

Alabama Department of Public Health, Technical Services Unit

Health Care Facility Oxygen Storage Requirements Revised 07/02/2020

These requirements are based on the following:

1. 2012 NFPA 99, Health Care Facilities Code, Chapters 5 and 11
2. CMS Memorandum S&C-07-10
3. A-cylinder = 2.5 cf; B-cylinder = 6 cf; E-cylinder = 24 cf; H-cylinder = 244 cf (all quantities are for oxygen)

A. OPERATIONAL SUPPLY, NOT CLASSIFIED AS STORED GAS:

1. Up to 300 cf of nonflammable medical gas (12 E cylinders or 1 H cylinder), per smoke compartment, may be located outside of an enclosure. This is in addition to individual cylinders in patient rooms, or otherwise arranged, for immediate use. (From later NFPA 99 edition, as approved by CMS letter, S&C-07-10.)
2. Containers must be secured to prevent them from tipping over or being damaged.

B. FOR ANY OXYGEN STORAGE AREA CONTAINING MORE THAN 300 CF OF GAS, BUT LESS THAN 3000 CF (125 E-cylinders or 12 H-cylinders = 3,000 cf):

1. Outdoors: enclosed space of noncombustible construction, with gates that can be secured against unauthorized entry. *NFPA 99, 11.3.2.1, 11.3.2.3, 5.1.3.3.2(3) and 11.6.5.4*
2. Indoors: enclosed interior space of noncombustible or limited combustibile construction, with doors that can be secured against unauthorized entry. *NFPA 99, 11.3.2.1*
3. No flammable gases, liquids, vapors or materials in the area. *NFPA 99, 11.3.2.2 and 11.3.2.3*
4. Oxygen cylinders are permitted to be in a storage area containing combustibles or incompatible materials [*NFPA 99, 11.3.2.3*] only if the cylinders are:
 1. Minimum 20 feet from the combustibles, or
 2. Minimum 5 feet from the combustibles if the entire storage location is sprinklered *per NFPA 13*, or
 3. In a minimum 30-minute fire-rated noncombustible cabinet
5. Cylinder temperature shall not exceed 130 degrees F. *NFPA 99, 11.3.2.5 and 5.1.3.3.1.7*
6. Sign posted on door or gate, reading, "CAUTION, OXIDIZING GASES STORED WITHIN. NO SMOKING". Readable from a distance of 5 ft. *NFPA 99, 11.3.4.1 and 11.3.4.2*
7. No sources of ignition in storage area, or within 20 feet of an outdoor area. *NFPA 99, 11.3.2.7*
8. Cylinders are protected from falling or mechanical shock. *NFPA 99, 11.6.2.3*
9. Cylinder-valve protection caps, where provided, shall be kept in place and be hand-tightened, except when cylinders are in use or connected for use. *NFPA 99, 11.6.2.2(4)*
10. Prevent oil, grease, asphalt, or other readily combustible substances from contacting the cylinders, valves, regulators, gauges and fittings. *NFPA 99, 11.6.2.1 and 11.6.2.2*
11. Full and empty cylinders in the same enclosure shall be segregated, with appropriate signage. *NFPA 99, 11.6.5.2 and 11.6.5.3*

C. STORAGE AREAS WITH 3,000 CF OF OXYGEN OR MORE (125 E-cylinders or 12 H-cylinders = 3,000 cf, or one 70-gallon liquid oxygen container, equals to approximately 3000 cf of gas): Shall comply with NFPA 99, 11.3.1, 5.1.3.3.2, and 5.1.3.3.3

D. FOR ANY INDOOR PIPED OXYGEN STORAGE AREA:

1. Shall be constructed and use interior finishes of noncombustible or limited-combustible materials such that all walls, floors, ceilings , and doors are of a minimum 1-hour fire resistance rating.
NFPA 99, 5.1.3.3.2(4)
2. Central supply systems shall be inspected annually and shall be maintained by a qualified representative of the equipment owner. *NFPA 99, 5.1.14.4*