AS 2594—1983

Australian Standard®

HOSE AND HOSE ASSEMBLIES FOR LIQUID CHEMICALS

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The following interests were represented on the committee responsible for the preparation of this standard:

Australian Gas Association

Australian Institute of Petroleum Limited

Confederation of Australian Industry

Country Roads Board, Victoria

Electricity Trust of South Australia

Government Stores Department, N.S.W.

Metropolitan Water, Sewerage and Drainage Board, Sydney

Plastics Institute of Australia, Incorporated

Plastics and Rubber Institute

Railways of Australia Committee

Society of Automotive Engineers— Australasia

State Electricity Commission of Victoria

The Institution of The Rubber Industry

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PREFACE

This standard was prepared by the Association's Committee on Industrial Hose under the direction of the Committee on Standards for the Rubber Industry.

In the absence of any corresponding international or national standard, cognizance was taken of other Australian standards for hose and methods of test, U.S.A. Rubber Manufacturers Association Hose Handbook and hose specifications, as well as sundry data from manufacturers' hose catalogues. Acknowledgement is made of the assistance obtained from these sources.

Appendix A presents purchasing guidelines including contractual requirements and directs attention to matters requiring consideration at the time of the enquiry and/or order. The intention is to avoid misinterpretation or other problems to ensure a complete understanding of product requirements by both purchaser and supplier.

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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard
for
HOSE AND HOSE ASSEMBLIES FOR LIQUID CHEMICALS

SECTION 1. SCOPE AND GENERAL REQUIREMENTS

1.1 SCOPE. This standard specifies requirements for hose and hose assemblies for conveying acids, alkalis, solvents and other liquid chemicals.

1.2 REFERENCED DOCUMENTS. The following standards are referred to in this standard:

AS 1180 Methods of Test for Hose Made from Elastomeric Materials
- 1180.1 Dimensions
- 1180.3 Accelerated Ageing
- 1180.4B Ply Adhesion — Autographic Method
- 1180.5A Hydrostatic Pressure — Burst Test
- 1180.5C Hydrostatic Pressure — Change-in-length Test
- 1180.5D Hydrostatic Pressure — Leak Test
- 1180.5E Hydrostatic Pressure — Expansion and Distortion Test
- 1180.7A Resistance of Hose Lining and Cover to Liquids
- 1180.7B Resistance to Liquids — Physical
- 1180.7F Resistance of Hose Lining and Cover to Ozone
- 1180.7G Corrosion Resistance
- 1180.11 Hose and Coupling Compatibility — Tensile Method

AS 1257 Bore Sizes, Test Pressures and Tolerances on Lengths of Elastomeric Hose

AS 1683 Methods of Test for Rubber
- 1683.21 Rubber Vulcanized — Determination of Abrasion Resistance Using a Rotating Cylindrical Device

1.3 MATERIALS.

1.3.1 Hose Surfaces.

1.3.1.1 *Internal.* The internal surface of the hose shall be non-porous and chemically and physically resistant to the liquid conveyed at the specified working temperature range (see Appendix A, Paragraph A3(a) and (b)).

1.3.1.2 *External.* The external surface of the hose shall be resistant to intermittent exposure to the liquid conveyed. Where specified, an abrasion resistant cover shall be provided (see Appendix A, Paragraph A3(c)).

1.3.2 Couplings. Either the material of the coupling shall be resistant to the liquid conveyed, or the coupling shall be fitted so that it cannot come in contact with the liquid.

1.4 DIMENSIONS. When hose is measured in accordance with AS 1180.1, the internal diameter shall conform to the appropriate value given in AS 1257. The tolerance on cut lengths shall be as specified in AS 1257.

1.5 COUPLING AND ASSEMBLY REQUIREMENTS. Couplings shall be designed, constructed and fitted so that the hose assembly will comply with the minimum burst pressure and tensile force requirements specified in Section 2, without showing any sign of failure or leakage.

NOTE: Care should be taken to ensure that couplings are properly fitted so as not to damage the reinforcement or other vital components of the hose.

1.6 FREEDOM FROM DEFECTS. The internal and external surfaces shall be uniform and concentric and the materials of construction shall be free from deleterious defects.

The internal surface shall be free from raised spots and lumps and, for hoses not built on mandrels, a steel ball having a diameter equal to the minimum allowable internal diameter less one half of the minus tolerance shall pass easily through the hose while it is subjected to an internal pressure of 70 kPa.

1.7 MARKING. Each manufactured length of hose and/or hose assembly shall be permanently and clearly marked with the following information:

(a) The manufacturer's or supplier's name or identification.

(b) Manufacturer's construction coding.

(c) The year of manufacture.

(d) The nominal internal diameter of the hose, in millimetres.

(e) The maximum working pressure of the hose.

(f) Additional information as specified by the purchaser (see Appendix A, Paragraph A3(h)).

NOTE: Manufacturers who place the number of this Australian standard on hose and hose assemblies, packaging or literature related thereto should ensure that the hose and hose assemblies are manufactured to comply with the standard.