

SINGAPORE STANDARD

**Specification for elastomeric seals for
joints in pipework and pipelines**



Published by

Enterprise
Singapore

SS 270 : 2015

(ICS 23.040.80; 83.140)

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ISBN 978-981-4726-05-4

This Singapore Standard was approved by the Chemical Standards Committee on behalf of the Singapore Standards Council on 15 September 2015.

First published, 1983
First revision, 1996
Second revision, 2015

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Foreword

This Singapore Standard was prepared by the Technical Committee on Plastics and Rubber under the direction of the Chemical Standards Committee.

This is a revision of SS 270 : 1996 'Specification for elastomeric seals for joint in pipework and pipelines'. This revision aligns the standard with ISO 4633 : 2015 'Rubber seals – Joint rings for water supply, drainage and sewerage pipelines – Specification for materials' and brings it in line with international requirements and current trade practices.

In this revision, the particular changes include the following:

- (a) Replaced withdrawn standards mentioned with up-to-date Singapore Standards and ISO Standards.
- (b) Revised designations of elastomeric joint seals in Table 1 to align with the latest version of ISO 4633.
- (c) Replaced the range of nominal hardness for class 88 of material for pipe joint seals with that for class 90 in Table 2 to align with Table 1 of the latest version of ISO 4633.
- (d) Updated test methods for seals of type WC and WG (drainage) in Table 6.
- (e) Replaced physical properties for seal type W with that of seal type WA in Table 5, and that for seal type D with that of seal type WC and WG in Table 6, with the change in the designation.

In preparing this standard, reference was also made to the following publications:

ISO/PRF 4633 : 2015	Rubber seals - Joint rings for water supply, drainage and sewerage pipelines - Specification for materials
AS 1646- 2007	Elastomeric seals for waterworks purposes

Table 1, Table 2, Table 4 and clause 9.3 of this standard are reproduced from ISO/PRF 4633:2015 with permission from the International Organization for Standardization.

Acknowledgement is made for the use of information from the above publications.

At the time of publication, this standard is expected to be used by testing bodies, consulting engineers, related government agencies, importers, traders, manufacturers, contractors, specifiers and regulators.

Attention is drawn to the possibility that some of the elements of this Singapore Standard may be the subject of patent rights. Enterprise Singapore shall not be held responsible for identifying any or all of such patent rights.

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Specification for elastomeric seals for joints in pipework and pipelines

1 Scope

This standard specifies the requirements and test methods for solid elastomeric joint seals for use in the jointing of pipes for potable water and drainage.

This standard does not cover the following:

- (a) Joint seals made from cellular rubber material or with an enclosed void as part of their design;
- (b) Materials for joint seals used in pipelines carrying industrial chemical effluent or hot water;
- (c) Performance requirements of the finished joint seals, including functional tests on actual sealing systems used with particular pipeline materials.

2 Normative references

The following referenced documents are indispensable for the application of this standard. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

BS 6920	Suitability of non-metallic materials and products for use in contact with water intended for human consumption with regard to their effect on the quality of the water. Specification.
ISO 37	Rubber, vulcanized or thermoplastic – Determination of tensile stress-strain properties
ISO 48	Rubber, vulcanized or thermoplastic – Determination of hardness (hardness between 10 IRHD and 100 IRHD)
ISO 188	Rubber, vulcanized or thermoplastic – Accelerated ageing and heat resistance tests
ISO 815-1	Rubber, vulcanized or thermoplastic – Determination of compression set – Part 1: At ambient or elevated temperatures
ISO 1431-1	Rubber, vulcanized or thermoplastic – Resistance to ozone cracking – Part 1: Static and dynamic strain testing
ISO 1817	Rubber, vulcanized or thermoplastic – Determination of the effect of liquids
ISO 2859	Sampling procedures for inspection by attributes
ISO 3384-1	Rubber, vulcanized or thermoplastic – Determination of stress relaxation in compression – Part 1: Static and dynamic strain testing
SS 375	Suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of the water