cylinders shall be protected against excessive rise in temperature. Cylinders may be stored in the open, but in such cases should be protected against extremes of weather and stored off the ground to prevent rusting.
- No part of any cylinder containing a compressed gas shall ever be subjected to a temperature above 125°F.
- Cylinders shall be mounted and used in a fashion that will prevent the bottoms from becoming corroded or otherwise damaged.
- Acetylene cylinders shall not be placed in a horizontal position.
- Cylinder valves shall be kept closed during storage with the protective valve caps in place.
- Compressed gas cylinders shall not be accepted from the supplier unless they are properly labeled and have protective valve caps in place.

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Identification

- The prescribed or content markings of gas containers such as labels, color codes, decals, tags, or stencil marks will not be altered, defaced, or removed.
- All empty cylinders must be clearly marked as empty (MT).
- Each gas cylinder shall carry a legible label or marking to identify contents.
- Each required marking on a cylinder must be maintained so that is legible. Original or retest markings which are becoming illegible may be reproduced by stamping information on a metal plate which must be permanently secured to the cylinder by the gas supplier.
- Supplier-owned containers will not be painted.
- If content identification is not clear or present on the cylinder, it will be tagged with a **DANGER DO NOT USE** tag. Inquire with vendor for bottle content and disposition.

Compressed Air Only

- Compressed air shall only be used for cleaning parts when no other means are acceptable.
- All compressed air outlets used for parts cleaning shall be regulated to no greater than 30 psi (pounds per square inch) and a sign shall be posted designating so, or a cleaning tip that is self-regulating to 30 psi must be utilized.
- Before using compressed air for parts cleaning, make sure that debris shall not be blown onto someone else. If necessary, cover nearby equipment with a canvas to prevent damage from debris.
- Compressed air shall never be used for cleaning clothes or body parts. Never point a compressed air nozzle at another person.
- Eye and face protection shall be worn to prevent injury from flying particles.
- Every air receiver shall be equipped with an indicating pressure gauge, so located as to be readily visible, and with one or more spring-loaded safety valves. The total relieving capacity of such safety valves shall be such as to prevent pressure in the receiver from exceeding the maximum allowable working pressure of the receiver by more than 10 percent.
- All safety valves shall be tested frequently and at regular intervals to determine whether they are in good operating condition. Safety valves, indicating/controlling devices, and other safety appliances need to be constructed, located, and installed so they cannot be rendered inoperative by any means.
- Drain valves on air receivers shall be opened and the receiver completely drained frequently and at such intervals as to prevent the accumulation of excessive amounts of liquid in the receiver
- Before operating an air hose, examine all connections to make sure they are tight and will not come loose under pressure. Hold the nozzle when turning air on or off.
- Do not kink a hose to stop the airflow. Always turn air off at the control valve.
- Check hoses regularly to confirm that they are in good condition.
- Never use hoses to raise or lower tools.
- Hoses shall be coiled and stored when not in use. Hoses shall not be left uncoiled where they can become a tripping hazard.

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Training

- All personnel who may use cylinders shall be trained in the proper use, handling and storage of compressed gas cylinders.