

AWS C4.2/C4.2M:2017
An American National Standard



Recommended Practices for Oxyfuel Gas Cutting Torch Operation



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Approved by the
American National Standards Institute
March 2, 2017

Recommended Practices for Oxyfuel Gas Cutting Torch Operation

3rd Edition

Supersedes AWS C4.2/C4.2M:2009

Prepared by the
American Welding Society (AWS) C4 Committee on Oxyfuel Gas Welding and Cutting

Under the Direction of the
AWS Technical Activities Committee

Approved by the
AWS Board of Directors

Abstract

These recommended practices for oxyfuel gas cutting include the latest procedures to be used in conjunction with oxyfuel gas cutting equipment and the latest safety recommendations. Complete lists of equipment are available from individual manufacturers.



ISBN: 978-0-87171-909-6
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This standard is subject to revision at any time by the AWS C4 Committee on Oxyfuel Gas Welding and Cutting. It must be reviewed every five years, and if not revised, it must be either reaffirmed or withdrawn. Comments (recommendations, additions, or deletions) and any pertinent data that may be of use in improving this standard are requested and should be addressed to AWS Headquarters. Such comments will receive careful consideration by the AWS C4 Committee on Oxyfuel Gas Welding and Cutting and the author of the comments will be informed of the Committee's response to the comments. Guests are invited to attend all meetings of the AWS C4 Committee on Oxyfuel Gas Welding and Cutting to express their comments verbally. Procedures for appeal of an adverse decision concerning all such comments are provided in the Rules of Operation of the Technical Activities Committee. A copy of these rules can be obtained from the American Welding Society, 8669 NW 36 St, # 130, Miami, FL 33166.

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Foreword

This foreword is not part of this standard but is included for information purposes only.

This Recommended Practices standard is intended for use by the oxyfuel gas cutter (operator). It describes the oxyfuel gas cutting process, including information relating to equipment, safety, and operating procedures. Although many references are made to safe practice throughout this standard, it is strongly recommended that all operators become thoroughly familiar with all aspects of safe operation. A suggested standard is ANSI Z49.1, *Safety in Welding, Cutting, and Allied Processes*, available from the American Welding Society. Much of the information in this standard is necessarily general in nature due to the large number of variations in equipment produced by various manufacturers. The manufacturer's manual should be consulted for details on safe installation and use of all equipment. When equipment or parts of equipment need repair, the work shall be performed by skilled mechanics who have been properly instructed.

A vertical line in the margin or underlined text in clauses, tables, or figures indicates an editorial or technical change from the 2009 edition.

Comments and suggestions for the improvement of this standard are welcome. They should be sent to the Secretary, AWS C4 Committee on Oxyfuel Gas Welding and Cutting, American Welding Society, 8669 NW 36 St, # 130, Miami, FL 33166.

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Recommended Practices for Oxyfuel Gas Cutting Torch Operation

1. General Requirements

1.1 Scope. This standard describes the equipment, procedures, and safe practices for the oxyfuel cutting of steel. It is for the operators of both hand and machine torches and is recommended for management personnel associated with the oxyfuel cutting process.

Oxyfuel gas cutting is a process whereby a metal (usually an iron base alloy) is heated to its kindling temperature (well below the melting point) by an oxyfuel gas flame and then burned rapidly by a regulated jet of oxygen. A cutting torch is used for this operation. Although this recommended practice is not written with mandatory requirements, mandatory language, such as the use of "shall," will be found in those portions of the document where failure to follow the instructions or procedures could produce inferior, misleading, or unsafe results.

1.2 Units of Measure. This standard makes use of both U.S. Customary Units and the International System of Units (SI). The latter are shown within brackets ([]) or in appropriate columns in tables and figures. The measurements may not be exact equivalents; therefore, each system must be used independently.

1.3 Safety. Safety issues and concerns are addressed in this standard although health issues and concerns are beyond the scope of this standard. Safety and health information is available from the following sources:

American Welding Society:

- (1) ANSI Z49.1, *Safety in Welding, Cutting, and Allied Processes*
- (2) AWS Safety and Health Fact Sheets
- (3) Other safety and health information on the AWS website

Material or Equipment Manufacturers:

- (1) Safety Data Sheets supplied by materials manufacturers
- (2) Operating Manuals supplied by equipment manufacturers

Applicable Regulatory Agencies

Work performed in accordance with this standard may involve the use of materials that have been deemed hazardous, and may involve operations or equipment that may cause injury or death. This standard does not purport to address all safety and health risks that may be encountered. The user of this standard should establish an appropriate safety program to address such risks as well as to meet applicable regulatory requirements. ANSI Z49.1 should be considered when developing the safety program.

2. Normative References

The documents listed below are referenced within this publication and are mandatory to the extent specified herein. For undated references, the latest edition of the referenced standard shall apply. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply.