AS 3791—1991

Australian Standard®

Hydraulic hose

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Australian Institute of Petroleum

Confederation of Australian Industry

Department of Administrative Services, N.S.W.

Department of Minerals and Energy, N.S.W.

Plastics and Rubber Institute

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PREFACE

This Standard was prepared by the Standards Australia Committee on Industrial Hose under the direction of Committee RU/—Standards for the Rubber Industry, to supersede AS B226—1972, *Hydraulic hose*.

This edition is based on the Society of Automotive Engineers (SAE) Standard J517—Jun 1987, *Hydraulic hose* and includes seven new classes of hose which did not appear in the previous edition. Suitable test procedures from SAE J343—Jun 1987, *Tests and procedures for SAE 100R series hydraulic hose and hose assemblies* have been incorporated.

Values are indicated in both imperial and SI units. This reflects the status of mandrel sizes and fittings currently in use in industry.

CONTENTS

Page

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE 4
1.2 REFERENCED DOCUMENTS 4
1.3 CLASSIFICATION 4
1.4 VISUAL EXAMINATION 4
1.5 CONSIDERATIONS RELATING TO HOSE USAGE 4
1.6 MARKING 4

SECTION 2 CONSTRUCTION, DIMENSIONS, PROPERTIES AND TEST REQUIREMENTS

2.1 STEEL WIRE-REINFORCED RUBBER-COVERED HYDRAULIC HOSE (100 R1) 6
2.2 HIGH PRESSURE, STEEL WIRE-REINFORCED, RUBBER-COVERED HYDRAULIC HOSE (100R2) 7
2.3 DOUBLE (NON-METALLIC) FIBRE BRAID REINFORCED, RUBBER-COVERED HYDRAULIC HOSE (100R3) 9
2.4 WIRE-INSERTED HYDRAULIC SUCTION HOSE (100R4) 10
2.5 SINGLE WIRE BRAID REINFORCED, TEXTILE-COVERED HYDRAULIC HOSE (100R5) 11
2.6 SINGLE (NON-METALLIC) FIBRE BRAID REINFORCED, RUBBER-COVERED HYDRAULIC HOSE (100R6) 13
2.7 THERMOPLASTIC, SYNTHETIC FIBRE-REINFORCED, HYDRAULIC HOSE (100R7) 14
2.8 HIGH PRESSURE, THERMOPLASTIC HYDRAULIC HOSE (100R8) 15
2.9 HIGH PRESSURE, 4-SPIRAL STEEL WIRE-REINFORCED, RUBBER-COVERED HYDRAULIC HOSE (100R9) 16
2.10 HEAVY DUTY, 4-SPIRAL STEEL WIRE-REINFORCED, RUBBER-COVERED HYDRAULIC HOSE (100R10) 18
2.11 HEAVY DUTY, 6-SPIRAL STEEL WIRE-REINFORCED, RUBBER-COVERED HYDRAULIC HOSE (100R11) 19
2.12 HEAVY DUTY, HIGH-IMPULSE, 4-SPIRAL WIRE-REINFORCED, RUBBER-COVERED HYDRAULIC HOSE (100R12) 21
2.13 HEAVY DUTY, HIGH-IMPULSE, MULTIPLE SPIRAL WIRE-REINFORCED, RUBBER-COVERED HYDRAULIC HOSE (100R13) 22
2.14 POLYTETRAFLUOROETHYLENE-(PTFE-)LINED HYDRAULIC HOSE (100R14) 23

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Hydraulic hose

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE This Standard specifies 14 classes for hydraulic hose having burst pressures up to 345 MPa and operating temperatures from -55°C to +205°C when used under normal operating conditions.

The Standard covers hose manufactured from elastomeric materials, reinforced with braided or spirally wound steel wire, or with braided textile or a combination of these materials.

The Standard sets out dimensional and performance requirements, together with the methods for testing the performance requirements stated.

The Standard does not cover requirements for hydraulic hose for use in underground mines.

NOTE: Operating temperatures and pressures in excess of that specified for the appropriate class may materially reduce the life of the hose.

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
1180.6 Method 6:Impulse test
1180.7E Method 7E:Resistance to oil
1180.7F Method 7F:Resistance of lining and cover to ozone
1180.7J Method 7J:Resistance to vacuum
1180.8A Method 8A:Resistance to cold flexing of hose assembly

SAE
J343 Tests and procedures for SAE 100R series hydraulic hose and hose assemblies

1.3 CLASSIFICATION For the purpose of this Standard, hydraulic hose is classified in 14 classes according to its type of construction, as set out in Table 1.1.

1.4 VISUAL EXAMINATION All bulk hose shall be visually examined for defects and to ascertain that the hose identification has been properly applied. All assemblies shall also be inspected to ascertain that the correct fittings are properly installed.

1.5 CONSIDERATIONS RELATING TO HOSE USAGE

1.5.1 Flexibility Hydraulic hose is designed to be flexible only in bending to the specified minimum bend radius. The purpose of the stripe is to indicate if the hose has been twisted. Hose showing twist should be replaced.

1.5.2 Fittings Fittings for hose may not be interchangeable, and it is recommended that fittings and hose be properly matched, and that fitting and hose manufacturers' recommendations be followed.

1.6 MARKING Except for hose with a wire braided exterior, hose shall be legibly marked along the entire length parallel to the axis with a stripe or stripes. For hose with a wire-braided exterior, the information shall be inscribed on a tag or sleeve securely fixed to each hose assembly. The following information, repeated not more than every 610 mm shall be shown:

(i) The manufacturer's or supplier's name or registered trade mark.

(ii) The class of hose, the type of hose (see Section 2) and dash number.

(iii) The month and year of manufacture.

Example
The following shows a marking scheme in the sequence required:

Bloggs Flexopipe, 100R1,TYPE A, -8, Feb. 1990