

Australian Standard™

**The safe use of portable and mobile
oxy-fuel gas systems for welding,
cutting, heating and allied processes**

This Australian Standard was prepared by Committee ME-002, Gas Cylinders. It was approved on behalf of the Council of Standards Australia on 31 August 2001 and published on 28 September 2001.

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STANDARDS AUSTRALIA

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OF

AS 4839—2001

**The safe use of portable and mobile oxy-fuel gas systems for welding, cutting,
heating and allied processes**

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NOTES

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee ME-002, Gas Cylinders.

This Standard was prepared by the Australian members of the Joint Standards Australia/Standards New Zealand Committee ME-002, Gas Cylinders. After consultation with stakeholders in both countries, Standards Australia and Standards New Zealand decided to develop this Standard as an Australian, rather than an Australian/New Zealand Standard.

The objective of this Standard is to enable owners and operators to understand the functions of equipment used in portable and mobile oxy-fuel systems for welding, cutting, heating and allied processes. It also provides guidelines for the use oxy-fuel systems and the maintenance functions to be carried out. Finally, there is information for safety of personnel should an emergency arise during the period of oxy-fuel system equipment use.

Included in the Standard are general details of the properties of the most common gases used in oxy-fuel systems.

Reticulated systems and fixed piping, together with equipment such as permanently mounted flame-cutting machines, are outside the scope of this Standard.

During the development of this Standard, acknowledgment is made to the following documents:

- BCGA-CP7 The safe use of oxy-fuel gas equipment (individual portable or mobile cylinder supply)
- BS EN 730 Gas welding equipment — Equipment used in gas welding, cutting and allied processes, safety devices for fuel gases and oxygen or compressed air — General specifications, requirements and tests.

Government authorities and regulations may affect the use of this Standard, and users of this Standard should be aware of this possibility.

It should be noted that compliance with this Standard may not necessarily fulfil all legal obligations.

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STANDARDS AUSTRALIA

Australian Standard

The safe use of portable and mobile oxy-fuel gas systems for welding, cutting, heating and allied processes**1 SCOPE**

This Standard specifies selection, operation and maintenance procedures for oxy-fuel gas hand-held or portable equipment used in welding, cutting, heating and allied processes.

This Standard applies to equipment supplied from portable or mobile gas cylinders, inclusive of manifolded packs of cylinders. Cylinder mounted regulators, which may be easily removed by the users, control the downstream pressure for this equipment. The connection between the regulator and the downstream equipment is welding hose.

Reticulated systems and fixed piping, together with equipment such as permanently mounted flame-cutting machines, are outside the scope of this Standard.

2 REFERENCED DOCUMENTS

AS

- | | |
|--------|---|
| 1335 | Hose and hose assemblies for welding, cutting and allied processes |
| 2030 | The verification, filling, inspection, testing and maintenance of cylinders for storage and transport of compressed gases |
| 2030.1 | Part 1: Cylinders for compressed gases other than acetylene |
| 4267 | Pressure regulators for use with industrial compressed gas cylinders |
| 4289 | Oxygen and acetylene gas reticulation systems |
| 4332 | The storage and handling of gases in cylinders |
| 4603 | Flashback arresters—Safety devices for use with fuel gases and oxygen or compressed air |

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| 1336 | Recommended practices for occupational eye protection |
| 1337 | Eye protectors for industrial applications |
| 1715 | Selection, use and maintenance of respiratory protective devices |
| 1716 | Respiratory protective devices |
| 2865 | Safe working in a confined space |

3 DEFINITIONS

For the purpose of this Standard, the definitions given in AS 2030.1 and those below apply.

3.1 Backfire

Momentary retrogression of the flame into the mixed gas passages of the blowpipe, accompanied with a loud or popping noise, and with or without flame extinction.

3.2 Backflow

Flow of gas from one of the inlet gas passages of the blowpipe at higher pressure into the other gas passages at lower pressure, including possibly the hose.