AS 2683—1984
UDC 621.643.3-036.4:665.6/.7

Australian Standard 2683—1984

HOSE AND HOSE ASSEMBLIES FOR DISTRIBUTION OF PETROLEUM AND PETROLEUM PRODUCTS (EXCEPTING LPG)

STANDARDS ASSOCIATION OF AUSTRALIA
Incorporated by Royal Charter

G

This Australian standard was prepared by Committee RU/1, Industrial Hose. It was approved on behalf of the Council of the Standards Association of Australia on 6 December 1983 and published on 6 February 1984.

The following interests are represented on Committee RU/1:

Australian Gas Association

Australian Institute of Petroleum Limited

Confederation of Australian Industry

Country Roads Board, Victoria

Department of Industrial Relations, N.S.W.

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

This standard was issued in draft form for comment as DR 81010.

AUSTRALIAN STANDARD

HOSE AND HOSE ASSEMBLIES FOR DISTRIBUTION OF PETROLEUM AND PETROLEUM PRODUCTS (EXCEPTING LPG)

AS 2683—1984

First published 1984

PUBLISHED BY THE STANDARDS ASSOCIATION OF AUSTRALIA
STANDARDS HOUSE, 80 ARTHUR ST, NORTH SYDNEY, N.S.W.

ISBN 0 7262 3275 0

PREFACE

This standard was prepared by the Association's Committee on Industrial Hose in response to persistent and widespread demands from manufacturing and using industries to admit plastics compounds into industrial hose, particularly that used for conveying petroleum and petroleum products. It was prepared under the guidance of the Advisory Committee on Standards for the Rubber Industry.

Provision is made for classification according to description, working pressure and use.

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.

In the preparation of this standard, reference was made to the following documents:

BSI Doc 79/713/71	Draft Standard Specification for Thermoplastic Hose Assemblies, for Dock, Road and Rail Tanker Use
BS 3158	Specification for Aircraft Ground Fuelling Hose and Hose Assemblies
BS 3395	Electrically Bonded Hose and Hose Assemblies for Kerbside Dispensing Pumps
BS 3492	Electrically Bonded Road and Rail Tanker Hose and Hose Assemblies for Petroleum Products: (Appendix B, Method of Carrying Out Bending Test Under Pressure)
ISO 6801	Rubber or Plastics Hoses—Determination of Volumetric Expansion

A critical requirement exists for limiting the rigidity of hose assemblies, particularly for reeling, and the matter is under investigation. As a general rule, the minimum reeling diameter is 12 times the internal diameter of the hose.

CONTENTS

STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard
for
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 80°C and in ambient temperatures ranging from − 20°C to 55°C.

1.2 APPLICATION. This standard is intended for hose applications involving road and rail tankers, metered pumps, farm tanks, reeling, aviation requirements and general plant operations.

NOTE: A separate standard, AS 2117, Hose and Hose Assemblies for Petroleum and Petroleum Products—Suction and Discharge, provides for hoses used for transferring liquid petroleum products to and from marine tankers or bunkering vessels or for similar duties ashore.

1.3 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
	1180.5A	Hydrostatic Pressure—Burst Test
	1180.5B	Hydrostatic Pressure—Proof Test
	1180.5C	Hydrostatic Pressure—Change-in-length Test
	1180.5D	Hydrostatic Pressure—Leakage Test
	1180.7A	Resistance of Lining and Cover to Liquids
	1180.7F	Resistance of Lining and Cover to Ozone
	1180.7J	Resistance to Vacuum
	1180.11	Hose and Coupling Compatibility—Tensile Method
	1180.13A	Determination of Electrical Resistance of Hose and Hose Components
	1180.13B	Determination of Electrical Resistance of Hose Assembly
	1180.13C	Determination of Electrical Continuity of Hose Assembly with Reinforcing Wire(s)
AS 1257	Bore Sizes, Test Pressures and Tolerances on Lengths of Elastomeric Hose	

1.4 CLASSIFICATION.

1.4.1 General. Hose shall be classified in terms of its type and its class or working pressure as detailed in Clauses 1.4.2 and 1.4.3 in conjunction with the grade of its internal surface according to its intended use as detailed in Clause 1.4.4 and its electrical kind as detailed in Clause 1.4.5.

1.4.2 Type. The type of hose, in accordance with 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.

1.4.3 Class. Hose shall be classified on the basis of maximum working pressure (WP) in megapascals gauge, i.e. pressure above ambient, as follows:

Class	*Working pressure MPa (max.)*
A	0.15
B	0.25
C	0.70
D	1.50
E	2.00

1.4.4 Grade. The material for the internal surface of the hose shall be selected in accordance with its use, designated by a grade number as follows:

Grade	*Use*
1	For grades of petroleum and petroleum products having an aromatic hydrocarbon content of not greater than 30 percent except for aviation fuels.
2	For grades of petroleum and petroleum products having an aromatic hydrocarbon content not greater than 50 percent and all aviation fuels.
3	For specific grades of petroleum products including petrochemicals having the compositions stated by the purchaser (see Appendix A, Paragraph A3.1(a)).

1.4.5 Electrical kind. Hose shall be categorized in accordance with its electrical characteristics as follows:

Kind	*Characteristics*
1	Conducting. (The integral conductor(s) is the conducting medium. This conductor(s) may also provide reinforcement.) See Clause 2.6.1.
2	Intrinsically conducting. (The compounded material is the conducting medium.) See Clause 2.6.2.

*See AS 1869, Hose and Hose Assemblies for Liquefied Petroleum Gases (LPG), Natural Gas and Town Gas.