

SINGAPORE STANDARD

**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

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Asia Industrial Gases Association
Industrial Gases Association of Singapore
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Ministry of Manpower
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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.

In preparing this standard, reference was made to the following publications:

1. EN 13096 Transportable gas cylinders. Conditions for filling gases into receptacles. Single component gases.
2. EN 13099 Transportable gas cylinders. Conditions for filling gas mixtures into receptacles
3. ISO 5145 Cylinder valve outlets for gases and gas mixtures – Selection and dimensioning
4. ISO 6406 Gas cylinders – Seamless steel gas cylinders – Periodic inspection and testing
5. ISO 11363-2 Gas cylinders – 17E and 25E taper threads for connection of valves to gas cylinders – Part 2: Inspection gauges
6. ISO 12209 Gas cylinders – Outlet connections for gas cylinder valves for compressed breathable air
7. ISO 13769 Gas cylinders – Stamp marking
8. ISO 16148 Gas cylinders – Refillable seamless steel gas cylinders and tubes – Acoustic emission examination (AT) and follow-up ultrasonic examination (UT) for periodic inspection and testing
9. ISO 24431 Gas cylinders – Seamless, welded and composite cylinders for compressed and liquefied gases (excluding acetylene) – Inspection at time of filling

10. SS 586 Specification for hazard communication for hazardous chemicals and dangerous goods
Part 1: Transport and storage of dangerous goods
Part 2: Globally harmonised system of classification and labelling of chemicals – Singapore’s adaptations
Part 3: Preparation of safety data sheets
11. P200 UN Model Regulation Part 4
12. AIGA Asia Industrial Gas Association 063 Use of residual pressure valves
13. AIGA Asia Industrial Gas Association 70 Leak detection fluids cylinder packages
14. EIGA European Industrial Gas Association document IGC Doc 86 Gas cylinders and valves with restricted used in the EU
15. EIGA European Industrial Gas Association document IGC 138 PTFE Used as a sealant for cylinder or valve connections
16. United Nations Recommendations for the Transport of Dangerous Goods, Model Regulations

Tables E.1 and E.2, and Figures D.1, D.2, E.1 to E.5 are reproduced from ISO 6406 : 2005, “Gas cylinders – Seamless steel gas cylinders – Periodic inspection and testing”.

Acknowledgement is made for the use of information from the above publications.

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.*
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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

1 Scope

This standard specifies the minimum requirements for the filling, inspection, testing and maintenance of transportable seamless metal gas cylinders of 0.5 to 150 litres water capacity. It does not apply to welded cylinders, composite cylinders or to dissolved acetylene cylinders.

2 Normative references

The following referenced documents are indispensable for the application of this standard. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

CP 75	Code of practice for gas cylinders – Procedures for change of gas service
EN 837-1	Pressure gauges. Bourdon tube pressure gauges. Dimensions, metrology, requirements and testing
ISO 32	Gas cylinders for medical use – Marking for identification of content
ISO 6406	Gas cylinders – Seamless steel gas cylinders – Periodic inspection and testing
SS 152	Specification for identification of contents of industrial gas cylinders
EIGA	European Industrial Gas Association document IGC 138 – PTFE Used as a sealant for cylinder or valve connections