

AS 1646—1992

Australian Standard[®]

**Elastomeric seals for waterworks
purposes**

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ELASTOMERIC PACKING FOR SEALING PIPELINE SYSTEMS
(ANI: Packing, preformed (INC: 04521) NSC 5330)]

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The following interests are represented on Committee WS/10:

Australian Clay Pipe Manufacturers Association
Brisbane City Council
Concrete Pipe Association of Australia
Confederation of Australian Industry
Engineering and Water Supply Department, S.A.
Melbourne Water
Plastics and Rubber Institute
The Plastics Industry Association
Rubber Manufacturers' Association, Australasia
Rural Water Commission, Vic.
Water Board, Sydney – Illawarra – Blue Mountains

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purposes**

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PREFACE

This Standard was prepared by the Standards Australia Committee on Flexible Jointing Gaskets to supersede AS 1646–1987, *Rubber joint rings for water supply, sewerage and drainage purposes*.

The principal changes to this edition are –

- (a) deletion of some prescriptive requirements relating to composition of the elastomer, or allowance of alternatives;
- (b) extension to include seals other than those for pipe joints;
- (c) inclusion of properties for ethylene propylene–diene terpolymers (EPDM) and nitrile–butadiene rubber (NBR) and deletion of butyl rubber (IIR);
- (d) inclusion of a Clause describing imperfections and criteria for acceptance;
- (e) inclusion of requirements for seals to be used or which may be used for the conveyance of potable water;
- (f) inclusion of appropriate test methods from AS 1683, *Methods of test for elastomers*, where available instead of BS 903, *Methods of testing vulcanized rubber* and ASTM D1149–1986, *Test method for rubber deterioration – Surface ozone cracking in a chamber (flat specimen)*; and
- (g) inclusion of alternative methods for determining seal hardness.

Some requirements, relating to the manner in which seals are to be used with a product, are specified in the relevant Australian Standard for that product.

The Standard retains a number of prescriptive requirements and short–term property tests because acceptable performance requirements are not available. Examples are resistance to bacterial attack, where the problem has been addressed overseas but not resolved, resistance to UV radiation and combined effects of environment and strain. Elimination of further prescriptive requirements from future editions of this Standard will depend on the availability of acceptable performance requirements.

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FOREWORD

A designer of an installation should among other duties, evaluate the possible conditions to which the seals will be exposed.

The type of elastomer and its properties should be selected with consideration of several factors including the following:

- (a) The requirements of the regulatory authority within whose jurisdiction the seals are to be used.
- (b) Where appropriate the effects of the seal on the water conveyed.
- (c) Selection for particular environments:

- (i) Internal – due to liquid conveyed, e.g. sewage at variable depths.

- (ii) External –

- (A) below ground due to –

- (1) root intrusion;

- (2) micro-organism attack; and

- (3) temperature after jointing and before covering with fill; and

- (B) above ground due to –

- (1) ultraviolet light;

- (2) ozone; and

- (3) temperature.

