

Compressed Gases

Compressed gas cylinders, either empty or full, shall be used, handled, and stored in accordance with the following:

- Compressed gases cylinders must be stored in a vertical position and may not be stored in hallways, stairwells, receiving areas, or locations where they are subject to damage.
- A chain, bracket, clamp, or other restraining device shall be used at all times to prevent cylinders from falling.
- Acetylene or liquefied gas cylinders shall not be placed on their sides, but shall be stood valve-end up.
- A cylinder, whether empty or full, shall not be used as a roller or as a support.
- A cylinder, whether empty or full, in storage or during shipment, shall have the valve closed and cap connected in place, if a cap is provided in the design, or the valve shall be otherwise protected.
- Cylinders shall be marked with either the chemical or trade name. Marking shall be by stenciling, stamping, or labeling and shall not be tampered with or be readily removable. If the labeling is unclear or defaced, return the cylinder or obtain a new label from the supplier. Unlabeled cylinders shall not be used.
- Empty cylinders shall be marked "empty" or "MT" at time of depletion.
- Cylinders of oxidizers such as oxygen shall be stored at least 20 feet from fuel gas cylinders or a highly combustible material such as, but not limited to, oil, grease, flammable gas or a source of ignition, or be separated from the material by a noncombustible wall, not less than five feet high, having a fire resistance rating of one hour. All cylinders shall be stored away from heat in excess of 125 degrees Fahrenheit.
- Where different gases are stored, they shall be grouped by types. Groupings shall separate the flammable gases from the oxidizing gases.
- Storage shall be set up to ensure "first-in, first-out" usage.
- A cylinder storage area shall be posted with the names of the individual gases stocked, and a warning posted against tampering by an unauthorized employee. An assigned storage area shall be located where a cylinder will not be knocked over or struck by a passing or falling object.
- A storage area for cylinders shall be well ventilated. A cylinder shall not be stored in basements or pits except where appropriate ventilation is furnished to keep the area purged of any accumulation of gases.
- Cylinders shall be transported in an upright position and securely fastened by a restraining device to the truck or handcart. Approved handcarts are to be used when transporting cylinders within a building.

- When transported, the regulator must be removed and the protective cap replaced.
- A cylinder shall not be dropped, dragged, rolled on its side, or struck violently.
- A cylinder shall be lifted only by enclosed platforms when using a crane or hoisting device. Electromagnets, ropes, or slings shall not be used.
- When transporting cylinders in an elevator, other passengers should not be allowed to occupy the elevator.
- Use cylinders in an upright position and secure them firmly with chains or clamps.
- Do not use a cylinder of compressed gas without reducing the pressure through a regulator attached to the cylinder valve.
- Use regulators and pressure gauges only with gas for which they were designed and intended. Do not use adapters or modify connectors to circumvent this rule.
- Make sure the threads on a regulator or union correspond with those on the cylinder valve outlet. Do not force mismatched connections.
- Never use oil or grease on valves or attachments for oxygen cylinders. Avoid handling oxygen cylinders and apparatus with oily hands, gloves, or clothing.
- Open cylinder valves slowly with valve outlet directed away from personnel. Close the main cylinder valve as soon as it is no longer necessary to have it open.
- Gases shall not be mixed within a cylinder except by the supplier.
- A cylinder shall not be placed where it will become a part of the electrical circuit by accidental grounding or where it may be burned by electric welding arc. A cylinder shall not be placed so that hot slag or flame will reach it or it shall be protected by a fire resistant shield. An electrode shall not be tapped against a cylinder to strike an arc.
- A frozen or ice-clogged valve shall be thawed either by warm air or use of warm water and dried before using. Boiling water or a flame shall not be used. Force shall not be applied to a valve or cap to loosen a cylinder frozen in place.
- A cylinder without fixed hand wheels shall have keys, handles, or non-adjustable wrenches on valve stems while in service. A multiple cylinder installation shall require only one key or handle for each manifold. A hammer shall not be used to open a cylinder valve or loosen a cap.
- A leaking cylinder or a cylinder with a valve stuck open or a valve in need of repair shall be taken outdoors —if it is safe to do so—away from sources of ignition, slowly emptied, tagged with a warning sign, and the manufacturer or distributor notified. Complete removal of the stem from the cylinder valve shall be avoided.
- Nothing shall be placed on top of a cylinder that would damage a safety device or interfere with the quick closing of the valve.
- Return empty cylinders to the vendor as soon as possible.