

AS/NZS 4645.3:2008
(Incorporating Amendment Nos 1 and 2)

AS/NZS 4645.3:2008

Australian/New Zealand Standard™

Gas distribution networks

Part 3: Plastics pipe systems



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This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee AG-008, Gas Distribution. It was approved on behalf of the Council of Standards Australia on 16 December 2008 and on behalf of the Council of Standards New Zealand on 5 December 2008.

This Standard was published on 31 December 2008.

The following are represented on Committee AG-008:

Australian Pipeline Industry Association
Engineers Australia
Energy Networks Association
Gas Association, New Zealand
Gas Technical Regulators Committee
Liquefied Petroleum Gas Australia
LPG Association, New Zealand
Plastics Industry Pipe Association
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This Standard was issued in draft form for comment as DR 08008.

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Originated as AS 3723—1989.
Jointly revised and redesignated as AS/NZS 4645.3:2008.
Reissued incorporating Amendment No. 1 (July 2010).
Reissued incorporating Amendment No. 2 (May 2012).

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Jointly published by SAI Global Limited under licence from Standards Australia Limited, GPO Box 476, Sydney, NSW 2001 and by Standards New Zealand, Private Bag 2439, Wellington 6140

ISBN 0 7337 8991 9

PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee AG-008 Gas Distribution, through its Subcommittee AG-008-01, to supersede AS 3723—1989, *Installation and maintenance of plastics pipe systems for gas*.

This Standard incorporates Amendment Nos. 1 (July 2010) and 2 (May 2012). The changes required by the Amendment are indicated in the text by a marginal bar and amendment number against the clause, note, table, figure or part thereof affected.

The intent of this Standard is to provide for the protection of the general public, operating personnel and the environment, and to ensure safe and reliable operation of gas distribution networks that reticulate gas to consumers.

It covers gas distribution networks covered by AS/NZS 4645.1 for operating pressures up to 700 kPa.

AG-008, in preparation of this Standard, acknowledges that the gas industry will continue to seek to implement technical developments that enable safe, reliable and efficient gas distribution networks. This may include the use of plastics for applications beyond the pressure limits set out in this Standard.

AG-008 acknowledges that as experience (and potentially additional innovation) in the use of higher pressure gas distribution systems is gained, future revisions of this Standard may remove any such pressure limitations, allowing for a means of compliance for plastics gas distribution networks up to an MAOP of 1050 kPa.

In the meantime, AS/NZS 4645.1 provides a means by which such systems can be planned, designed, constructed and maintained.

This series of Standards includes the following parts:

AS/NZS

4645	Gas distribution networks
4645.1	Part 1: Network management
4645.2	Part 2: Steel pipe systems
4645.3	Part 3: Plastics pipe systems

AS/NZS 4645.1 provides a risk-based framework for management of a gas distribution network and identifies the high-level safety requirements for all stages in the life-cycle of a gas distribution network.

AS/NZS 4645.2 is to be used in conjunction with AS/NZS 4645.1. It covers design, materials, construction, testing and commissioning of steel pipes within a network to provide a means of compliance for aspects of a gas distribution network required by AS/NZS 4645.1.

AS/NZS 4645.3 is to be used in conjunction with AS/NZS 4645.1. It covers design, materials, construction, testing and commissioning of plastics pipes within a network to provide a means of compliance for aspects of a gas distribution network required by AS/NZS 4645.1.

This Standard achieves its purpose through five fundamental principles as follows:

- (a) A gas distribution network shall be designed and constructed to have sufficient controls to withstand the threats to which it may be subjected during construction, testing and operation.
- (b) Before a gas distribution network is placed into operation it shall be inspected and tested to prove its integrity.

- (c) Important matters relating to safety, engineering design, materials, testing and inspection shall be reviewed, documented and approved by a responsible person(s). The responsible person(s) shall, in each case, be defined.
- (d) Operations and maintenance shall provide for continued monitoring and safe operation of the gas distribution network.
- (e) Where changes occur in or to a gas distribution network, which alter the design assumptions or affect the original integrity, appropriate steps shall be taken to assess the changes, to ensure continued safe operation of the network.

The Standard is not a design handbook, nor a manual on distribution practices. It does not remove the need for qualified and experienced engineering design, installation and operation or for competent engineering judgment, and does require interpretation and implementation by competent engineers.

The Australian and New Zealand Technical Regulators have advised that this Standard will only apply to the life cycle of new gas distribution networks and modifications or augmentations to existing assets within gas distribution networks. However, the Sections on operations, maintenance, repair, decommissioning, gas quality and risk assessment may be suitable for application to existing assets in existing networks.

The terms 'normative' and 'informative' have been used in this Standard to define the application of the appendix to which they apply. A 'normative' appendix is an integral part of a Standard, whereas an 'informative' appendix is only for information and guidance.

Statements in this Standard expressed in mandatory terms, including those in notes, are deemed to be mandatory only for claiming compliance with this Standard. Alternative means of compliance may be acceptable provided the required safety outcomes can be demonstrated with AS/NZS 4645.1.

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