



WATER SERVICES  
ASSOCIATION OF AUSTRALIA

# INDUSTRY STANDARD

FOR FLANGE GASKETS AND O-RINGS

WSA 109 - 2021

Third Edition  
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2021

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## WSA 109 - FLANGE GASKETS AND O-RINGS

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Other organisations that contributed includes Plastics Industry Pipe Association of Australia (PIPA), Hultec Asia Pacific Pty Ltd, Clover Pipelines Pty Ltd, Daemco Australia Pty Ltd, Industrial Gaskets and Sealing Devices Pty Ltd.

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### PREFACE

This Standard was prepared by the Water Services Association of Australia (WSAA).

The objective of this Standard is to define material requirements for flange gaskets and O-rings and guidelines for joining flanges commonly utilized in water supply and sewerage pipelines.

The Standard will be withdrawn upon publication of an equivalent Australian Standard.

This revision is the result of a comprehensive review. The major amendments are detailed below:

- Material testing requirements that are contained within an alternative Standard have been removed from this document and appropriately referenced.

- The Scope of this Standard has been revised and clarified.
- Estimated tightening torques for flanged joints have been removed. Tightening torques rely on many variables and these recommendations are best left to manufacturers.
- Sealability tests have been removed. Sealability type tests were completed by Tyco Water in 2003 to demonstrate suitability of the gasket materials specified within this Standard. In addition the Industry has now been successfully utilising materials specified in WSA 109 for more than 15 years. It is considered unnecessary and impractical for gasket material suppliers or gasket manufacturers to undertake ongoing performance tests for gasket materials already proven to be fit for purpose.
- Gasket dimensions have been rationalised to specify the same dimensions regardless of flange material. A dimensional analysis verified that the internal flange dimensions specified in this Standard do not intrude into the waterway of flanges commonly utilised in the Australian water industry.
- The informative Appendix D includes additional and updated guidelines for flanged joint assembly.

WSAA welcomes suggestions for improvements and encourages Users to notify us immediately of any apparent inaccuracies or ambiguities. Users may use the feedback link on the side menu of this Code to submit comments or suggested improvements. Alternatively you can also contact us via email at [codes@wsaa.asn.au](mailto:codes@wsaa.asn.au), or write to the National Codes Manager, Suite 8.02, Level 8, 401 Docklands Drive, Docklands, 3008.

To increase the likelihood of suggested amendments being adopted it is recommended that Users seek preliminary review by and support of a WSAA Member or other relevant organisation, for example, CSIRO, Civil Contractors Federation or PIPA for inclusion with the submission.

This Standard was issued on 23rd of April 2021, following a public review period that closed on 11th February 2021.

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