AS 3645:2025

Australian STANDARD®

STANDARDS Australia

Essential requirements for gas equipment



AS 3645:2025

This Australian Standard® was prepared by AG-001, Gas Appliances. It was approved on behalf of Standards Australia's Standards Development and Accreditation Committee on 25 July 2025.

This Standard was published on 15 August 2025.

The following are represented on Committee AG-001:

- Association of Accredited Certification Bodies
- Australian Gas Association
- Australian Industry Group
- Consumer Electronics Suppliers Association
- Department of Mines, Industry Regulation and Safety - Building and Energy WA
- Energy Networks Australia
- Gas Appliance Manufacturers Association of Australia
- Gas Energy Australia
- Gas Technical Regulators Committee
- Joint Accreditation System of Australia & New Zealand
- NSW Fair Trading

This Standard was issued for comment as DR AS 3645:2024

Keeping Standards up-to-date

Ensure you have the latest versions of our publications and keep up-to-date about Amendments, Rulings, Withdrawals and new products by visiting:

www.standards.org.au

ISBN: 978 1 76175 325 1

Australian Standard®

Essential requirements for gas equipment

Originated as AS 3645—2010.
Second edition AS 3645:2017.
Third edition 2025.

© Standards Australia Limited 2025

All rights are reserved. No part of this work may be reproduced or copied in any form or by any means, electronic or mechanical, including photocopying, without the written permission of the publisher, unless otherwise permitted under the Copyright Act 1968 (Cth).

How to read this Standard

This page explains the meaning of the language and structure of this Standard.

Refer to Standards Australia's Standardisation Guide 006 for more details about drafting rules.

Australian and Australian/New Zealand Standards are voluntary unless they are referenced in legislation or called up in contracts.

Requirements

To conform to a Standard, all requirements in the Standard need to be met.

A requirement is any statement in the Standard which uses the word "shall".

Recommendations, permissions and possibilities

The following words are commonly used in Standards, but statements using them do not have to be followed to conform to the Standard:

(a) "should" means that something is recommended.

(b) "may" means that something is permitted.

(c) "can" means that something is possible.

Structure of Standards

A Standard always has the following parts:

(i) The Preface states who developed the Standard, what the Standard is aiming to do, and how it relates to other documents.

(ii) The Scope states what the Standard is about, what it covers and what it does not cover.

(iii) The Normative references clause lists other documents that are referenced in the Standard as part of requirements.

(iv) The Terms and definitions clause defines important terms to help with understanding the Standard.

A Standard may also include other parts, such as the following:

(1) A normative appendix sets additional requirements that need to be conformed to.

(2) An informative appendix provides additional information or guidance. They usually do not contain requirements. If an informative appendix does contain requirements, the Standard will explain when those requirements apply.

(3) A Bibliography lists documents referenced in the Standard but not as part of requirements.

Many Standards include notes. Notes provide recommendations and/or guidance only. They never contain requirements.

Preface

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee AG-001, Gas Appliances, to supersede AS 3645:2017.

After consultation with stakeholders in both countries, Standards Australia and Standards New Zealand decided to develop this Standard as an Australian Standard rather than an Australian/New Zealand Standard.

The objective of this document is to provide the essential requirements applicable to gas equipment for which regulatory approval is required before sale.

This document is intended to be consistent with the criteria of the European Council Gas Appliance Directive, but it does not include other essential aspects included in the European system which are necessary for a complete product compliance system, for example:

(a) Third-party verification of production quality assurance systems.

(b) Endorsed product specification documentation.

(c) Endorsed instruction documentation for installation, user and maintenance.

(d) Compliance testing while using test gases and gas supply and burner pressure that are applicable to the intended installation locality.

The AS/NZS 5601 series of Standards provides essential requirements and means of conformance for gas installations. Any reference to "AS/NZS 5601" in this document should be considered as reference to the appropriate part of the AS/NZS 5601 series of Standards (i.e. AS/NZS 5601.1, *Gas installations*, *Part 1: General installations*, or AS/NZS 5601.2, *Gas installations*, *Part 2: LP Gas installations in caravans and boats for non-propulsive purposes*).

The major changes in this edition are as follows:

(i) Amendment to the definition of "gas" and addition of definitions for each specific gas type.

(ii) Addition of hydrogen as a gas type and reference to SA TS 5390 for the assessment of hydrogen appliances.

(iii) Updated Appendix A for all referenced documents.

(iv) Updated descriptions of all component types in Clause A.2.

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

© Standards Australia Limited 2025

Contents

Page

Preface ..... **v**

1 Scope and general **1**
1.1 Scope 1
1.2 Objective 1
1.3 Normative references 1
1.4 Terms and definitions 2

2 Essential requirements **3**
2.1 General conditions 3
2.1.1 General 3
2.1.2 Instructions and marking 3
2.1.3 Content of instructions for installation and commissioning 3
2.1.4 Content of instructions for users 3
2.1.5 Content of markings 3
2.1.6 Design of accessories 4
2.1.7 Instructions for accessories 4
2.2 Materials 4
2.2.1 Suitability of materials 4
2.2.2 Effect on water used for sanitary purposes or foodstuffs 4
2.3 Design and construction 4
2.3.1 General 4
2.3.2 Unburnt gas release 6
2.3.3 Ignition 6
2.3.4 Combustion 6
2.3.5 Temperature 7
2.3.6 Rational use of energy 7
2.3.7 Mechanical safety 7
2.3.8 Stability and support 7
2.3.9 Maintenance 7

3 Means of conformance **7**

Appendix A (normative) **Specific Australian Standards that apply to particular types of equipment** **8**

© Standards Australia Limited 2025