

AS 4289—1995

Reconfirmed 2016

Australian Standard[®]

**Oxygen and acetylene gas
reticulation systems**

This Australian Standard was prepared by Committee ME/2, Gas Cylinders. It was approved on behalf of the Council of Standards Australia on 18 April 1995 and published on 5 August 1995.

The following interests are represented on Committee ME/2:

Australian Chamber of Commerce and Industry
Australian Chamber of Manufactures
Australian Gas Association
Australian Liquefied Petroleum Gas Association
Boiler and Pressure Vessel Manufacturers
Department of Defence
Department of Employment, Vocational Education, Training and Industrial Relations, Qld
Department for Industrial Affairs, S.A.
Department of Labour, New Zealand
Department of Minerals and Energy, Qld
Department of Occupational Health, Safety and Welfare, W.A.
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This Standard was issued in draft form for comment as DR 93334.

STANDARDS AUSTRALIA

RECONFIRMATION

OF

AS 4289—1995

Oxygen and acetylene gas reticulation systems

RECONFIRMATION NOTICE

Technical Committee ME-002 has reviewed the content of this publication and in accordance with Standards Australia procedures for reconfirmation, it has been determined that the publication is still valid and does not require change.

Certain documents referenced in the publication may have been amended since the original date of publication. Users are advised to ensure that they are using the latest versions of such documents as appropriate, unless advised otherwise in this Reconfirmation Notice.

Approved for reconfirmation in accordance with Standards Australia procedures for reconfirmation on 21 July 2016.

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The Australian Gas Association
Welding Technology Institute of Australia
Worksafe New Zealand
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NOTES

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PREFACE

This Standard was prepared by the Standards Australia/Standards New Zealand Committee ME/2 on Gas Cylinders.

This Standard is the result of a consensus amongst representatives on the Joint Committee to produce it as an Australian Standard.

It was designed to meet the needs of persons associated with the design, construction, operation and maintenance of reticulation systems for the safe handling of oxygen and acetylene. It also deals with the safe storage and location of supply cylinders and manifolds.

In view of the unique properties of oxygen and acetylene and the need for the greatest care to be exercised in their use, Appendices are included to assist those using the reticulated gases when end-use equipment is connected to the outlet points. Precautions when using oxygen and acetylene are included. This Standard does not cover the supply of gases from oxygen and acetylene generators.

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

- BCGA-CP4: Industrial gas cylinder manifolds and distribution pipelines (excluding acetylene)
- BCGA-CP6: The safe use of acetylene in the pressure range 0 to 150 kPa
- IGC 9/78/E Code of Practice for acetylene pipelines based upon working ranges
- IGC 20/83/E: Distribution of oxygen, acetylene and methylacetylene mixtures at users' works
- IGC 33/86/E: Cleaning of equipment for oxygen service—Guidelines

This Standard limits the size of the pipe to be used in reticulation systems carrying oxygen and acetylene. Guidance will be sought from industry concerning the use of larger diameter piping after this Standard has been in use for a period of time.

This Standard has not given connection details for outlet point valves. A working group has been formed to look at a suitable specification. It is expected that an amendment would be finalized no earlier than a year from the issuing of this Standard to fully specify these connections.

The terms 'normative' and 'informative' have been used in this Standard to define the application of the appendix to which they apply. A 'normative' appendix is an integral part of a Standard, whereas an 'informative' appendix is only for information and guidance.

At the time of publication, the Committee noted that work was underway toward creating a Standard covering the storage and handling of gas cylinders and will enter into consultation to ensure that compatibility between Standards will be achieved.

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STANDARDS AUSTRALIA

Australian Standard

Oxygen and acetylene gas reticulation systems

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE This Standard specifies requirements for the design, assembly, installation, testing, operation and maintenance of gaseous oxygen and acetylene piping, manifolds and equipment used for the reticulation of these gases in industrial and laboratory applications. It does not apply to oxygen used for breathing purposes. Also, it does not apply to oxygen and acetylene cylinders on carts.

The Standard applies to the following:

- (a) Piping sizes up to 38 mm NB for industrial grade oxygen at pressures not exceeding 2100 kPa, and supplied either from high-pressure (H.P.) oxygen cylinders fitted with connections which comply with AS 2473, or from an oxygen vaporizer fed from a liquid oxygen storage vessel.
- (b) Piping sizes up to 32 mm NB for acetylene within the allowable pressure range for the particular NB of the piping being used, and not exceeding 150 kPa. Supply of acetylene into the piping shall be from cylinders.

Piping in Items (a) and (b) shall comply with AS 4041.

Future direction concerning larger piping sizes beyond those indicated in the Scope will need guidance from industry (see Preface).

1.2 REFERENCED DOCUMENTS The following documents are referred to in this Standard:

AS

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| 1319 | Safety signs for the occupational environment |
| 1335 | Hose and hose assemblies for general purpose gas welding and allied processes |
| 1345 | Identification of the contents of piping, conduits and ducts (incorporating Amendment 1) |
| 1349 | Bourdon tube pressure and vacuum gauges |
| 1530 | Methods for fire tests on building materials, components and structures |
| 1530.1 | Part 1: Combustibility test for materials |
| 1530.4 | Part 4: Fire-resistance test of elements of building construction |
| 1674 | Safety in welding and allied processes |
| 1674.1 | Part 1: Fire precautions |
| 2381 | Electrical equipment for explosive atmospheres—Selection, installation and maintenance |
| 2381.1 | Part 1: General requirements |
| 2430 | Classification of hazardous areas |
| 2430.1 | Part 1: Explosive gas atmospheres (IEC 79-10) |
| 2444 | Portable fire extinguishers—Selection and location |
| 2473 | Valves for compressed gas cylinders (threaded outlet) |