

Australian Standard<sup>®</sup>

---

**Hose and hose assemblies—  
Air/water—For underground coal  
mines**

---

This Australian Standard was prepared by Committee RU/1, Industrial Hose. It was approved on behalf of the Council of Standards Australia on 18 March 1991 and published on 13 May 1991.

---

The following interests are represented on Committee RU/1:

Australian Gas Association  
Australian Institute of Petroleum  
Confederation of Australian Industry  
Department of Commercial Services, N.S.W.  
Department of Minerals and Energy, N.S.W.  
Institution of Mining Electrical and Mining Mechanical Engineers  
Plastics and Rubber Institute  
Plastics Industry Association  
Railways of Australia Committee  
Water Board, Sydney—Illawarra—Blue Mountains

---

**Review of Australian Standards.** *To keep abreast of progress in industry, Australian Standards are subject to periodic review and are kept up to date by the issue of amendments or new editions as necessary. It is important therefore that Standards users ensure that they are in possession of the latest edition, and any amendments thereto.*

*Full details of all Australian Standards and related publications will be found in the Standards Australia Catalogue of Publications; this information is supplemented each month by the magazine 'The Australian Standard', which subscribing members receive, and which gives details of new publications, new editions and amendments, and of withdrawn Standards.*

*Suggestions for improvements to Australian Standards, addressed to the head office of Standards Australia, are welcomed. Notification of any inaccuracy or ambiguity found in an Australian Standard should be made without delay in order that the matter may be investigated and appropriate action taken.*

---

Australian Standard<sup>®</sup>

---

**Hose and hose assemblies—  
Air/water—For underground coal  
mines**

---

First published as AS 2660—1983.  
Second edition 1991.

Incorporating:  
Amdt 1 — 1992

PUBLISHED BY STANDARDS AUSTRALIA  
(STANDARDS ASSOCIATION OF AUSTRALIA)  
1 THE CRESCENT, HOMEBUSH, NSW 2140

ISBN 0 7262 6851 8

## PREFACE

This Standard was prepared by the Standards Australia Committee on Industrial Hose, under the direction of the Committee on Standards for the Rubber Industry, to supersede AS 2660—1983.

The demand for a new edition of this Standard arose principally from the need to permit the use of materials other than rubber. It also provides for hose assemblies and rationalizes the requirements for the hose and its components.

In the preparation of this Standard, account was taken of AS 2554—1982, *Hose and hose assemblies for air*, ISO 2398:1987, *Industrial rubber hose for compressed air (up to 2.5 MPa)*, and BS 5118—1980, *Specification for rubber hoses for compressed air*.

---

 CONTENTS

	<i>Page</i>
SECTION 1 SCOPE AND GENERAL	
1.1 SCOPE . . . . .	3
1.2 REFERENCED DOCUMENTS . . . . .	3
1.3 DEFINITIONS . . . . .	3
1.4 CLASSIFICATION . . . . .	3
1.5 CONSTRUCTION . . . . .	3
1.6 DIMENSIONS AND TOLERANCES . . . . .	4
1.7 MARKING . . . . .	4
SECTION 2 PERFORMANCE REQUIREMENTS	
2.1 COMBUSTION PROPAGATION CHARACTERISTICS . . . . .	5
2.2 ELECTRICAL RESISTANCE . . . . .	5
2.3 ADHESION . . . . .	5
2.4 HYDROSTATIC PRESSURE TESTS . . . . .	5
2.5 ABRASION RESISTANCE . . . . .	5
2.6 FLEXIBILITY . . . . .	5
2.7 RESISTANCE TO OIL . . . . .	5
2.8 RESISTANCE TO OZONE . . . . .	5
2.9 HOSE AND COUPLING COMPATIBILITY . . . . .	5
APPENDICES	
A PURCHASING GUIDELINES . . . . .	7
B METHOD FOR DETERMINING FLEXIBILITY OF HOSE . . . . .	8

## © Copyright — STANDARDS AUSTRALIA

Users of Standards are reminded that copyright subsists in all Standards Australia publications and software. Except where the Copyright Act allows and except where provided for below no publications or software produced by Standards Australia may be reproduced, stored in a retrieval system in any form or transmitted by any means without prior permission in writing from Standards Australia. Permission may be conditional on an appropriate royalty payment. Requests for permission and information on commercial software royalties should be directed to the head office of Standards Australia.

Standards Australia will permit up to 10 percent of the technical content pages of a Standard to be copied for use exclusively in-house by purchasers of the Standard without payment of a royalty or advice to Standards Australia.

Standards Australia will also permit the inclusion of its copyright material in computer software programs for no royalty payment provided such programs are used exclusively in-house by the creators of the programs.

Care should be taken to ensure that material used is from the current edition of the Standard and that it is updated whenever the Standard is amended or revised. The number and date of the Standard should therefore be clearly identified.

The use of material in print form or in computer software programs to be used commercially, with or without payment, or in commercial contracts is subject to the payment of a royalty. This policy may be varied by Standards Australia at any time.

## STANDARDS AUSTRALIA

**Australian Standard**  
**Hose and hose assemblies—Air/water—For underground coal mines**

## SECTION 1 SCOPE AND GENERAL

**1.1 SCOPE** This Standard specifies requirements for fire-resistant and anti-static (FRAS) hose and hose assemblies for conveying air, stone dust and water in underground coal mines.

The Standard does not apply to hose connected directly to air compressors or to hose for suction purposes.

NOTE: Guidelines and advice on information to be supplied at the time of placing an enquiry or order are set out in Appendix A.

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

AS

1179	Glossary of terms for rubber hose
1180	Methods of test for hose made from elastomeric materials
1180.1	Part 1: Dimensions
1180.3	Part 3: Accelerated ageing
1 180.4B	Part 4B: Ply adhesion—Autographic method
1 180.5A	Part 5A: Hydrostatic pressure—Burst test
1 180.5C	Part 5C: Hydrostatic pressure—Change-in-length test
1 180.5D	Part 5D: Hydrostatic pressure—Leakage test
1 180.5E	Part 5E: Hydrostatic pressure—Expansion and distortion test
1 180.7E	Part 7E: Resistance to oil
1 180.7F	Part 7F: Resistance of lining and cover to ozone
1180.10B	Part 10B: Determination of combustion propagation characteristics of a horizontally oriented specimen of hose using surface ignition
1180.11	Part 11: Hose and coupling compatibility—Tensile method
1180.13A	Part 13A: Determination of electrical resistance of hose and hose components
1257	Bore sizes, test pressures and tolerances on lengths of elastomeric hose
1683	Methods of test for rubber
1683.21	Part 21: Rubber—Vulcanized—Determination of abrasion resistance using a rotating cylindrical device

**1.3 DEFINITIONS** For the purpose of this Standard the definitions given in AS 1179 shall apply.

**1.4 CLASSIFICATION** Air/water hose shall be classified according to its maximum working pressure, proof pressure, minimum burst pressure and duty as shown in Table 1.1.

**TABLE 1.1**  
**CLASSIFICATION OF AIR/WATER HOSE**

Class	Maximum working pressure MPa	Proof pressure MPa	Minimum burst pressure MPa	Duty
A	1.75	3.5	7.0	Extra heavy
B	1.75	3.5	7.0	Heavy
C	0.7	1.4	2.8	Light

**1.5 CONSTRUCTION** The internal and external surfaces of the hose shall be uniform and concentric. The materials forming the internal and external surfaces shall comply with the requirements given in Table 1.2 for the appropriate class of hose.

**TABLE 1.2**  
**REQUIREMENTS FOR MATERIALS FORMING INTERNAL (LINING) AND EXTERNAL (COVER) SURFACES**

Property	Class A		Class B		Class C	
	Lining	Cover	Lining	Cover	Lining	Cover
Adhesion	x	x	x	x	x	x
Abrasion resistance	—	x	—	x	—	—
Resistance to oil	x	x	x	—	x	—
Resistance to ozone	—	x	—	x	—	x

NOTES:

- Adhesion requirements are not applicable to hose specifically designed as a non-bonded wall construction.
- 'x' indicates relevant properties for which tests are specified in Section 2.