



WESTERN CONNECTICUT STATE UNIVERSITY

OXY-FUEL CUTTING AND WELDING POLICY

PROCEDURE [S-104](#)

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Please direct any questions or comments about the applicability of this document to  
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## 1.0 PURPOSE

Safe practices developed from experience in the use of welding and cutting equipment are described in this document. Through research and development, field experience, and references, regulations have been established to ensure the safe operation, installation, and service of equipment. Failure to observe the following practices may cause serious injury or death, and may lead to disciplinary action.

### 1.1 REFERENCES

ANSI Standard Z49.1  
ANSI Standard Z87.1  
American Welding Society Bulletin F4.1-80  
NFPA Standard 51  
NFPA Standard 51B  
Compressed Gas Association Pamphlet P-1  
OSHA 29CFR 1910 Appendix Q

## 2.0 SUMMARY OF APPLICATION

Oxy-fuel equipment, when properly used, can safely weld, heat, and cut metals. When used recklessly, the equipment can cause severe physical injury and/or fire and explosion.

## 3.0 SUMMARY OF FUNCTION

The equipment used in oxy-fuel welding mixes a flammable fuel, such as acetylene, and oxygen under pressure to support a flame. Oxygen is not flammable. It accelerates the combustion of the fuel mixture of the system, allowing for a hotter, more concentrated, flame.

## 4.0 OPERATION RULES

- 4.1 Operation and maintenance of the equipment must be in accordance with manufacturer's specification. Not following the manufacturer's directions is a violation of OSHA Standards.
- 4.2 Inspect the filter in the inlet nipple of the oxygen regulator to ensure the filter is in place and clean.
- 4.3 Oxygen is an oxidizer. Keep the oxygen regulator, valves, and hoses free from oil and grease.
- 4.4 All gas cylinders must have hand wheels on the valves. Cylinders not in use must be capped and secured to prevent the falling of cylinders. All in use cylinders must be secured to an appropriate cart. Always close valves when cylinders are not in use.
- 4.5 All regulators must be drained prior to removal from the cylinder. This is accomplished by closing cylinder valves and opening regulator valves.
- 4.6 All cylinder valves must be "cracked" before the regulator is connected to the valve. The valve shall be wiped clean with an oil free cloth.
- 4.7 The following steps must be taken after the regulator is attached to the oxygen cylinder:
  - Engage the adjusting screw and open the down stream line to drain the regulator of gas.

- Disengage the adjusting screw and open the cylinder valve slowly, so that the gauge needle moves slowly, before completely opening valve.
  - Do not stand in front of the gauge face when opening the cylinder valve.
- 4.8 Always leak test connections with soap solution before lighting torch.
- 4.9 Always purge hoses individually before lighting torch for the first time on each day.
- 4.10 Use only the correct regulator/gauge systems for specific gases. Ensure that oxygen gauges are marked "Use No Oil."
- 4.11 Use only the appropriate hoses and hose systems for the work you are performing. Hoses must meet standards of "Rubber Manufacturers' Association IP-7" and must be color coded.