

Welding

Welding - Storage and Handling of Compressed Gas Cylinders

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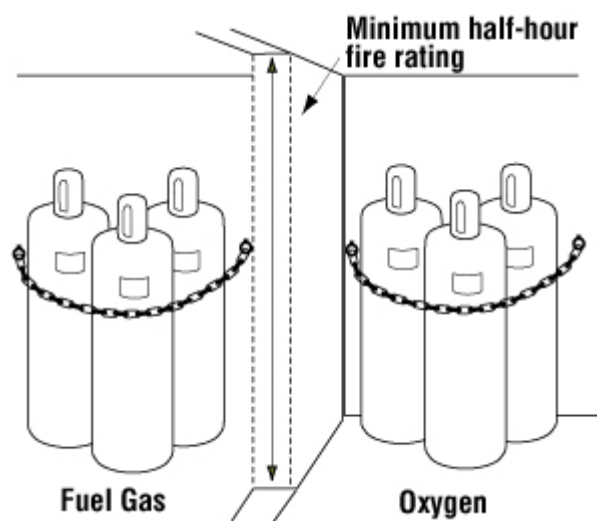
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What should I do when storing compressed gas cylinders?

- Check your jurisdiction for specific requirements, such as the fire code for guidelines regarding the storage of flammable gas cylinders.
- Store cylinders in a clearly identified, dry, well-ventilated storage area that is not exposed to heat or the direct rays of the sun, and away from doorways, aisles, elevators, gangways, and stairs.
- The temperature of the storage area should not be above 51.7°(125°F)
- Post "no smoking" signs in the area.
- Store cylinders, both empty and full, in the upright position and secure with an insulated chain or non-conductive belt to protect cylinders from falling or becoming damaged.
- During storage, close the cylinder valves with the protective caps in place.
- With outside storage, place on a fireproof surface and enclose in a tamper-proof enclosure.
- Protect cylinders from contact with ground, ice, snow, water, salt, corrosion, and high temperatures.
- Protect cylinders from falling. Consider securing each cylinder separately to prevent other cylinders from falling when items are removed from storage.
- Store acetylene and liquefied gas cylinders valve end up. Close the valve, and keep the protective device in place.

- Store oxygen cylinders and fuel gas cylinders separately. Indoors, separate oxygen from fuel gas cylinders by at least 6.1 m (20 ft), or by a wall at least 1.5 m (5 ft) high with a minimum half-hour fire resistance. (From: CSA W117.2-19 "Safety in welding, cutting and allied processes". Local jurisdiction requirements may vary.)
- Cylinders must also be separated away from flammable and combustible liquids and from materials that easily ignite (such as wood, paper, oil, grease, etc.), including calcium carbide, by similar requirements as oxygen cylinders (6.1 m, or a fire wall at least 1.5 m high with ½ hr fire resistance).
- The building or room must be well ventilated.
- If oxygen cylinders are stored in an outdoor acetylene generator house, the cylinders must be separated from the generator and carbide storage room by a non-combustible barrier with a fire resistance rating of at least 1 hour, that has no openings and is gas tight.

Note that when a single cylinder of oxygen and fuel gas are attached to a cylinder cart or secured to a wall or column at a workstation, this situation is not considered storage and the cylinders do not necessarily need to be separated by distance or a barrier.



What should I avoid doing?

- Do not use a cylinder as an electrical ground connection.
- Do not fasten cylinders to a worktable or to structures where they could become part of an electrical circuit.
- Do not strike an arc on a cylinder.
- Do not use a flame or boiling water to thaw a frozen valve. Valves or cylinders may contain fusible plugs which can melt at temperatures below the boiling point of water. Warm water is acceptable.

- Do not use pry bars under valves or valve protection devices to pry cylinders loose when frozen to the ground. Use warm water.
 - Do not place or store cylinders in unventilated enclosures such as lockers or cupboards.
 - Do not use full or empty cylinders as rollers or supports.
 - Do not tamper with or alter safety devices.
 - Do not use a cylinder for any purpose other than to contain the gas for which the cylinder was designed.
 - Do not place acetylene cylinders in a horizontal position.
 - Do not accept compressed gas cylinders from the supplier unless they are properly labelled and have protective valve caps in place.
 - Do not store oxygen in an indoor acetylene generator room.
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What should I do with empty or out of service cylinders?

- Mark or label them as "Empty cylinder".
- Return empties to the supplier.
- Remove regulators when not in use and store these away from grease and oil. Put protective caps on the fittings when in storage.
- Keep cylinders and fittings from becoming contaminated with oil, grease or dust.
- Do not use a cylinder that is not identified or if the label is not legible. The colours of industrial gas cylinders are not standardized.

There may be situations where empty cylinders should be stored separately from full cylinders, such as at a hospital when selecting an empty oxygen container unintentionally is not desired.

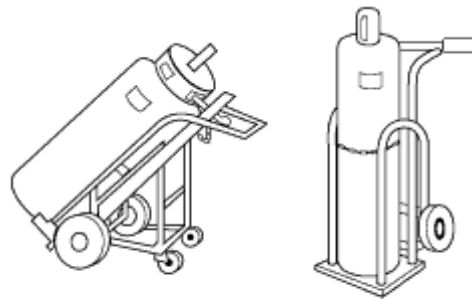
How should I move the cylinders?

- Close the valve before moving.
- Keep valve protection caps in place and hand tightened when not in use.
- To close the cylinder valves, remove the regulator and replace the valve protection cap and hand tight before moving a cylinder.
- Move cylinders with appropriate trolleys and secure the cylinders in an upright position.

- Use proper lifting cradles or a suitable platform when hoisting cylinders by a crane, derrick, or other hoisting mechanism.
- Call the supplier to remove leaky cylinders immediately.
- Secure cylinders in an upright position when cylinders are transported by motor vehicle. Close the valve and use protective devices.

DO NOT

- Do not lift a cylinder by the valve cap. Never sling with ropes or chains or lift with electromagnets.
- Do not drag, slide, or drop cylinders. Do not roll on their sides. They can be rolled for short distances on their base.
- Do not allow the cylinders to strike each other with force.
- Never place cylinders on their sides as rollers to move equipment.
- Do not lay acetylene cylinders on their sides. If an acetylene tank has accidentally been left on its side, set it upright for at least one hour before it is used.
- Do not try to refill a cylinder or mix gases in a cylinder.



Cylinder Trolleys

When should I "crack" the cylinder?

Before attaching the regulator, wipe clean the valve outlet with a clean cloth free of oil and lint and "crack" a secured cylinder by opening the valve slightly then closing it immediately to blow out dust or dirt from the valve outlet. Use two hands on the valve and stand at the side of the valve - never stand directly in front of or behind the valve outlet.

Do not crack fuel gas cylinders due to the chance for the gas to ignite by friction, heating, or other ignition sources. Never crack hydrogen cylinders since the release of compressed hydrogen may ignite by itself.

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