

Australian Standard<sup>®</sup>

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**Hose and hose assemblies for  
distribution of petroleum and  
petroleum products  
(excepting LPG)**

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[Title allocated by Defence Cataloguing Authority: HOSE AND  
HOSE ASSEMBLY, NONMETALLIC (For petroleum products  
except LPG)]

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The following interests are represented on Committee RU/1:

Australian Gas Association  
Australian Institute of Petroleum  
Confederation of Australian Industry  
Department of Minerals and Energy, N.S.W.  
Government Supply Office, N.S.W.  
Plastics and Rubber Institute  
Plastics Institute of Australia,  
Railways of Australia Committee  
Water Board, Sydney

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## PREFACE

This Standard was prepared by Standards Australia's Committee on Industrial Hose, under the direction of Committee RU/-, Standards for the Rubber Industry to supersede AS 2683—1984.

This Standard differs from the 1984 edition in the following respects:

- (a) Aviation fuel lining material has been reclassified from Grade 2 to Grade 1 to align with the classification given in British Standard BS 3158, and to meet the requirements of the purchasing guidelines and the relevant testing procedures.
- (b) Electrical properties have been redefined to practical in-service requirements.
- (c) Requirements for Type 4 automotive fuel dispensing hose have been changed, and for the method of determination of fuel-soluble matter, the solvent mixture has been changed to closely approximate mixtures used in service.
- (d) Dilation test procedures for Type 4 hose requiring torsional flexibility and with a maximum working pressure of 250 kPa have been changed.

A test and criteria for reeling properties are currently under consideration.

In preparing this Standard the committee took cognisance of BS 3158, *Specification for rubber hoses and hose assemblies for aircraft ground fuelling and defuelling*, and BS 3492, *Specification for electrically bonded road and rail tanker hose and hose assemblies for petroleum products*.

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## STANDARDS AUSTRALIA

## Australian Standard

Hose and hose assemblies for distribution of petroleum and petroleum products  
(excepting LPG)

## SECTION 1. SCOPE AND GENERAL

**1.1 SCOPE.** This Standard specifies requirements for hose and hose assemblies for conveying petroleum and petroleum products, except for liquefied petroleum gas\*, at product temperatures up to 65°C in ambient temperatures ranging from -20°C to 55°C.

The Standard is intended for hose applications involving road and rail tankers, metered pumps, farm tanks, reeling, aviation requirements and general plant operations.

## NOTES:

1. A separate Standard, AS 2117, provides for hoses used for transferring liquid petroleum products to and from marine tankers or bunkering vessels or for similar duties ashore.
2. For product temperatures above 65°C, the manufacturer should be consulted for special conditions applicable to the use of the hose.
3. Guidelines and advice on information to be supplied at the time of placing an enquiry or an order are set out in Appendix A.
4. A guide to the user of hose assemblies for continued in-service performance has been included as Appendix F. This guide does not form an integral part of the Standard.

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

## AS

1180	Methods of test for hose made from elastomeric materials
1180.1	Method 1: Dimensions
1180.5A	Method 5A: Hydrostatic pressure—Burst test
1180.5B	Method 5B: Hydrostatic pressure—Proof test
1180.5C	Method 5C: Hydrostatic pressure—Change-in-length test
1180.5D	Method 5D: Hydrostatic pressure—Leakage test
1180.7A	Method 7A: Resistance of lining and cover to liquids
1180.7B	Method 7B: Resistance to liquids—Physical
1180.7J	Method 7J: Resistance to vacuum
1180.11	Method 11: Hose and coupling compatibility—Tensile method
1180.13A	Method 13A: Determination of electrical resistance of hose and hose components
1180.13B	Method 13B: Determination of electrical resistance of hose assembly
1180.13C	Method 13C: Determination of electrical continuity of hose assembly with reinforcing wire(s)
1257	Bore sizes, test pressures and tolerances on lengths of elastomeric hose

1683 Methods of test for rubber  
1683.24 Method 24: Rubber—Vulcanized—Determination of resistance to ozone cracking—Static strain test

1869 Hose and hose assemblies for liquefied petroleum gases (LPG), natural gas and town gas

2117 Hose and hose assemblies for petroleum products—Suction and discharge

## ISO

8601 Rubber or plastics hoses—Determination of volumetric expansion

## BS

3395 Specification for electrically bonded hose and hose assemblies for fuel dispensers

**1.3 CLASSIFICATION AND DESIGNATION.**

**1.3.1 General.** Hose shall be classified in terms of its type and its maximum working pressure as detailed in Clauses 1.3.2 and 1.3.3 in conjunction with the grade of its internal surface according to its intended use as detailed in Clause 1.3.4 and its electrical kind as detailed in Clause 1.3.5.

**1.3.2 Type.** The type of hose, on the basis of description shall be as follows:

Type	Description
1	Suction and discharge, non-collapsible.
2	Discharge only, non-collapsible under normal use.
3	Lightweight, discharge only, collapsible.
4	Controlled dilation, discharge only, non-collapsible under normal use.

**1.3.3 Working pressure.** The maximum working pressure (WP) in kilopascals, i.e. pressure above ambient, shall be selected from the following:

150 kPa, 250 kPa, 400 kPa, 700 kPa, 1000 kPa, 1500 kPa and 2000 kPa.

**1.3.4 Grade.** Material for the internal surface of the hose shall be selected in accordance with its use, designated by a grade numbers as follows:

Grade	Use
1	For grades of petroleum and petroleum products having an aromatic hydrocarbon content of not greater than 30 percent, including aviation fuels.
2	For grades of petroleum and petroleum products having an aromatic hydrocarbon content not greater than 50 percent
3	For grades of petroleum and petroleum products, an aromatic hydrocarbon content greater than 50 percent.

\* See AS 1869.