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Australian Standard 1646—1984

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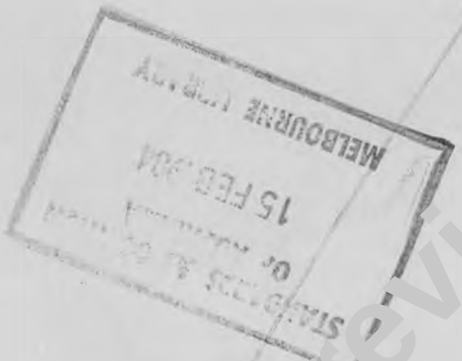
RUBBER JOINT RINGS FOR WATER SUPPLY, SEWERAGE AND DRAINAGE PURPOSES



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The following interests are represented on Committee WS/10:

Confederation of Australian Industry

Department of Public Works, N.S.W.

Engineering and Water Supply Department, S.A.

Gas and Fuel Corporation of Victoria

Hunter District Water Board

Institution of Engineers Australia

Melbourne and Metropolitan Board of Works

Metropolitan Water Sewerage and Drainage Board

Plastics Institute of Australia Incorporated

Queensland Joint Committee

State Rivers and Water Supply Commission Victoria

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RUBBER JOINT RINGS FOR WATER SUPPLY, SEWERAGE AND DRAINAGE PURPOSES

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PREFACE

This edition of this standard was prepared by the Association's Committee on Flexible Jointing Gaskets to supersede AS 1646—1974. The standard applies to rings made from vulcanized natural rubber and a selected range of synthetic rubbers intended for the jointing of pipes for water supply, sewerage and drainage purposes.

The standard sets out compositions and physical properties for these materials, compliance with which is known to give satisfactory service in water supply, sewerage and drainage services.

It should be recognized however, that, when rings are intended for use where the likelihood of microorganism attack is high special precautions may need to be taken. This standard covers rubber rings incorporating root growth inhibitor and these are intended only for sewerage and drainage purposes.

RINGS CONTAINING ROOT GROWTH INHIBITOR SHALL NOT BE USED IN WATER SUPPLY SYSTEMS.

The root growth inhibitor selected should aim to protect rubber ring joints against the action of the roots of all plant species, to have no adverse effect upon persons handling such rings, and to avoid adverse effects on any sewage treatment process or the life of the ring itself under service conditions.

These criteria should be applied in a practical way taking account of existing test results and other information available on the characteristics of the inhibitor.

This edition of the standard incorporates two additional appendices. One is to give manufacturers an indication of the quality control testing required by statutory authorities, while the other sets out a procedure for forwarding samples of used rubber rings for assessment in the laboratory.

CONTENTS

STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard
for
RUBBER JOINT RINGS FOR WATER SUPPLY, SEWERAGE AND DRAINAGE PURPOSES

SECTION 1. SCOPE AND GENERAL

1.1 SCOPE. This standard specifies requirements for vulcanized natural rubber rings and a selected range of vulcanized synthetic rings intended primarily for use in the jointing of pipes for water supply, sewerage and drainage. The standard also specifies requirements for such rings which incorporate root growth inhibitor and which are intended for sewerage and drainage purposes only. Dimensions are not specified. Methods for testing rubber joint rings are detailed in Appendices.

NOTES:

1. RUBBER RINGS INCORPORATING ROOT GROWTH INHIBITOR SHALL NOT BE USED IN WATER SUPPLY SYSTEMS.
2. Guidelines to purchasers on requirements that must be specified by the purchaser and by the manufacturer, and those that must or may be agreed upon at the time of the enquiry or order, are given in Appendix A.
3. The shape, cross-sectional dimensions plus internal and external diameters of the rings should be as specified in any Australian standard covering the pipe joint with which the rings are intended to be used, or as specified by the purchaser.

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

AS 1199	Sampling Procedures and Tables for Inspection by Attributes
AS 1683	Methods of Test for Rubber
AS 1863	Coated Abrasives (technical products)
AS CK15	Code of Recommended Practice for the Storage of Vulcanized Elastomers
BS 903	Methods of Testing Vulcanized Rubber
	Part A16 The Resistance of Vulcanized Rubber to [illegible]
	Part A19 Heat Resistance and Accelerated Ageing Tests
	Part A26 Determination of Hardness
BS 2719	Methods of Use and Calibration of Pocket Type Rubber Hardness Meters
BS 4396	Raw Natural Rubber
ASTM D297	Rubber Products—Chemical Analysis
ASTM D1149	Test Method for Rubber Deterioration—Surface Ozone Cracking in a Chamber (Flat Specimen)

1.3 DEFINITIONS. For the purpose of this standard, the following definitions apply:

1.3.1 Hardness of rubber material—the hardness of a rubber material other than rubber rings as measured on standard test pieces by the standard IRHD test in accordance with BS 903, Part A26.

1.3.2 Hardness of rubber rings—the hardness of rubber rings as determined by Appendix B of this standard.

1.3.3 Compressive stress relaxation—the reduction with time of the stress induced at constant deformation, expressed as the percentage reduction in the counterforce exerted at 1 minute clamped age.

1.4 TOLERANCES ON DIMENSIONS. Unless otherwise specified in the purchase order, the tolerances on the specified dimensions shall be as follows:

(a) Cross-sectional dimensions +3, −2 percent.

(b) Circumference of ring ±2 percent but not exceeding 50 mm.