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Australian Standard 2613—1983

SAFETY DEVICES FOR GAS CYLINDERS



STANDARDS ASSOCIATION OF AUSTRALIA

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Australasian Steamship Owners Federation
Australian Chamber of Commerce
Australian Liquefied Petroleum Gas Association
Australian Underwater Federation
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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard
for
SAFETY DEVICES FOR GAS CYLINDERS

1 SCOPE AND REFERENCED DOCUMENTS.

1.1 Scope. This standard specifies the designations, and requirements for design, construction, testing and marking, of safety devices required by AS 2030 to be fitted to gas cylinders.

NOTES:

1. Safety devices to this standard are also suitable for use in accordance with AS 1425 for LPG fuel vessels, but it should be noted that the performance values required by AS 2030 and AS 1425 are not necessarily the same. Where intended for use in accordance with AS 1425, the term gas cylinder should be read to include LPG fuel vessel for the purposes of this standard only.
2. Fitment of safety devices on cylinders used for certain gases is prohibited (see requirements for fitment of safety devices specified in the various Parts of AS 2030).

1.2 Referenced Documents. The following documents are referred to in this standard:

AS 1425	SAA Automotive LP Gas Code
AS 1821	Suppliers Quality Control System — Level 1
AS 1822	Suppliers Quality Control System — Level 2
AS 1823	Suppliers Quality Control System — Level 3
AS 2030	SAA Gas Cylinders Code
AS 2527	Cylinders for Dissolved Acetylene
BS 1042	Methods for the Measurement of Fluid Flow in Pipes
CGA*	Pamphlet S-1.1 Safety Relief Device Standards Part 1 — Cylinders for Compressed Gases.

2 DESIGNATION. Safety devices shall be designated as follows:

Type BD—Bursting disc.

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).

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).

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).

Type BD/FP₂—Series combination bursting disc/fusible plug, utilizing material with yield temperature not more than 104°C nor less than 98°C (100°C nominal).

Type PRV—Pressure-relief valve.

Type PRV/FP₁—Parallel combination pressure-relief valve/fusible plug, utilizing a fusible material with yield temperature not more than 77°C nor less than 69°C (74°C nominal).

Type PRV/FP₂—Parallel combination pressure-relief valve/fusible plug, utilizing a fusible material with yield temperature not more than 104°C nor less than 98°C (100°C nominal).

3 DEFINITIONS. For the purpose of this standard, the definitions given in AS 2030 and the following apply:

3.1 Safety device—a device including the approach channel, the operating part, and the discharge channel, intended to protect a gas cylinder against overpressure, or bursting.

3.2 Safety device channel—the passage or passages through which fluid discharged by operation of the safety device must pass from the gas cylinder to the atmosphere.

3.3 Safety device approach channel—the parts of the safety device channel on the gas cylinder contents side of the operating part, inclusive of any piping attached to the inlet side of the device.

3.4 Safety device discharge channel—that part of the safety device channel on the gas cylinder atmospheric side of the operating part, inclusive of any piping attached to the outlet side of the device.

3.5 Operating part—the part that closes the safety device channel, but which when moved from this position as a result of the action of heat or pressure or a combination of the two, permits discharge of fluid from the gas cylinder.

3.6 Bursting disc—an operating part of a safety device in the form of a disc which closes the safety device channel. The disc is intended to burst at a predetermined pressure to permit discharge of fluid.

NOTE: Types of disc include flat, preformed, reinforced and grooved.

3.7 Pressure opening—orifice against which the operating part functions.

3.8 Rated bursting pressure (of a bursting disc)—the maximum pressure at which the bursting disc is designed to burst at the rated temperature when in the pressure opening for which it is designed.

3.9 Rated temperature (of a bursting disc)—the temperature at which the rated bursting pressure of a disc is to be determined. Unless otherwise specified, it is to be taken as 65°C.

3.10 Fusible plug—a safety device in the form of a plug of suitable low melting point material which closes

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