6 – About Your Cylinders

6.1 – Useful References
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Standards
BOC gas cylinders are designed and constructed in accordance with relevant Australian Standards, American Standards, British Standards and/or specifications. These Standards define the material of which the cylinder is made, the method of construction, its test pressure, the maximum permissible filled pressure and the method of regular testing.

Maintenance and Testing
The owner of a cylinder is responsible for complying with statutory obligations with regard to maintenance and testing of cylinders.

When BOC supplies gas to you in a BOC gas cylinder BOC is then responsible for compliance with statutory obligations and BOC needs to ensure that the Standards Australia code in respect to the filling, inspection, testing and maintenance of compressed gas cylinders are met.

Cylinder Valves
All BOC cylinders containing gas at high and low pressure are fitted with a cylinder valve which must not be removed or tampered with at any time.

Cylinder Identification
All BOC cylinders are labelled in accordance with the relevant Australian or New Zealand code for transport of dangerous goods by road and rail. See diagrams below. Cylinder labels identify the gas contents of the cylinder and provide basic safety information. Never use any cylinder unless it can be clearly identified.

AUSTRALIAN CYLINDER IDENTIFICATION

1. Gas name and grade
2. United Nations numbering system for safe handling, transport and storage
3. Dangerous Goods Classification
4. BOC gas code and cylinder size
5. Contents of cylinder at standard temperature and pressure (15°C @ 101.3 kPa)
6. Nominal filling pressure at standard conditions (for permanent gas)
7. Caution – indicated major hazards*
8. General safety information*

*Always refer to Material Safety Data Sheet (MSDS)

NEW ZEALAND CYLINDER IDENTIFICATION

1. Dangerous Goods Classification
2. Gas name and grade
3. Contents of cylinder at standard temperature and pressure (15°C @ 101.3 kPa)
4. BOC cylinder size
5. United Nations numbering system for safe handling, transport and storage
6. Gas name and grade
7. Gas code
8. Caution – indicated major hazards*
9. General safety information*

*Always refer to Material Safety Data Sheet (MSDS)
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6.1 – USEFUL REFERENCES
BOC Material Safety Data Sheets (MSDS), are available at www.boc.com.au (Australia), www.boc.co.nz (New Zealand) or by contacting Gas Agent Services on 1300 728 029 in Australia or Distributor Partner Team on 0800 262 727 in New Zealand.

List of statutory information as well industry standards can be found at:
SAI Global www.saiglobal.com.au
Australia and New Zealand Industrial Gases Association www.anziga.org
Or by looking in the relevant Australian state Workcover Authority websites.

INDUSTRY STANDARDS

• AS 2030 – The verification, filling, inspection, testing and maintenance of cylinders for storage and transport of compressed gases.
  Part 1 Cylinders for compressed gases other than acetylene.
  Part 2 Cylinders for dissolved acetylene.
  Part 4 Welded cylinders – insulated.

• AS 2508: Safe storage and handling information cards (various).
• AS 1678: Emergency Procedure Guides (EPG) (various).
• AS 1596: The storage and handling of LPG.
• AS 4332: The storage and handling of gases in cylinders.
• AS 4484: Gas cylinders for industrial, scientific, medical and refrigerant use - labelling and colour coding.
• AS 2865: Safe working in a confined space Standards New Zealand www.standards.co.nz
• NZS 5433 – Transport of Dangerous Goods on Land.

STATUTORY LEGISLATION

• Australian Dangerous Goods Code (ADG7).

PLAN FOR EMERGENCIES

In Case of Emergency:
For New Zealand call 111 and BOC on 0800 111 333.
For Australia call 000 and BOC on 1800 653 572.
• If a cylinder is damaged, contact BOC immediately.
• People who have a responsibility for storing or using gas cylinders, should be trained appropriately, should be made aware of the dangers and should be familiar with any emergency procedures.
• Storage area layouts and emergency procedures should be carefully planned.

Cylinder Manufacture
Cylinders used for transport and storage of BOC compressed gases, are manufactured in accordance with the relevant Australian, New Zealand or overseas specifications approved by SAA Committee ME/2 gas cylinders. All cylinders manufactured must have current test certificates.

Identification
The gas name label, stencilling or component details should always be used to identify the contents of cylinders. Labels must not be removed or defaced. Any cylinder without a gas name label should be returned to BOC for replacement.

Cylinder Size and Content
BOC cylinder sizes are denoted by a letter code. The gas content of cylinders is measured in cubic metres, litres or kilograms. If volume unit is given, it refers to standard temperature and pressure of 15°C (101.3 kPa).
Chapter 6 – About Your Cylinders

6.1 – USEFUL REFERENCES (continued)

Australian High Pressure Cylinders

NZ High Pressure Cylinders

Australian Acetylene

NZ Acetylene

Australian Low Pressure Cylinders

NZ Low Pressure Cylinders
Chapter 6 – About Your Cylinders

6.2 – STORING YOUR CYLINDERS SAFELY

All gas cylinders should be considered and treated as full, regardless of their content. This means:

- Keep cylinders away from heat sources (e.g. flames or heaters).
- Do not store cylinders near combustible materials or flammable liquids.
- Keep flammable gases away from sources of ignition.
- Keep cylinders in well drained areas, out of water pools or ponds.
- The storage area should be kept well ventilated and clean at all times.
- Do not store in confined spaces.
- Avoid below ground storage where possible. Where impractical, consider enclosed space risks.
- There should be good access to the storage area for delivery vehicles. The ground surface should be reasonably level and firm (preferably concrete).
- The storage area should be designed to prevent unauthorised entry, to protect untrained people from hazards and to guard cylinders from theft.
- Different types of gases must be stored separately, in accordance with relevant Dangerous Goods legislation (Hazardous Substances Legislation in NZ). Also refer to AS4332 (The Storage and Handling of Gases in Cylinders).
- Stores must clearly show signage in accordance with relevant Dangerous Goods regulations. This includes Class Diamonds; HAZCHEM; no smoking and naked flame warning signs where appropriate.
- Full and empty cylinders should be kept separate.
- Toxic and corrosive gases should be stored separately, away from all other gases.
- Liquefied flammable cylinders must be stored upright, to keep the safety devices in the vapour phase, on a firm, level floor (ideally concrete). This is also preferable for most other gas cylinders.
- Store cylinders away from heavy traffic and emergency exits.
- Rotate stock of full cylinders, and use cylinders on a ‘first in, first out’ basis.
- Never repaint or obscure a cylinder label, even if the cylinder is rusty, dirty or damaged. This can result in unsafe situations.
- Never apply any unauthorised labels or markings to cylinders, unless advised by BOC to identify faulty cylinders.
- Avoid storing cylinders below 0°C. Some mixtures may separate below this temperature.
- Regularly check for leaks and faults.
- Keep ammonia based leak detection solutions, oil and grease away from cylinders and valves.
- Never use force when opening or closing valves.

6.3 – STORAGE OF FUEL GASES

Within the storage area, oxygen should be stored at least three (3) metres from fuel gas cylinders. The use of a firewall may provide the required separation.

If volume is greater than 200 m³ a separation distance of five (5) metres needs to be executed.

Wall must be a minimum of one metre higher than the tallest cylinder.

Personal Protection Equipment (PPE)

All persons handling gas cylinders must wear the correct PPE. Safety shoes, safety glasses plus ear protection are essential. The correct grade gloves (where appropriate) may also be required.

6.4 – CYLINDER STORED ON DOCKS

This information relates to gas cylinders stored on docks. Within the storage area oxygen should be stored at least three (3) metres from fuel gas cylinders. The use of a firewall may provide the required separation. Full cylinders should be stored separately from the empties and cylinders of different gases (whether full or empty) should be segregated from each other.