

No. R. 1095

17 September 2004

OCCUPATIONAL HEALTH AND SAFETY ACT, 1993

**INCORPORATION OF HEALTH AND SAFETY STANDARDS:
PRESSURE EQUIPMENT REGULATIONS**

Under section 44 of the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), I, Tim Curtis, appointed as acting chief inspector in terms of section 27 (1) of the said Act, and by virtue of the power delegated to me by the Minister of Labour in terms of section 42 (1) of the Act, after consultation with the Advisory Council for Occupational Health and Safety, hereby incorporate in the Pressure Equipment Regulations, 2004, the health and safety standards specified in the Schedule.

M.M.S. Mdladlana
Minister of Labour

SCHEDULE**1. Regulation 4.(1) and 9.(3)(j)****SOUTH AFRICA**

Standards South Africa standard specification

SANS 10227 The evaluation of the technical competence of inspection authorities for the certification, recertification, modification or repair of vessels under pressure

2. Regulation 4.(1)), 6.(3) and 10.(1)**AUSTRALIA**

Australian Standards, standard specifications

AS 1200 Boilers and pressure vessels

AS 1210 Unfired pressure vessels - Advanced design and construction

AS 1228 Boilers: water tube type

AS 1777 Aluminium cylinders for compressed gases - seamless 0.1 kg to 130 kg.

AS 1797 Boilers: Fire tube, shell and miscellaneous

AS 2470 Steel cylinders for compressed gases welded 11 kg to 150 kg.

AS 2527 Cylinders for dissolved acetylene

AS 2873 Carbon-manganese steel cylinders for compressed gases. seamless: 0.1 kg to 500 kg.

AS 2874 High tensile Carbon-manganese steel cylinders for compressed gases, seamless: 0.1 kg to 500 kg.

AS 2875 Alloy steel cylinders for compressed gases, seamless: 0.1 kg to 500 kg.

AS 2971 Serially produced pressure vessels
AS 3577 Steel cylinders for compressed gases, welded: 150 kg to 500 kg.
AS B10 High carbon steel cylinders for the storage and transport of permanent gases.
AS B11 High carbon steel cylinders for the storage and transport of high pressure liquefiable gases.
AS B12 Low carbon steel cylinders for the storage and transport of medium pressure liquefiable gases.
AS B111 Manganese steel cylinders for the storage and transport of high pressure liquefiable gases.
AS B113 High tensile carbon-manganese steel cylinders for the storage and transport of permanent gases and high pressure liquefiable gases.
AS B114 Ahoy steel cylinders for the storage and transport of permanent gases and high pressure liquefiable gases.
AS B239 Welded steel cylinders for compressed gases of capacity over 10 litres up to and including 130 litres.

CANADA

Canadian Transport Commission Regulations.

TC 4BA Welded or Brazed cylinders made of definitely prescribed steels.

TC 4BW Welded steel cylinders made of definitely prescribed steels with electric-arc welded longitudinal seam.

FRANCE

NFE 31-001 Boilers operating with solid, liquid or gases fuels

NFA 49-901 Gas cylinders - seamless steel cylinders for compressed, liquefied or dissolved gases.

NC :1969 French code for the manufacture of unfired pressure vessels: Design rules

GERMANY

German Institute of Standards, standard specifications

DIN 2918 Stationary shell boilers of welded construction. (Other than water tube boilers.)

DIN 4661 Gas cylinders, welded steel gas cylinders, at test pressure 30 atm.

DIN 4663 Compressed gas containers; seamless aluminium alloy cylinders, rated for 250 Bars and 300 Bar test pressure.

DIN 4664 Compressed gas containers; seamless steel gas cylinders.

DIN 4680 Steel fixed size pressure vessels for LPG; For above ground installations, dimensions and equipment.

DIN 28020 Horizontal pressure vessels of 0,63 up to 25 cubic metres capacity.

DIN 28021 Horizontal pressure vessels of 6,3 up to 100 cubic metres storage capacity.

DIN 28022 Vertical pressure vessels; vessels for intermediate storage 0,063 up to 25 cubic metres for use in chemical process engineering.

AD-MERKBLAETTER

Technical Rules for Pressure Vessels (TRB), Druckbehvo and all sections

Technical Rules for Steam Boilers (TRD), Dampfkrv and all sections

INTERNATIONAL

- International Standards Organisation, standard specifications
ISO 831 Rules for the construction of stationary boilers.
ISO 3807 Dissolved Acetylene cylinder - Basic Requirements.
ISO 4705 Refillable seamless steel gas cylinders.
ISO 4706 Refillable welded steel gas cylinders.
ISO 5730 Stationary shell boilers of welded construction. (Other than water tube boilers.)
EEC 87-404 Directive for the construction of simple pressure vessels.
EEC 84-525 Directive for the construction of seamless, steel gas cylinders.
EEC 84-526 Directive for the construction of seamless unalloyed aluminium and aluminium alloy gas cylinders.
EEC 84-527 Directive for the construction of welded unalloyed steel gas cylinders.
EN 50 052 Cast Aluminium Alloy Enclosures for Gas filled High Voltage Switchgear end Control gear
EN 286-1 Simple unfired pressure vessels designed to contain air nitrogen; Part 1 Design and manufacture of simple pressure vessels.
EN 303-PT 1 Heating Boilers - Heating boilers with forced draught burners - Terminology, general requirements, testing and marking.
EN 303-PT2 Heating Boilers - Heating boilers with forced draught burners - Special requirements for boilers with atomising oil burners.
Luxfer Limited, standard specification
Luxint Luxfer gas cylinder specification: For the manufacture of aluminium cylinders.

ITALY

- Higher Institute for Accident Prevention and Safety at Work (Istituto Superiore per la Prevenzione e la Sicurezza del Lavoro) ISPEL rules
VSR Rules Collection (Raccolta VSR) concerning design rules for pressure vessels.
VSG Rules Collection (Raccolta VSG) concerning design rules for boilers.

JAPAN

- Japanese Industrial Standards
JIS B8201 Construction of steel boilers for land use.
JIS B8233 Refillable welded steel gas cylinders for liquefied petroleum gas.
JIS B8235 Refillable welded steel gas cylinders for liquefied fluorocarbon.
JIS B8240 Construction of pressure vessels for refrigeration.
JIS B8241 Seamless steel cylinders.
JIS B8243 Construction of pressure vessels.

UNITED KINGDOM

- British Standards Institution, standard specifications
BS EN 286-1 Simple unfired pressure vessels designed to contain air or nitrogen - design, manufacture and testing.
BS 399 High carbon steel cylinders for the storage and transport of permanent gases.
BS 400 Low carbon steel cylinders for the storage and transport of permanent gases.
BS 401 Steel cylinders for the storage and transport of liquefied gases.

- BS 537 Lancashire and Cornish boilers of riveted construction.
BS 609 Horizontal multitubular boilers of riveted construction.
BS 665 Vertical cross tube boilers of riveted construction.
BS 761 Vertical multitubular boilers of riveted construction.
BS 779 Specification for cast iron boilers for central heating and indirect hot water supply. (Rated output 44 kW and above)
BS 1113 Design and manufacture of water tube steam generating plant.
BS 1307 Gas-fired boilers and waste-heat boilers (with or without auxiliary firing).
BS 1894 Specification for the design and manufacture of electric boilers of welded construction.
BS 1971 Specification for corrugated furnaces for shell boilers.
BS 2790 Specification for design and manufacture of shell boilers of welded construction.
BS 3023 Corrugated furnaces and smoke tubes for marine boilers.
BS 4994 Specification of the Design and Construction of vessels and tanks in Reinforced Plastics.
BS 5045 Specification for seamless transportable gas containers. Parts: 1, 2 and 3.
BS 5169 Fusion welded steel air receivers.
BS 5500 Specification for unfired fusion welded pressure vessels.
BS 6061 Specification for transportable acetylene containers.
BS 7005 Specification for design and manufacture of carbon steel unfired pressure vessels for use in vapour compression refrigeration systems.
BS 7122 Specification for welded steel tanks for road transport of liquefied gases.
BS EN 13445 Unfired Pressure vessels

Lloyds Register, standard specifications

Lloyds Rules and Regulations for the design and construction or use of boilers, pressure vessels, pressurised systems or portable gas containers.

UNITED STATES OF AMERICA

American Society of Mechanical Engineers, standard specifications

ASME Section I Power Boilers

ASME Section III Rules for the construction of nuclear power plant components - code for concrete reactor vessels and containments

ASME Section IV Low-pressure Heating Boilers

ASME Section VIII Unfired Pressure Vessels (Divisions 1 and 2)

ASME Section X Fibreglass-reinforced plastic pressure vessels

ASME Part B31 Pressurised piping systems:

Part 1-Power piping.

Part 3-Chemical plant and petroleum refinery piping.

Part 4-Liquid transportation systems for hydrocarbons, liquid petroleum gas, anhydrous ammonia and alcohols.

Part 5-Refrigeration piping.

Part 8-Gas transmission and distribution piping systems.

American Petroleum Institute, standard specifications

API620 Design & construction of large, welded, low pressure storage tanks.

United States, Department of Transport Regulations: Code of Federal Regulations, Title 49

DOT 4BW Welded steel cylinders made of definitely prescribed steels with electric-arc welded longitudinal seam. Including DOT 4BA

DOT 39 Non reusable - non refillable cylinder

DOT 8 Welded steel cylinders made of definitely prescribed steels for the transportation of acetylene.

DOT E-10-320 Welded steel cylinders made of definitely prescribed steels electric-arc welded longitudinal seam for the transportation of acetylene.

DOT 4E Welded aluminium cylinders made of definitely prescribed aluminium.

The Association of American Railroads

Section C, Part III - Specifications for Tank Cars, M1002

Hartford Steam Boiler Inspection and Insurance Company

HSB-ARS-86 Standard for air receivers.

Tubular Exchange Manufacturers Association, Inc. (TEMA) rules.

SOUTH AFRICA

Standards South Africa standard specification

SANS 50 The design and manufacture of seamless steel cylinders for high and low pressure service.

SANS 10099 The construction of air receivers

SANS 219 The design and manufacture of welded steel cylinders for low pressure service.

SANS 220 Dissolved acetylene cylinders.

SANS 1571 Transportable rechargeable fire extinguishers.

South African Bureau of Standards, codes of practice

SANS 10019 Transportable metal containers for compressed gases: Basic design, manufacture, use and maintenance.

3. Regulation 4.(1)(d) and 9.(3)(i)

SOUTH AFRICA

Standards South Africa standard specification

SANS 10228 The identification and classification of dangerous substances and goods.

4. Regulation 17

UNITED STATES OF AMERICA

American Society of Mechanical Engineers, standard specifications

ASME Part B31 Pressurised piping systems:

Part 3-Chemical plant and petroleum refinery piping.

Part 4-Liquid transportation systems for hydrocarbons, liquid petroleum gas, anhydrous ammonia and alcohols.

Part 8-Gas transmission and distribution piping systems.

American National Standards Institute

ANSI Z223.1 National Fuel Gas Code

SOUTH AFRICA

Standards South Africa standard specification

SANS 10087 Handling Storage and Distribution of liquefied Petroleum Gas in Domestic, Commercial and Industrial Installations.

Part 1: Consumer Liquefied Petroleum Gas Cylinder Installations.

Part 2: Installations in Mobile Units and Small Non-Permanent Buildings.

Part 3: Bulk Liquefied Petroleum Gas Storage and Allied Facilities at Consumer's Premises.

Part 4: Transportation of liquefied Petroleum Gas in Bulk by Road.

Part 6: Liquefied Petroleum Gas as Engine Fuel.

Part 7: Retail outlet and similar Liquefied Petroleum Gas Filling Sites for Small Containers.

Part 8: The Fueling of Fork Lift Trucks and Other Liquefied Petroleum Gas Operated Vehicles.

Part 10: Mobile filling stations for refillable liquefied petroleum gas (LPG) containers of capacity not exceeding 9kg.

SANS 1539 Appliances operating on liquefied petroleum gas - Portable and mobile appliances - Safety aspects.

SANS EN 14140 Transportable refillable welded steel cylinders for liquefied petroleum gas.

5. Regulation 18 and 19**SOUTH AFRICA**

Standards South Africa standard specification

SANS 10019 Portable metal containers for compressed gases: Basic design criteria, use and maintenance.

SANS 1825: Portable gas cylinder test stations – Approval and general requirements

6. Regulation 19**SOUTH AFRICA**

Standards South Africa standard specification

SANS 1151 Portable rechargeable fire extinguishers -Halogenated hydrocarbon type extinguishers.

SANS 1475 The production of reconditioned fire-fighting equipment.

SANS 1567 Portable rechargeable fire extinguishers - CO2 type extinguishers.

South African Bureau of Standards, codes of practice

SANS 10105 The classification, use and routine maintenance of fire-fighting appliances.

Part 1: Portable fire extinguishers

SANS 1910 Portable refillable fire extinguishers
