



## The storage and handling of liquefied natural gas



This Australian Standard® was prepared by Committee ME-070, Liquefied Natural Gas Storage and Handling. It was approved on behalf of the Council of Standards Australia on 9 February 2017.

This Standard was published on 13 March 2017.

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The following are represented on Committee ME-070:

- Australasian Fire and Emergency Service Authorities Council
  - Australian Chamber of Commerce and Industry
  - Australian Industry Group
  - Australian Pipelines and Gas Association
  - Gas Energy Australia
  - Gas Technical Regulators Committee
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This Standard was issued in draft form for comment as DR AS 3961:2016.

Standards Australia wishes to acknowledge the participation of the expert individuals that contributed to the development of this Standard through their representation on the Committee and through the public comment period.

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Australian Standard®

## The storage and handling of liquefied natural gas

Originated as AS 3961—1991.  
Previous edition 2005.  
Third edition AS 3961:2017.

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Published by SAI Global Limited under licence from Standards Australia Limited, GPO Box 476, Sydney, NSW 2001, Australia

ISBN 978 1 76035 696 5

## PREFACE

This Standard was prepared by the Standards Australia Committee ME-070, Liquefied Natural Gas Storage and Handling, to supersede AS 3961—2005.

The objective of this Standard is to provide requirements for the design, construction and operation of installations for the storage and handling of liquefied natural gas (LNG), covering installations of atmospheric-type tanks for supplying marine terminals, pipeline peak shaving, and pressure tanks.

The LNG industry has developed considerably since the previous editions and this edition draws upon this experience. Requirements that were modelled on the storage of LP Gas and flammable liquids have been rewritten to reflect the properties and usage of LNG.

Changes have included the following:

- (a) Removal of requirements for pressure storages of less than 5 m<sup>3</sup> as small storages are not in use in the industry and the cryogenic properties of LNG are such that small storage is generally not practical.
- (b) Reinforcing the containment and separation aspects of firefighting as the use of water sprays can exacerbate a fire situation.
- (c) Removing requirements that are in the scope of other standards and are adequately covered in those standards. Examples are pressure vessel requirements in the scope of AS 1210, *Pressure vessels*, and transport requirements in the scope of the ADG Code and AS 2809, *Road tank vehicles for dangerous goods*, Parts 1 and 6.
- (d) Revision of the fill coupling requirements to align with International Standards and allow for the use of dry-break couplings.

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

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 provides information and guidance only.

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## STANDARDS AUSTRALIA

### Australian Standard

## The storage and handling of liquefied natural gas

### SECTION 1 SCOPE AND GENERAL

#### 1.1 SCOPE AND APPLICATION

##### 1.1.1 Scope

This Standard specifies requirements for the design, construction and operation of installations for the storage and handling of liquefied natural gas (LNG).

##### 1.1.2 Application

This Standard applies to two basic types of installation, being—

- (a) installations of atmospheric tanks for marine terminals, pipeline peak shaving, and the like; and
- (b) pressure tanks, which are usually a part of a distribution system for LNG by road tanker.

##### 1.1.3 Where this Standard does not apply

This Standard does not apply to or deal with—

- (a) the functional design of liquefaction equipment;
- (b) frozen-ground storage techniques;
- (c) aspects of natural gas distribution and use that are covered by other Standards and publications such as pipeline and reticulation codes, appliance and vehicle installation codes, and the like;
- (d) any transport operations that are covered by the ADG Code;
- (e) the transport of LNG by ship; or
- (f) any aspect of transport or piped distribution outside the perimeter of the static storage installation.

#### 1.2 REFERENCED DOCUMENTS

A list of documents referred to in this Standard is given in Appendix A.

#### 1.3 DEFINITIONS

For the purpose of this Standard, the definitions below apply.

##### 1.3.1 ADG Code

The Australian Dangerous Goods Code.

##### 1.3.2 Atmospheric tank

A tank which operates at a nominal vapour pressure not exceeding 50 kPa or, for a pressure vessel, less than the pressure specified in AS 1210.

##### 1.3.3 Authority

The authority having statutory (legal) control of the installation.