

**Definitions  
Oxy-fuel gas  
Welding and Cutting  
4-22-13**

**(2) Definitions**

**Annealing** – Use of the flame in a controlled manner to flame harden or flame soften metals.

**Apparatus** – Includes regulators, hoses, connection (fittings), torches, manifolds and safety devices.

**Approved** – Means listed or approved by a nationally recognized testing laboratory. Refer to 1910.7 for definitions and requirements for a nationally recognized testing laboratory.

**Attended** – When a trained employee or qualified person is within sight of and can maintain control of the torch.

**Brazing** – Is a metal joining process where filler metal is heated to join two or more close-fitting metal parts. It is similar to soldering but the temperatures used to melt the filler metal are above 800°F.

**Burners** – A type of torch system usually designed for stationary use at the bench or lathe. The material being worked, such as glass, is moved into and around the flame. Flame size is determined by valves that adjust the flow and mix of fuel gas and oxygen.

**Check valve (reverse flow check valve)**- A device designed to prevent the unintentional backflow of gases.

**NOTE: Reverse flow check valves alone will not stop a flashback in the system.**

**Compartment (inside) – Is within an enclosed vehicle and opens to the inside. This compartment seals the compressed gases from entering the vehicle compartment and is vented to the outside of the vehicle.**

**Compartment (outside) – Is recessed or built into an enclosed vehicle but opens to the outside of the enclosed vehicle. This compartment seals the compressed gases from entering the vehicle compartment and is vented to the outside of the vehicle.**

**Competent Person – An individual who demonstrates the knowledge, skill level and experience to perform processes safely.**

### **Confined space:**

- Is large enough and configured so that an employee can bodily enter to perform assigned work; and
- Has limited or restricted means for entry or exit (for example, tanks, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry); and
- Is not designed for continuous employee occupancy.

**Containers (compressed, liquefied and dissolved gas)** – Cylinders, portable tanks, non-refillable cylinders, or stationary tanks, consisting of various shapes and sizes that are designed and constructed to meet ASME, TC or DOT specification.

**Crack (Cracking)** – Opening a cylinder valve slightly and immediately closing it prior to attaching a pressure reducing regulator. This is an approved process that applies only to oxygen cylinders.

**Cylinder(s)** – An approved DOT portable container used for transportation and storage of compressed gas. Generally a cylinder is a compressed gas container having a maximum water capacity of 454 kg (1000 lbs).

**Cylinder banks** – Multiple cylinders manifolded together on a portable frame.

**Drop Test** – A method using compressed gas cylinder (container) pressure to test connected regulators, hoses, torch and connections for leaks.

**Enclosed space** – Spaces that are surrounded by something and the only openings are access openings, for example, drawers, closets, unventilated cabinets, automobile trunks, unventilated vehicle compartments, or toolboxes.

**Enclosed vehicle** – Includes but is not limited to the interior of automobiles, automobile trunks, vans, or in any enclosed truck or trailer.

**Flame de-scaling** – Heating to remove scale from bars, billets, slabs, and so on to facilitate machining or inspection.

**Flame priming** – Heating to remove scale and rust in preparation of metal surfaces for painting.

**Flame coating (thermal spraying)** – The use of oxygen and fuel gases to apply fine metallic or nonmetallic materials in a molten or semi-molten condition to form a coating. The coating material may be in the form of powder, ceramic-rod, wire, or molten materials.

**Flashback (flame) arrestor** – A device that prevents the propagation of a flame upstream.

**Fuel Gas** – A flammable product or mixture of products used in welding, cutting and heating processes. Commonly used fuel gases are available in compressed gases, liquefied and liquefied mixtures, acetylene dissolved, and gasoline.

**Handling** – Moving, connecting, or disconnecting oxygen and fuel gas containers under normal conditions.

**Heating** – A process using a torch or torch like apparatus for pre-heating or heating items such as but not limited to, molds, dies, metals for bending, straightening, forming, annealing, flame hardening, flame softening, flame priming, flame descaling, paint burning, glass finishing, leather edging, babbiting, antiquing of wood, food preparation, masonry curing, heating bolts and nut, shrink fitting of parts, and other heating applications, etc. where a large area needs to be heated. When heating, the flame at the end looks like a rose-bud. A welding torch can also be used to heat a small area such as rusted nuts and bolts.

**Leak test** – The application of a liquid solution to verify that oxygen and fuel gas apparatus do not leak. Solutions must be compatible with the gas being used.

**Manifold** – An apparatus designed to connect two or more cylinders for use. In construction this may mean that two cylinders or more are connected by pigtails to form a manifold.

**Moving cylinders** – The movement of a cylinder(s) from one location to another at the worksite or place of business.

**Nesting** – The arranging of cylinders so a minimum of three points of contact with other cylinders or walls are maintained to prevent movement.

**Periodic Inspection** - An inspection that is made at least once per quarter.

**PSIG (Gauge Pressure)** – Pressure above or below local atmospheric pressure displayed as pounds per square inch.

**Secure** – Arrange to prevent movement (including lashing and chaining), or a minimum of three points of contact with other cylinders or walls.

**Special truck** – A vehicle or cart that is designed for the specific purpose of moving compressed, dissolved and liquified gas cylinders in the workplace

**Stored** – Cylinders without attached regulators, cylinders not secured to a workstation, or cylinders that have not been used for 24 hours or more will be considered stored. This does not include cylinders secured on a cart.

**Note: No more than one additional set of cylinders may be secured to a workstation.**

**Supervisory personnel (supervisor)** – An agent of the employer such as a manager, superintendent, foreperson, or person in charge of all or part of the place of employment who directs the work activities of one or more employees.

**Transporting cylinders** – Any cylinder movement by a vehicle to a worksite or place of business.

**NOTE 1: A cylinder(s) loaded into a vehicle for movement to a worksite or place of business is not in storage.**

**NOTE 2: Requirements for the separation of oxidizers and fuel gases do not apply when cylinders are being transported to a work site or place of business.**

**Torches (Pre-mix)** – Oxygen and fuel gases are mixed in a chamber within the torch body.

**Torches (Surface-mix)** – Oxygen and fuel gases are mixed at the torch tip.

**Use** – Withdrawing and using the gas in a non-recoverable manner for applications other than manufacturing or repackaging of compressed gasses.

**Valve end up** – The tops of all acetylene cylinders are elevated so that the cylinders are inclined at an angle of not less than 30 degrees from horizontal (to protect against loss of acetone).

**Welding (oxy-fuel welding)** – A process that uses fuel gases and oxygen to weld metals. Welded metal occurs when two pieces are heated to a temperature that produces a shared pool of molten metal. The molten pool is generally supplied with additional metal called filler. Filler material depends upon the metals to be welded.

**Welding (oxy-fuel cutting)** – A process where a cutting torch is used to heat metal to kindling temperature. A stream of oxygen is then trained on the metal, and metal burns in that oxygen and then flows out of the cut