

WAC 296-24-68201 General requirements.

- (1) **Flammable mixture.** You must guard against mixtures of fuel gases and air or oxygen may be explosive and you must not allow any device or attachment facilitating or permitting mixtures of air or oxygen with flammable gases prior to consumption, except at the burner or in a standard torch, unless approved for the purpose.
- (2) **Maximum pressure.** You must not, under any condition generate, pipe (except in approved cylinder manifolds), or utilize acetylene at a pressure in excess of 15 p.s.i. gauge pressure or 30 p.s.i. absolute pressure. (The 30 p.s.i. absolute pressure limit is intended to prevent unsafe use of acetylene in pressurized chambers such as caissons, underground excavations or tunnel construction.) This requirement does not apply to storage of acetylene dissolved in a suitable solvent in cylinders manufactured and maintained according to U.S. Department of Transportation requirements, or to acetylene for chemical use. You must not use liquid acetylene.
- (3) **Apparatus.** You must use only approved apparatus such as torches, regulators or pressure-reducing valves, acetylene generators, and manifolds. Use of replacement tips will not nullify the “approved apparatus” status of a torch, if such replacement tips are made to the same specifications as the original tip of the torch at the time of approval by the nationally recognized testing laboratory, or if the use of such tips in conjunction with convertor/adaptors results in the same specifications as the original tip at the time of approval by the nationally recognized testing laboratory.
- (4) **Personnel.** You must instruct and judge competent workers in charge of the oxygen or fuel-gas supply equipment, including generators, and oxygen or fuel-gas distribution piping systems for this important work before being left in charge. Rules and instructions covering the operation and maintenance of oxygen or fuel-gas supply equipment including generators, and oxygen or fuel-gas distribution piping systems must be readily available.

[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 15-24-100 (Order 15-04), § 296-24-68201, filed 12/01/2015, effective 01/05/2016. Statutory Authority: Chapter 49.17 RCW. 94-15-096 (Order 94-07), 296-24-68201, filed 7/20/94, effective 9/20/94; 89-11-035 (Order 89-03), 296-24-68201, filed 5/15/89, effective 6/30/89; Order 73-5, 296-24-68201, filed 5/9/73 and Order 73-4, 296-24-68201, filed 5/7/73.]

WAC 296-24-68203 Cylinders and containers.

- (1) **Approval and marking.** All portable cylinders used for the storage and shipment of compressed gases must be constructed and maintained in accordance with the regulations of the United States Department of Transportation, 49 CFR Parts 171-179.
 - (a) You must legibly mark compressed gas cylinders, for the purpose of identifying the gas content, with either the chemical or the trade name of the gas. Such marking must be by means of stenciling, stamping, or labeling, and must not be readily removable. Whenever practical, you must locate the marking on the shoulder of the cylinder.

Note: This method conforms to the American National Standard Method for Marking Portable Compressed Gas Containers to Identify the Material Contained, ANSI Z 48.1-1954.

- (b) Compressed gas cylinders must be equipped with connections complying with the American National Standard Compressed Gas Cylinder Valve Outlet and Inlet Connections, ANSI B 57.1-1965.
 - (c) All cylinders with a water weight capacity of over 30 pounds must be equipped with means of connecting a valve protection cap or with a collar or recess to protect the valve.
- (2) **Storage of cylinders - general.**
- (a) You must keep cylinders away from radiators and other sources of heat.
 - (b) Inside of buildings, you must store cylinders in a well-protected, well-ventilated, dry location, at least 20 feet from highly combustible materials such as oil or excelsior. Cylinders should be stored in definitely assigned places away from elevators, stairs, or gangways. You must locate assigned storage spaces where cylinders will not be knocked over or damaged by passing or falling objects, or subject to tampering by unauthorized persons. You must not keep cylinders in unventilated enclosures such as lockers and cupboards.
 - (c) You must close the valves on all empty cylinders.
 - (d) Valve protection caps, where cylinder is designed to accept a cap, must always be in place, hand-tight, except when cylinders are in use or connected for use.
- (3) **Fuel-gas cylinder storage.** Inside a building, you must limit cylinders, except those in actual use or attached ready for use, to a total gas capacity of two thousand cubic feet or three hundred pounds of liquefied petroleum gas.
- (a) For storage in excess of two thousand cubic feet total gas capacity of cylinders or three hundred pounds of liquefied petroleum gas, you must provide a separate room or compartment conforming to the requirements specified in WAC 296-24-68211 (6)(h) and (i), or you must keep cylinders outside or in a special building. Special buildings, rooms or compartments must have no open flame for heating or lighting and must be well ventilated. They may also be used for storage of calcium carbide in quantities not to exceed six hundred pounds, when contained in metal containers complying with WAC 296-24-68213 (1)(a) and (b). Signs should be conspicuously posted in such rooms reading, "Danger--No smoking, matches or open lights," or other equivalent wording.
 - (b) You must store acetylene cylinders valve end up.
- (4) **Oxygen storage.**
- (a) You must not store oxygen cylinders near highly combustible material, especially oil and grease; or near reserve stocks of carbide and acetylene or other fuel-gas cylinders, or near any other substance likely to cause or accelerate fire; or in an acetylene generator compartment.
 - (b) You must separate oxygen cylinders stored in outside generator houses from the generator or carbide storage rooms by a noncombustible partition having a fire-resistance rating of at least one hour. This partition must be without openings and must be gastight.

- (c) You must separate oxygen cylinders in storage fuel-gas cylinders or combustible materials (especially oil or grease), a minimum distance of 20 feet or by a noncombustible barrier at least 5 feet high having a fire-resistance rating of at least one-half hour. (Cylinders “in-use,” secured to a hand truck or structural member, with regulators, hoses, and torch temporarily removed for security purposes overnight or weekends, are not considered “in-storage.”)
 - (d) Where a liquid oxygen system is to be used to supply gaseous oxygen for welding or cutting and the system has a storage capacity of more than 13,000 cubic feet of oxygen (measured at 14.7 psi(a) and 70°F), connected in service or ready for service, or more than 25,000 cubic feet of oxygen (measured at 14.7 psi(a) and 70°F), including unconnected reserves on hand at the site, it must comply with the provisions of the Standard for Bulk Oxygen Systems at Consumer Sites, NFPA No. 566-1965.
- (5) **Operating procedures.**
- (a) You must keep cylinders, cylinder valves, couplings, regulators, hose, and apparatus free from oily or greasy substances. You must not handle oxygen cylinders or apparatus with oily hands or gloves. A jet of oxygen must never be permitted to strike an oily surface, greasy clothes, or enter a fuel oil or other storage tank.
 - (b) When transporting cylinders by a crane or derrick, you must use a cradle, boat, or suitable platform. You must not use slings or electric magnets for this purpose. Valve-protection caps, where cylinder is designed to accept a cap, must always be in place.
 - (c) You must not drop nor strike cylinders, nor must you permit them to strike each other violently.
 - (d) You must not use valve-protection caps for lifting cylinders from one vertical position to another. You must not use bars under valves or valve-protection caps to pry cylinders loose when frozen to the ground or otherwise fixed; the use of warm (not boiling) water is recommended. Valve-protection caps are designed to protect cylinder valves from damage.
 - (e) Unless cylinders are secured on a special truck, you must remove regulators and you must put valve-protection caps in place, when provided for, before cylinders are moved.
 - (f) Cylinders not having fixed hand wheels must have keys, handles, or nonadjustable wrenches on valve stems while these cylinders are in service. In multiple cylinder installations only one key or handle is required for each manifold.
 - (g) You must close cylinder valves before moving cylinders.
 - (h) You must close cylinder valves when work is finished.
 - (i) You must close valves of empty cylinders.
 - (j) You must keep cylinders far enough away from the actual welding or cutting operation so that sparks, hot slag, or flame will not reach them, or you must provide fire-resistant shields.