AS 2613—2005
(Incorporating Amendment No. 1)
Reconfirmed 2016

Australian Standard®

Safety devices for gas cylinders

This Australian Standard® was prepared by Committee ME-002, Gas Cylinders. It was approved on behalf of the Council of Standards Australia on 19 July 2005.
This Standard was published on 22 August 2005.

The following are represented on Committee ME-002:

- Air Conditioning and Refrigeration Wholesalers Association
- Australasian Institute of Engineer Surveyors
- Australia New Zealand Industrial Gas Association
- Australian Chamber of Commerce and Industry
- Australian Industry Group
- Australian Liquefied Petroleum Gas Association
- Department for Administrative and Information Services, S.A.
- Fire Protection Association of Australia
- Institute of Materials Engineering Australasia
- International Association for Natural Gas Vehicles
- Pressure Equipment Association Incorporated
- The Australian Gas Association
- Victorian WorkCover Authority
- Welding Technology Institute of Australia
- WorkCover New South Wales

This Standard was issued in draft form for comment as DR 05025.

Standards Australia wishes to acknowledge the participation of the expert individuals that contributed to the development of this Standard through their representation on the Committee and through the public comment period.

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STANDARDS AUSTRALIA

RECONFIRMATION

OF
AS 2613—2005
Safety devices for gas cylinders

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.

The following are represented on Technical Committee ME-002:

Australasian Fire and Emergency Service Authorities Council
Australia New Zealand Industrial Gas Association
Australian Chamber of Commerce and Industry
Engineers Australia
Environmental Protection Authority New Zealand
Fire Protection Association Australia
Gas Energy Australia
Gas Technical Regulators Committee
International Accreditation New Zealand
National Association of Testing Authorities Australia
SafeWork NSW
The Australian Gas Association
Welding Technology Institute of Australia
WorkSafe New Zealand
WorkSafe Victoria

NOTES

Australian Standard®

Safety devices for gas cylinders

Originated as AS 1281—1969.
Previous edition AS 2613—1989.
Third edition 2005.
Reissued incorporating Amendment No. 1 (October 2007).

Published by Standards Australia, GPO Box 476, Sydney, NSW 2001, Australia

ISBN 0 7337 6826 1

PREFACE

This Standard was prepared by the Australian members of the Joint Standards Australia/Standards New Zealand Committee ME-002, Gas Cylinders to supersede AS 2613—1989, *Safety devices for 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.

This Standard incorporates Amendment No. 1 (October 2007). The changes required by the Amendment are indicated in the text by a marginal bar and amendment number against the clause, note, table, figure or part thereof affected.

This Standard originated as AS B281—1969 based on the then current version of CGA* Standard S-1.1, *Pressure relief device Standards,* Part 1: *Cylinders for compressed gases*. In 1983 it was revised as AS 2613—1983, when all equations were metricated and minor changes were made. The 1989 revision modified the equations in Clauses 2.2.2 and 2.2.4 to allow for the different flows through an orifice of given area for gases of different densities, in order to obtain approximately equal cylinder emptying times for any gas following device release. This is a unique Australian requirement.

A proposal from the gas cylinder industry was the basis for Appendix D and Appendix H. These Appendices treat pressure-relief valves as a special category of device, and introduce a repeat cycle in the test to show performance after an initial sequence of start-to-discharge, reseal, lift, full discharge, and reseal.

This edition corrects some errors especially in Clauses 2.2.2 and 2.2.4, clarifies some requirements and adds references to suitable materials for safety devices.

Investigations of safety relief of LP Gas fuel vessels for automotive vehicles have confirmed that the effects of any safety device discharge channel can be critical. The requirements for discharge from an automotive LP Gas vessel are set out in AS/NZS 1425, *LP Gas for fuel systems for vehicle engines*. For gas cylinders covered by any Part of AS 2030, *The verification, filling, inspection, testing and maintenance of cylinders for storage and transport of compressed gases*, safety relief device rating is to take into account the full effects of any discharge channel.

It is recognized that not all types of safety devices for gas cylinders fit into the categories provided by the Standard and it should be noted that certain government departments may have regulations setting different requirements from those in this Standard, e.g. the Navigation Act Classified List of Dangerous Goods and Air Navigation Orders.

* Compressed Gas Association (U.S.A.)

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SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard specifies the designations, and the requirements for design, construction, testing, and marking of safety devices intended for fitment to gas cylinders.

NOTE: The use, conditions and limitations on the fitment of safety devices to gas cylinders is specified in Standards such as the AS 2030 series and AS/NZS 1425.

1.2 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS

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

A1

2337 Gas cylinder test stations

2337.1 Part 1: General requirements, inspection and tests—Gas cylinders

2360 Measurement of fluid flow in closed conduits

2360.1.4 Part 1.4: Pressure differential methods—Measurement using orifice plates, nozzles or Venturi tubes—Guide to the effect of departure from the conditions specified in Part 1.1

2473 Valves for compressed gas cylinders (threaded outlet)

2527 Cylinders for dissolved acetylene

4955 Transportable gas cylinders—Compatibility of cylinder and valve materials with gas contents

4955.1 Part 1: Metallic materials

4955.2 Part 2: Non-metallic materials (ISO 11114-2:2000, MOD)

A1

ISO

13341 Transportable gas cylinders—Fitting of valves to gas cylinders

1.3 DESIGNATION

Safety devices shall be designated as follows:

(a) Type BD—Bursting disc.

(b) Type FP1—Fusible plug or reinforced fusible plug, utilizing a fusible material with yield temperature not more than 77°C nor less than 69°C (74°C nominal).

(c) Type FP2—Fusible plug or reinforced fusible plug, utilizing a fusible material with yield temperature not more than 104°C nor less than 98°C (100°C nominal).

(d) Type BD/FP1—Series combination bursting disc/fusible plug, utilizing a fusible material with yield temperature not more than 77°C nor less than 69°C (74°C nominal).