

**Hose and Hose Connections**  
**Oxy-fuel gas**  
**Welding and cutting**  
**4-22-13**

**(10) Hose and Hose Connections**

**(a)** When using fuel gas and oxygen hoses you must:

**(A)** Use hoses that comply with the Compressed Gas Association CGA E-1, 2009 and Rubber Manufacturers Association IP-7. 253(e)(5)(i)

**NOTE:** This standard does not apply to liquefied petroleum gas hose covered under NFPA 58, *Liquefied Petroleum Gas Code* applicable to the propane industry.

**(B)** Use fuel gas and oxygen hoses that are easily distinguishable from each other. 350(f)(1)

**NOTE:** The contrast may be made by different colors or by surface characteristics readily distinguishable by the sense of touch. Use red for fuel gases, green for oxygen, and black for inert gas.

**(C)** Use “Grade T” hose for most fuel gases to include acetylene.

**Note:** Grade R or RM hose may only be used with acetylene. Do not use with any other fuel gas.

**(D)** Use oil free air or an oil free inert gas to test hoses. 253(e)(5)(iv)

**(E)** Keep hoses and couplings (connectors) free from oily or greasy substances 253(b)(5)(i), 350(e)(3)

**(F)** Visually inspect each hose for leaks, burns, worn places, bulges, cracks, crimps, multiple splices, cuts, oil and grease, damaged or worn fittings, and other defects rendering it unfit for service: 253(e)(5)(v) & 350(f)(3)

**(i)** At the beginning of each task, the portion of hose intended for use, or

**(ii)** At the end of each working shift, the portion of hose used before storing it on a cart or hose reel.

**(G)** Pull out and visually check the entire length of reel hoses at least quarterly.

**(H)** Perform inspections on hoses and hose connections following any failed drop test to determine the cause of the failure.

**(I)** Test hose to twice the normal pressure it will be subjected to but in no case less than 300 psi. when it: 350(f)(4)

**(i)** Has been subject to flashback, or 350(f)(4)

**(ii)** Shows evidence of severe wear or damage. 350(f)(4)

**(J)** Repair or replace hoses that have defects rendering them unfit for service. 253(e)(5)(v) & 350(f)(4)

**(K)** Protect hoses from damage by physical hazards, hot objects, or kinking. 437-002-0295

**(L)** Keep hoses, cables, and other equipment clear of passageways, ladders and stairs. 350(f)(7)

**(M)** Use manifold hose connections, including both ends of the supply hose that lead to the manifold, with hose that cannot be interchanged between fuel gas and oxygen manifolds and supply header connections. You must not use adapters to permit the interchange of hose. 350(e)(3)

**(N)** Cap manifold and header hose connections when not in use. 350(e)(4)

**(b)** When using fuel gas and oxygen hoses you must not:

**(A)** Route in such a manner that severely bends the hose at the hose coupling (connector).

**(B)** Pull or drag welding equipment with the hose assembly.

**(C)** Drag or rest hoses on material that are not fully cooled.

**(D)** Drag hoses across potential puncture or abrading points.

**(E)** Handle oxygen hoses with oily hands or oily gloves.

**(F)** Hang a torch from any hose.

**(G)** Tape together more than 4 inches out of 12 inches of parallel sections of oxygen and fuel gas hose. 253(e)(5)(ii) & 350(f)(2)

**(H)** Use a single hose having more than one gas passage. 350(f)(1)

**(I)** Repair damaged hoses with tape. 437-002-0295

**(J)** Use a defective hose. 350(f)(4)

**(c)** Hose connections must:

**(A)** Comply with the Compressed Gas Association CGA E-1. 2009, (3) Connections.. 253(e)(5)(iii)

**(B)** Clamp or securely fasten in a manner that will withstand twice the pressure to which they are normally subjected, and in no case less than a pressure of 300psi, for one (1) minute, without leakage. 253(e)(5)(iv)

**(C)** Use oxygen and fuel gas connection fittings that are different in size and prevent the intermixing of connections, or 437-002-0296

**(D)** Be marked in a manner to identify the oxygen and fuel gas hose. 437-002-0296

**(E)** Use hose couplings that cannot be unlocked or disconnected by means of a straight pull without rotary motion. 350(f)(5)

**(F)** Ventilate boxes used for storage of gas hose. 350(f)(6)

**(d)** When using hose connections you must not use adaptors that permit the interchange of manifold hose connections. 350(e)(3)