

Australian Standard™

**Installation and maintenance of steel  
pipe systems for gas**

This Australian Standard was prepared by Committee AG-008, Gas Distribution. It was approved on behalf of the Council of Standards Australia on 20 December 2004.

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The following are represented on Committee AG-008:

Australian Liquefied Petroleum Gas Association  
Energy Networks Association  
Energy Retailers Association of Australia  
Gas Technical Regulators Committee  
Welding Technology Institute of Australia

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Australian Standard™

**Installation and maintenance of steel  
pipe systems for gas**

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## PREFACE

This Standard was prepared by the Standards Committee AG-008, Gas Distribution, to supersede AS 1697—1981, *SAA Gas Pipeline Code*.

It covers gas distribution networks covered by AS 4645 for operating pressures up to 1050 kPa. Operating pressures above 1050 kPa are covered by AS 2885.1. The responsibility for the superseded edition of AS 1697 was with the Standards Australia Committee ME-038. AG-008 was assigned the responsibility leading up to this edition.

Users of the Standard should note that AG 603 has been revised by AG-008 in parallel with the revision of AS 1697. The revised AG 603 is designated AS 4645, *Gas distribution, network management*. AS 1697 relates to AS 4645 as depicted in Figure 1.1. AS 3723 *Installation and maintenance of plastics pipe systems for gas* (also shown in Figure 1.1) is under revision.

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.

The relationship between the gas distribution Standards is shown in Figure 1.1.

Statements expressed in mandatory terms in notes to tables are deemed to be requirements of this Standard.

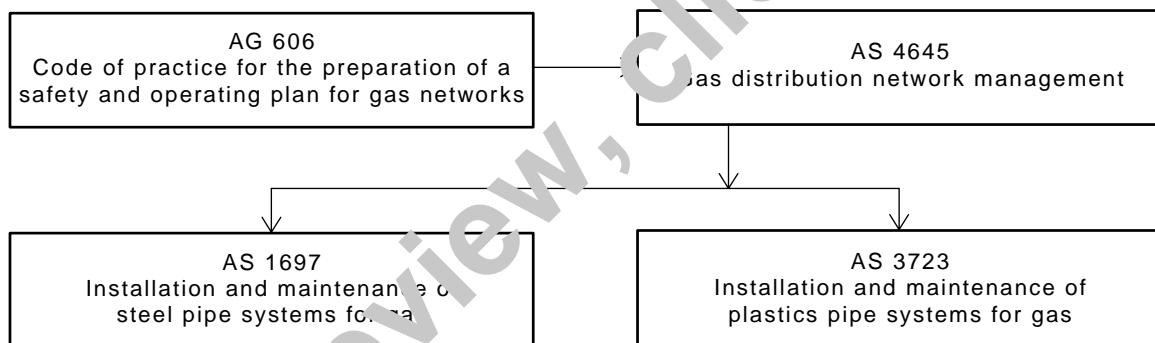


FIGURE 1.1 RELATIONSHIP BETWEEN GAS DISTRIBUTION STANDARDS

### NOTES:

- 1 AG 606 (to be AS 4568) is used for preparation of SOP/SC as required by technical regulator (advisory only).
- 2 AS 4645 specifies safety management of a gas distribution network for its life cycle. Refers to AS 1697 for steel and AS 3723 for plastics (see Note 3).
- 3 AS 1697 and AS 3723 specify material specific requirements for construction and installation (and operation/repair where material specific).

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## STANDARDS AUSTRALIA

### Australian Standard

## Installation and maintenance of steel pipe systems for gas

### SECTION 1 SCOPE AND GENERAL

#### 1.1 SCOPE

This Standard specifies materials, design, construction, installation, testing and maintenance requirements for steel piping systems covered by AS 4645, for the distribution of fuel gas suitable for domestic, commercial or industrial uses, where—

- (a) the pressure of the gas is not greater than 1050 kPa and the operating temperature range of the materials is from  $-30^{\circ}\text{C}$  to  $120^{\circ}\text{C}$ ; or
- (b) where the hoop stress level is not greater than 20 % of the Specified Minimum Yield Stress (SMYS) of the pipe used in that system.

The Standard does not extend to the exclusions listed in Clause 1.2.

#### NOTES:

- 1 Some requirements of this Standard are suitable for consumer piping operating at  $>200$  kPa, being not otherwise provided in AS 5601. The operator of such piping should decide which requirements are appropriate, and should obtain any necessary agreement from the regulator having jurisdiction over the operation of that piping.
- 2 The relevant technical regulator may regard this Standard as appropriate for other than fuel gas.

#### 1.2 EXCLUSIONS

This Standard does not apply to the following:

- (a) Gas steel piping systems that operate at pressures exceeding 1050 kPa or have a stress level of more than 20 % of the SMYS. (Pipes with such a stress level are covered by AS 2885.1.)
- (b) Piping from the outlet of the meter that measures gas to a consumer, and any other piping covered by AS 5601.

NOTE: Requirements for pipes downstream of the consumer's meter are generally provided in AS 5601, but where the operating pressure of the downstream pipe will be higher than provided for in AS 5601, the piping requirements of this Standard are appropriate according to the pressure (or AS 2885.1 for even higher pressures).

- (c) Piping associated with the handling and storage of liquefied petroleum gas (see AS/NZS 1596).
- (d) The design and manufacture of proprietary items (including meters).
- (e) Piping associated with gas manufacturing plants, petroleum processing plants, industrial plants or mines.
- (f) Pressure vessels (see AS 1210).
- (g) Piping for LP Gas in the liquid phase.