

SINGAPORE STANDARD

**Code of practice for the filling, inspection,
testing and maintenance of gas cylinders for
the storage and transport of compressed gases**

– Part 2 : Acetylene cylinders – Filling conditions and filling
inspection

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and maintenance of gas cylinders for the storage
and transport of compressed gases**

– Part 2 : Acetylene cylinders – Filling conditions and filling inspection

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This Singapore Standard was approved by the Quality and Safety Standards Committee on behalf of the Singapore Standards Council on 31 August 2018.

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Air Products Industrial Gases Pte Ltd
Asia Industrial Gases Association
Industrial Gases Association of Singapore
Leeden National Oxygen Ltd
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Ministry of Manpower
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Contents		Page
National Foreword		6
Foreword		7
Introduction		8
1	Scope	9
2	Terms and definitions	9
3	Filling inspection	11
3.1	General	11
3.2	Pre-fill inspection	11
3.3	Solvent content	12
3.4	Inspection during filling	13
3.5	Post-fill inspection	14
4	Specific filling inspection of solvent-free acetylene cylinders	15
4.1	Pre-fill inspection	15
4.2	Post-fill inspection	15
Annex A (informative) Safe operating diagram		16
Annex B (normative) Determination of the solvent content in acetylene cylinders		19
Bibliography		21

National Foreword

This Singapore Standard was prepared by a Working Group appointed by the Technical Committee on Safety and Health Involving Equipment which is under the direction of the Quality and Safety Standards Committee.

The review of CP 12 – ‘Code of practice for the filling, inspection, testing and maintenance of containers for the storage and transport of compressed gases’:

- Part 1: Seamless metal containers for gases, excluding dissolved acetylene
- Part 2: Containers for dissolved acetylene gas

resulted in the development of the new SS 639 consisting of the following three parts, under the general title ‘Code of practice for the filling, inspection, testing and maintenance of gas cylinders for the storage and transport of compressed gases’:

- Part 1: Seamless steel and aluminium alloy cylinders (excluding dissolved acetylene) – Inspection at the time of filling, periodic maintenance and testing
- Part 2: Acetylene cylinders – Filling conditions and filling inspection (Identical adoption of ISO 11372 : 2011)
- Part 3: Acetylene cylinders – Periodic inspection and maintenance

SS 639 replaces CP 12.

SS 639 : Part 2 : 2018 is an identical adoption of ISO 11372 : 2011 – ‘Gas cylinders – Acetylene cylinders – Filling conditions and filling inspection’, published by the International Organization for Standardization.

Where appropriate, the words ‘International Standard’ shall be read as ‘Singapore Standard’.

The comma has been used throughout as a decimal marker in ISO 11372, whereas in Singapore Standards it is a practice to use a full-point on the baseline as the decimal marker.

Attention is drawn to the possibility that some of the elements of this Singapore Standard may be the subject of patent rights. Enterprise Singapore shall not be held responsible for identifying any or all of such patent rights.

NOTE

1. *Singapore Standards (SSs) and Technical References (TRs) are reviewed periodically to keep abreast of technical changes, technological developments and industry practices. The changes are documented through the issue of either amendments or revisions.*
2. *An SS or TR is voluntary in nature except when it is made mandatory by a regulatory authority. It can also be cited in contracts making its application a business necessity. Users are advised to assess and determine whether the SS or TR is suitable for their intended use or purpose. If required, they should refer to the relevant professionals or experts for advice on the use of the document. Enterprise Singapore shall not be liable for any damages whether directly or indirectly suffered by anyone or any organisation as a result of the use of any SS or TR.*
3. *Compliance with a SS or TR does not exempt users from any legal obligations.*

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 11372 was prepared by Technical Committee ISO/TC 58, *Gas cylinders*, Subcommittee SC 4, *Operational requirements for gas cylinders*.

This third edition cancels and replaces the second edition (ISO 11372:2005), with the following main technical revisions:

- a) ISO 11372:2005 was revised taking into account EN 12754 and EN 1801.
- b) The clauses concerning filling inspection were restructured in order to better reflect the actual proceeding of the filling inspection.
- c) A new subclause 3.3 with requirements and information regarding the solvent content was added.
- d) A new Clause 4 concerning the specific filling inspection of solvent-free acetylene cylinders was added.
- e) A new informative Annex A introducing the Safe operating diagram was added in order to improve the understanding of the importance of correct filling conditions for acetylene cylinders.
- f) A new normative Annex B outlining the calculations necessary for determination of the solvent content was added.

Introduction

This International Standard aims at the harmonization of the different operating and filling conditions of individual acetylene cylinders and covers requirements that reflect current practice and experience regarding the inspection at the time of filling.

ISO 11372 is intended to be used under a variety of national regulatory regimes but has been written so that it is suitable for the application of the UN Model Regulations^[1].

Where there is any conflict between this International Standard and any applicable regulation, the regulation always takes precedence.

In International Standards, weight is equivalent to a force, expressed in newtons. However, in common parlance (as used in terms defined in this International Standard), the word “weight” continues to be used to mean “mass”, but this practice is deprecated (see ISO 80000-4).

In this International Standard the unit bar is used, due to its universal use in the field of technical gases. It should, however, be noted that bar is not an SI unit, and that the corresponding SI unit for pressure is pascals (Pa).

Pressure values given in this International Standard are given as gauge pressure (pressure exceeding atmospheric pressure) unless noted otherwise.

Code of practice for the filling, inspection, testing and maintenance of gas cylinders for the storage and transport of compressed gases – Part 2 : Acetylene cylinders – Filling conditions and filling inspection

1 Scope

This International Standard specifies minimum requirements for the filling conditions and filling inspection of acetylene cylinders.

This International Standard is not applicable to an assembly of cylinders connected by a manifold, e.g. bundles (see ISO 13088).