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# Australian Standard 2117-1980

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## ELASTOMERIC SUCTION AND DISCHARGE HOSE ASSEMBLIES FOR PETROLEUM AND PETROLEUM PRODUCTS



**STANDARDS ASSOCIATION OF AUSTRALIA**

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THE FOLLOWING SCIENTIFIC, INDUSTRIAL AND GOVERNMENTAL ORGANIZATIONS and departments were officially represented on the committee which prepared this standard:

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  
Petroleum Marketing Engineers Advisory Committee  
Railways of Australia Committee  
Society of Automotive Engineers—Australasia  
State Electricity Commission of Victoria  
The Institution of The Rubber Industry

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This standard, prepared by Committee RU/1, Industrial Hose, was approved on behalf of the Council of the Standards Association of Australia on 5 December 1979, and was published on 1 March 1980.

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AUSTRALIAN STANDARD

**ELASTOMERIC SUCTION  
AND DISCHARGE  
HOSE ASSEMBLIES FOR  
PETROLEUM AND  
PETROLEUM PRODUCTS**

**AS 2117—1980**

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## PREFACE

This revised edition of AS 2117—1977 was prepared by the Association's Committee on Industrial Hose. The revision incorporates significant amendments in respect of hose classification and nominal internal diameter (see Notes to Table 1).

The standard applies to hoses commonly used for transferring crude oil and liquefied petroleum products (other than LP gas and natural gas) to and from marine tankers and bunkering vessels or for similar duties ashore.

The committee took into account requirements specified in—

ISO 1823\* Rubber Hoses for Oil Suction and Discharge

BS 1435 Rubber Hose Assemblies for Oil Suction and Discharge Services

Users of this standard are advised to consult the 'International Oil Tanker and Safety Guide' issued by the Institute of Petroleum, London, which has been widely adopted by the oil industry in Australia as a guide for handling petroleum products.

This standard may require reference to the following Australian standards:

AS 1180 Methods of Test for Hose Made from Elastomeric Materials

1180.7A—Resistance of Lining and Cover to Liquids

1180.7F—Resistance of Lining and Cover to Ozone

1180.7J—Resistance to Vacuum

SAA MP19 Report on Preferred Numbers and Their Use

\*Published by the International Organization for Standardization (ISO).

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## STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard  
forELASTOMERIC SUCTION AND DISCHARGE HOSE ASSEMBLIES FOR  
PETROLEUM AND PETROLEUM PRODUCTS

**1 SCOPE.** This standard specifies requirements for elastomeric hoses and end fittings intended for use in conveying petroleum and petroleum products at product temperatures up to 80°C and in ambient temperatures ranging from -20°C to 80°C.

**2 CLASSIFICATION.**

**2.1 General.** A hose shall be classified in terms of its type and class of working pressure (as detailed in Clauses 2.2 and 2.3) in conjunction with its grade of lining which is a function of its intended use (see Clause 2.4).

Type	Class
1	C only
2	A, B and C
3	A, B and C
4	A, B and C

**2.2 Type.** A hose shall be one of the following types:

Type	Description
1	Heavy duty hose, suction and discharge, for submarine and other offshore use, non-collapsible.
2	Hose, suction and discharge, for dockside and onshore use, non-collapsible.
3	Lightweight hose, discharge only, for dockside and onshore use, non-collapsible under normal use.
4	Lightweight hose, discharge only, for dockside and onshore use, collapsible.

**NOTES:**

- The thickness of the cover of a Type 1 hose is commonly twice that of a Type 2 hose. The flanges can be heavy hot-dip galvanized and the tail-piece can be completely covered right up to the flange with elastomer.
- Hoses, when derrick-handled, need to be supported in a saddle or cradle to avoid point loading stresses.

**2.3 Class.** A hose shall be classified on the basis of working pressure (WP) in megapascals gauge (i.e. pressure above ambient) as follows:

Class	Working pressure MPa
A	0.7
B	1.0
C	1.5

**2.4 Grade.** A hose shall have one of the following linings (designated by a grade number) selected in accordance with its intended use:

Grade	Use
1	For all grades of petroleum and petroleum products having an aromatic hydrocarbon content of 50 percent or less.
2	For all grades of petroleum and petroleum products having an aromatic hydrocarbon content greater than 50 percent.
3	For specific grades of petroleum products including petrochemicals having the compositions stated by the purchaser.

**3 COVER.** The cover shall be smooth and resistant to brine, weathering and abrasion, and to intermittent exposure to the fluids conveyed.

**4 DIMENSIONS.**

**4.1 Nominal Internal Diameter.** The nominal internal diameters of hose for each pressure class shall be as specified in Table 1.

TABLE 1  
NOMINAL INTERNAL DIAMETERS

millimetres		
Nominal internal diameter		
Class A	Class B	Class C
50	80 (75)	100
63 (63.5)	100	160
80 (75)	160	180
100	180	200
160	200	250
180	250	315 (300)
200	315 (300)	400 (390)
	400 (390)	500 (490)
	500 (490)	

**NOTES:**

- The above values are in accordance with the R20 series of preferred numbers given in SAA MP19.
- The values in parentheses provide a concession for existing manufacturing conditions and are necessary for a period of transition. They also accommodate existing fittings.

**4.2 Length.** Hose lengths shall be measured from outside face to outside face of flanges or, when supplied without flanges, from end to end of the nipples outside the hose.

The actual length of a finished hose, as defined above, shall not differ from the nominal length by more than +2.5, -1.5 percent. For this purpose the hose shall be measured before being subjected to the specified tests.

Recommendations for the protruding length of each nipple or flanged end connection outside the hose are given in Table 2.