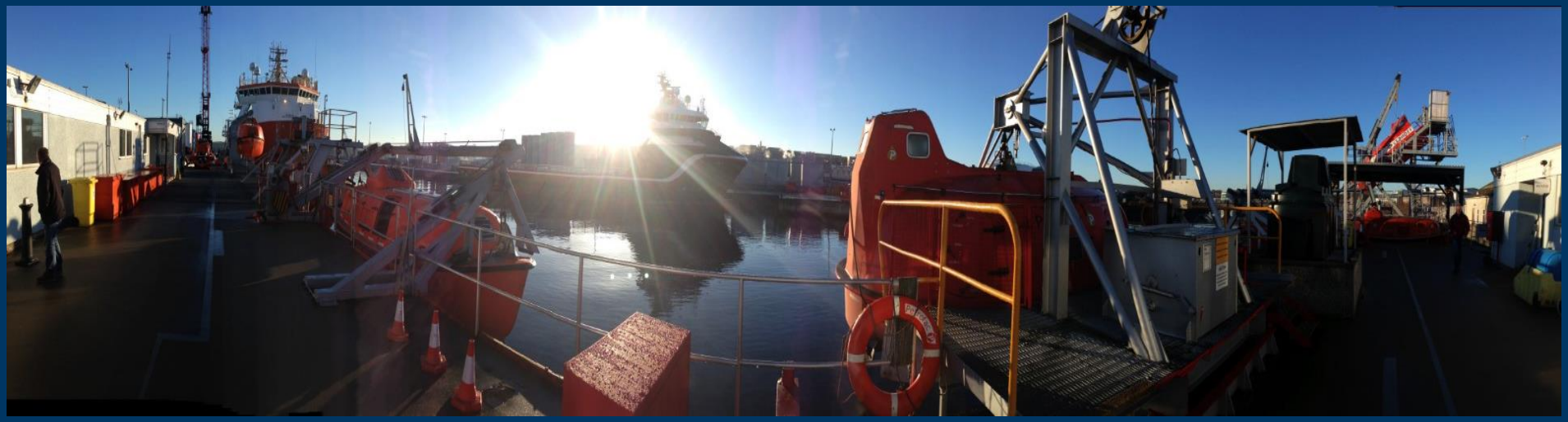
DEPARTMENT OF EMPLOYMENT AND LABOUR OCCUPATIONAL HEALTH AND SAFETY UNDERWATER CONFERENCE

20 - 22 NOVEMBER 2024



Use of pressure equipment in commercial diving operations

Rev 1.0 (2019)

Welcoming

Overview

Occupational Health and Safety Act, 1993

To provide for the health and safety of persons at work and for the health and safety of persons in connection with the use of plant and machinery; the protection of persons other than persons at work against hazards to health and safety arising out of or in connection with the activities of persons at work; to

44. Incorporation of health and safety standards in regulations. —
(1) The Minister may by notice in the Gazette incorporate in the regulations any health and safety standard or part thereof, without stating the text thereof, by mere reference to the number, title and year of issue of that health and safety standard or to any other particulars by which that health and safety standard is sufficiently identified.
(3) Any health and safety standard incorporated in the regulations under subsection (1)

To provide for the health and safety of persons at work and for the hea
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and to provide for matters connected therewith.

Governing Law Practice

SANS 347

1 Scope
1.1 This standard specifies the criteria to be used for the categorization and conformity assessment of pressure equipment (metallic and non-metallic) for use by but not limited to the manufacturer, users, certification bodies, approved inspection authorities, importers and assemblers.
1.2 This standard is also applicable to the certification, re-instatement, modification or repair of pressure equipment (metallic and non-metallic) manufactured under the relevant national legislation (see foreword), as defined by the relevant statutory regulations for pressure equipment.

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SANS 10019

1 Scope
1.1 This standard covers the minimum requirements for the design, manufacture, use and maintenance of refillable and non-refillable pressure receptacles of water capacity 0,5 L to 3 000 L and cartridges of water capacity greater than 0,5 L, and includes requirements over and above those contained in the pressure receptacles design and manufacturing standards (see table 1 and annex A).
1.2 In addition to industrial, refrigerant, medical and domestic type pressure receptacles, this standard also covers cylinders for self-contained underwater breathing apparatus (SCUBA) for recreational and professional diving, and self-contained breathing apparatus (SCBA). In the absence of specific areas addressed in the respective codes of practices for commercial diving, or the absence of SANOP 96 for military diving, this standard should apply, unless documented mitigations in line with best practices are in place.
1.3 This standard covers the design requirements for carbon dioxide (CO_2), hydrofluorocarbons(HFCs), and high-pressure inert gas mixtures used in portable and fixed fire-fighting systems.
Etc.

less than 2 000 kPa.
Etc.

Occupational Health and Safety Act, 1993

To provide for the **health and safety of persons at work and for the health and safety of persons in connection with the use of plant and machinery**; the **protection of persons other than persons at work against hazards to health and safety arising out of or in connection with the activities of persons at work**; to establish an advisory council for occupational health and safety; and to provide for matters connected therewith.
Governing Law Practice

2017 **Pressure Equipment Regulations - 2009 - Guidance Note R2-2017**

Diving Regulations - (1991) 2022 - COP 2022

- Electrical Installation Regulations - 2009
- Electrical Machinery Regulations - 2011
- General Administrative Regulations - 2003
- General Safety Regulations - (1986) 2003
- Regulations for Hazardous Biological Agents - 2021
- Environmental Regulations for Workplaces - (1987) 2003
- Facilities Regulations - 2004
- Noise-induced Hearing Loss Regulations - 2003
- Regulations for Hazardous Chemical Agents - 2021
- General Machinery Regulations - 1988
- Etc.

South African National Standards

2024 **SANS 347** — Categorization and conformity assessment criteria for all pressure equipment

2023 **SANS 10019**

Transportable pressure receptacles for compressed, dissolved and liquefied gases — Basic design, manufacture, use and Maintenance

1 Scope

1.2 In addition to industrial, refrigerant, medical and domestic type pressure receptacles, this standard also covers cylinders for self-contained underwater breathing apparatus (SCUBA) for recreational and professional diving, and self-contained breathing apparatus (SCBA). In the absence of specific areas addressed in the respective codes of practices for commercial diving, or the absence of *SANOP 96 for military diving*, this standard should apply, unless documented mitigations in line with best practices are in place.

2024 **SANS 1825** — Gas cylinder test stations — General requirements for periodic inspection and testing of transportable refillable gas pressure receptacles

LEGISLATION

PRESSURE EQUIPMENT REGULATIONS GNR. 734 OF 15 JULY 2009
(2017 incorporated Guidance notes)

LEGISLATION CONTINUED

PRESSURE EQUIPMENT REGULATIONS GNR. 734 OF 15 JULY 2009

SCOPE

These Regulations shall apply to the design, manufacture, operation, repair, modification, maintenance, inspection and testing of **pressure equipment** with a design pressure equal to or greater than 50 kPa, in terms of the relevant health and safety standard incorporated into these Regulations under section 44 of the Act.

DEFINITIONS

Gas System
Means an assembly of tubes, pipes or similar ducts, fittings and valves for the reticulation, circulation and conveyance of a gas, excluding a pressure vessel or transportable gas container connected to the system

Pressure Equipment
Means a steam generator, **pressure vessel**, **piping**, **pressure accessory** and **safety accessory**, **transportable gas container**, and **fire extinguisher** and includes, but is not limited to, an accumulator, a hot-water geyser, and **hyperbaric chambers**

Transportable Gas Container
Means any refillable vessel for the storage and conveyance of liquefied, dissolved or compressed gases, of water capacity from 0,5 litres to 3 000 litres

Notes:
(a) Transportable gas container has the same meaning as the term "pressure receptacle" as defined in SANS 10019.

LEGISLATION CONTINUED

PRESSURE EQUIPMENT REGULATIONS GNR. 734 OF 15 JULY 2009

REGULATIONS 2 – SCOPE OF APPLICATION

(1) These Regulations shall apply to the design, manufacture, operation, repair, modification, maintenance, inspection and testing of pressure equipment with a design pressure equal to or greater than 50 kPa, in terms of the relevant health and safety standard incorporated into these Regulations under section 44 of the Act.

(2) Regulations 3, 4, 5, 9(1), 9(2) and 9(3) shall not apply to pressure equipment in use or on order prior to the publication of these Regulations, which equipment shall be designed and constructed according to the requirements applicable at the time of order.

REGULATIONS 3 – GENERAL REQUIREMENTS

(1) Any person who manufactures, imports, sells, offers or supplies any pressure equipment described in these Regulations for use in the Republic shall ensure that such equipment complies with these Regulations.

(3) All pressure equipment for use in the Republic shall be categorized and submitted to the applicable conformance assessments of SANS 347 in addition to the requirements of the relevant health and safety standard incorporated into these Regulations under section 44 of the Act.

LEGISLATION CONTINUED

PRESSURE EQUIPMENT REGULATIONS GNR. 734 OF 15 JULY 2009

REGULATIONS 4 – DUTIES OF MANUFACTURERS

(1) The manufacturer shall have an obligation to ensure that all equipment designed and manufactured for use in the Republic shall be conformity assessed and subjected to the requirements set out in SANS 347.

(2) Subject to the requirements set out in the relevant health and safety standard incorporated into this Regulation under section 44 of the Act, the manufacturer shall ensure that the pressure equipment as manufactured, modified, inspected, tested or repaired is safe and without risks to health when properly used.

(3) Subject to the requirements of this regulation a manufacturer shall issue a certificate of manufacture for all pressure equipment supplied, with a verification signature by an approved inspection authority when so required.

(4) Subject to the requirements of this regulation a manufacturer shall comply with any other duty assigned to the manufacturer in these regulations.

Notes:

(a) The certificate of manufacture **must declare conformance to the Pressure Equipment Regulations.** The Certificate of Manufacture is equivalent to the Certificate of Conformity as stated in SANS 347

(c) The certificate of manufacture, has the same meaning as certificate of conformity, manufacturers data report and declaration of conformity.

LEGISLATION CONTINUED

PRESSURE EQUIPMENT REGULATIONS GNR. 734 OF 15 JULY 2009

REGULATIONS 5 – DUTIES OF IMPORTERS AND SUPPLIERS

(1) Importers and suppliers shall ensure that pressure equipment sold complies with the requirements of this Regulation.

(2) **The importer shall assume the liability of the manufacturer in terms of this Regulation.**

(3) Any pressure equipment that requires a permit to be issued by an organisation approved by the chief inspector shall ensure that such approval is obtained by the importer or manufacturer before the pressure equipment is placed in the market: Provided that such equipment shall comply with the relevant health and safety standard incorporated into these Regulation under section 44 of the Act.

Notes:

(a) The **importer is the entity which imports pressure equipment for use and/or re-sale in South Africa**. The importer must be a juristic person in RSA

(b) **The importer** of pressure equipment into the RSA **assumes the liability of the manufacturer** and must declare conformance in writing to the PER. This conformity assessment review shall be countersigned by an AIA as applicable. The AIA shall only verify conformity assessment reviews for imported pressure vessels, steam generators and assemblies for Category II equipment and higher

(d) Where users or **their agents appoint entities** to manage procurement and construction of imported pressure equipment, **this entity is in overall control and is deemed the importer**.

(e) The permit referenced in PER 5(3) is applicable to fire extinguishers in accordance with SANS 1475, LPG cylinders to SANS 10019 and other verification schemes as mandated by the Chief Inspector.

(f) Importer shall ensure that the foreign inspection and certification bodies meets the requirements of PER 7(3)(b) with respect to ISO 17020, 17021 or higher accreditation and scope of accreditation together with the applicable health and safety standard.

LEGISLATION CONTINUED

PRESSURE EQUIPMENT REGULATIONS GNR. 734 OF 15 JULY 2009

REGULATIONS 5 – DUTIES OF IMPORTERS AND SUPPLIERS

Notes: (Continue)

(i) Reasonable steps required from the Importer to fulfil his liability as the manufacturer are:

- (i) The Importer is obligated to perform a conformity assessment review in accordance with SANS 347 and issue a conformity assessment review certificate with a verification signature by the Importer appointed Approved Inspection Authority (AIA) as applicable.
- (ii) The Importer shall ensure that the equipment has been categorized and submitted to the applicable conformance assessments of SANS 347 or Pressure Equipment Directive as applicable (see sub-regulation 3.(3)).
- (iii) The Manufacturer is obliged to ensure that the pressure equipment has been constructed in full accordance with a relevant health and safety standard (see sub-regulation (4.(1)) with the Importer only required to verify that the health and safety standard used by the Manufacturer for construction is listed in SANS 347.
- (iv) The pressure equipment is provided with a certificate of manufacture which reflect the verification of an approved inspection authority (AIA), Authorized Inspector (AI) or Notified Body (NB) when so required (see sub-regulation 4.(3)).
- (v) Ensuring that the approved inspection authority (AIA), Authorized Inspector (AI) or Notified Body (NB) meets the requirements stipulated in sub-regulation 7 and guide note (c).
- (viii) The Importer shall ensure that the provided documentation accompanying the imported equipment satisfies the requirements of sub-regulation 14. In the case of assemblies the Importer shall ensure that a global conformity assessment review certificate accompanies the assembly
- (ix) Confirming that the pressure equipment is in full compliance, but not limited to, the applicable PER requirements.

LEGISLATION CONTINUED

PRESSURE EQUIPMENT REGULATIONS GNR. 734 OF 15 JULY 2009

REGULATIONS 6 – DUTIES OF USERS

(2) The user shall, subject to the relevant health and safety standard incorporated into these Regulations under section 44 of the Act –.

(b) **ensure pressure equipment has a certificate, issued by the manufacturer, including a verification signature by an approved inspection authority when required, which certifies that the pressure equipment has been designed and manufactured in accordance with the relevant health and safety standard incorporated into these Regulations under section 44 of the Act;**

(e) ensure that a gas system has a valid certificate issued by an authorised person;

Notes:

(f) In respect to the duties of the user in relation to privately owned transportable gas containers up to and including 150 litres water capacity, the certificate of manufacture referred to in PER 6(2)(b) may be retained by the Importer or the Supplier

(g) For transportable gas containers which are privately owned the certificate of manufacture remains with the manufacturer. The owner may request the certificate of manufacture from the manufacturer / importer

(h) Equipment manufactured prior to 23 October 1992 and which was designed, constructed and manufactured in accordance with regulations in force at that time do not require a certificate of manufacture (see regulation 2 of VUP). Re-certification to the PER is not a requirement

LEGISLATION CONTINUED

PRESSURE EQUIPMENT REGULATIONS GNR. 734 OF 15 JULY 2009

REGULATIONS 18 - TRANSPORTABLE GAS CONTAINERS

(1) **No user shall use, require or permit a transportable gas container to be used, and no user shall fill, place in service, handle, modify, repair, inspect or test any transportable gas container, other than in compliance with the relevant standards incorporated into these Regulations under section 44 of the Act.**

(2) The inspection and test referred to in sub regulations (1) shall be carried out by an approved testing station.

(3) Applications for approval of a testing station shall include proof of accreditation as prescribed in sub regulation (4), and shall include full contact details and address information.

(4) The chief inspector's approval is subject to a valid accreditation certificate issued by the accreditation authority: Provided that the chief inspector may set additional requirements before granting approval.

Notes:

(a) Transportable gas containers smaller than 0,5 litres are not regulated but shall be manufactured to a relevant health and safety standard.

LEGISLATION

SANS 347 EDITION 3.1 (2024)
Categorization and conformity assessment criteria for all pressure equipment

LEGISLATION CONTINUED

SANS 347 EDITION 3.1 (2024)
Categorization and conformity assessment criteria for all pressure equipment

1 SCOPE

1.1 This standard specifies the criteria to be used for the categorization and conformity assessment of pressure equipment (metallic and non-metallic) for use by but not limited to the manufacturer, users, certification bodies, approved inspection authorities, importers and assemblers.

1.2 This standard is also applicable to the certification, re-instatement, modification or repair of pressure equipment (metallic and non-metallic) manufactured under the relevant national legislation (see foreword), as defined by the relevant statutory regulations for pressure equipment.

3 Definitions and abbreviations

Approved inspection authority
organization that is approved by the relevant regulatory authority and accredited by the relevant national body (see foreword) in accordance with SANS 17020 and SANS 10227 (as applicable)

Certificate of manufacture
written declaration of conformance to the relevant health and safety standard(s) and to the relevant national legislation (see foreword)

Declaration of conformity
written declaration of conformance to either an applicable health and safety standard, applicable code symbol marking or relevant European Directive

LEGISLATION CONTINUED

SANS 347 EDITION 3.1 (2024)

4 Criteria for determining hazard categories

4.2.1 In order to determine which category an item of equipment falls into; the manufacturer shall identify the following:

a) the type of pressure equipment, for example,
   1) pressure vessels;
   3) piping;
   5) safety accessories;
   6) transportable gas containers;

b) the state of the fluid contents – gas or liquid;(see note) and
c) the fluid group of the contents – group 1 or group 2 (see table 1).

Table 1 — Categorization figures

1	2	3	4	5	6	7	8	9	10	11
Equipment type	**Pressure vessels**				**Steam generator**	**Piping**				**Transportable gas containers**
State of contents	**Gas**		**Liquid[b]**			**Gas**		**Liquid[b]**		
Fluid group[c]	1	2	1	2		1	2	1	2	1
Refer to figure	1	2	3	4	5	6	7	8	9	[a]
NOTE For two-phase flow, the equipment should be categorized to the higher risk.										
[a] Transportable gas container and their safety and pressure accessories shall be assessed using table 3.										
[b] No pockets of gas may form above the liquid in the equipment, including steam.										
[c] Fluid group 1 = dangerous; fluid group 2 = not dangerous (see 4.3.1).										

LEGISLATION CONTINUED

SANS 347 EDITION 3.1 (2024)

Table 3 — Conformity modules for transportable gas containers and related pressure and safety accessories for all fluids

NOTE Table 3 covers test pressures 0 kPa to 300 000 kPa and volume 0,5 L to 3 000 L (water capacity).

1	2
Hazard category	**Conformity assessment modules**[a and b]
III	B + F
B = type examination – design type F = conformity to type based on pressure equipment verification	
The relevant national legislation (see foreword) requires all pressure equipment for use in South Africa to be categorized and submitted to the applicable conformity assessments contained in this standard. NOTE Transportable gas containers should be manufactured to a relevant health and safety standard incorporated into the relevant national legislation (see foreword).	
[a] Where imported transportable gas containers and related pressure and safety accessories are sourced from the European Union, compliance to the *Transportable Pressure Equipment Directive of the European Union* (TPED) is applicable. [b] Where, imported transportable gas containers and related pressure and safety accessories are sourced from the United Kingdom marked with the Rho (ρ) symbol and or the UKCA mark, compliance to the United Kingdom Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 is applicable.	

Amdt 1

LEGISLATION CONTINUED

SANS 347 EDITION 3.1 (2024)

4 Criteria for determining hazard categories

4.4 Categorization graphs:
4.4.1.1 Depending on the requirements of 4.2, the relevant figure of figures 1 to 9 shall be used to determine the applicable hazard category (SEP, I, II, III or IV) for pressure equipment, ***excluding transportable gas containers.***

5 Conformity assessment criteria

5.1 General:
5.1.1 Before putting pressure equipment classified as either hazard category I, II, III or IV on the market, such equipment shall be subjected to the procedures in the appropriate conformity assessment modules in accordance with either table 2 or 3, or annex B or C as applicable.

5.2 Final assessment:
Pressure equipment shall be subjected to a final assessment by the manufacturer as described in 5.2.2 to 5.2.3 (inclusive). The approved inspection authority shall also carry out final assessment in accordance with conformity assessment modules C 2 (monitoring), E1, F, G and H1.

5.2.2 Final inspection:
Pressure equipment shall undergo a final inspection to assess visually and by examination of the accompanying documents compliance with the requirements of the applicable health and safety standard(s). Tests carried out during manufacture may be taken into account. In order to comply with the safety requirements, the final inspection shall be carried out internally and externally on every part of the equipment, where appropriate, in the course of manufacture (for example, where examination during the final inspection is no longer possible).

LEGISLATION CONTINUED

SANS 347 EDITION 3.1 (2024)

5 Conformity assessment criteria (cont..)

5.2.3 Pressure test:
5.2.3.1 Final assessment of pressure equipment shall include a test for the pressure containment aspect, which will normally take the form of a hydrostatic pressure test at a pressure at least equal, where appropriate, to the value specified in the applicable health and safety standard(s).

5.2.4 Imported pressure equipment:

5.2.4.1 General:
Pressure equipment imported into the Republic of South Africa (with all the documentation and marking, as required by the statutory regulations), shall be subjected to a conformity assessment review by the importer to ensure compliance with the relevant national legislation (see foreword). All reviews of pressure vessels, steam generators, assemblies and **transportable gas containers** that are **not** Pi (π) or USA Department of transportation (DoT) marked shall be verified by an approved inspection authority (appointed by the importer) except where manufactured under SEP and category I requirements, as applicable. Gas cylinders for liquefied petroleum gas (LPG) service only require a cylinder verification certificate issued by the relevant national body (see foreword).

LEGISLATION CONTINUED

SANS 347 EDITION 3.1 (2024)

5 Conformity assessment criteria (cont..)

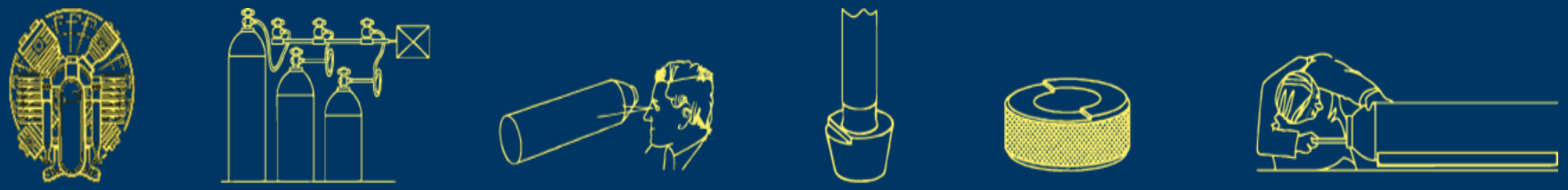
5.2.4.2 Pi marked equipment:

5.2.4.3 ASME, API and CE marked equipment:
ASME and API marked pressure equipment fully complying to the applicable standard and CE marked pressure equipment in accordance with the Pressure equipment directive of the European Union (PED) or the Simple pressure equipment directive of the European Union (SPED) shall be acceptable for importation into Republic of South Africa provided the equipment is verified for compliance with the relevant national legislation (see foreword) by the importer and the approved inspection authority for pressure vessels, steam generators and assemblies category II and higher.

5.2.4.4 DoT marked equipment:

5.2.4.5 Rho (ρ) marked equipment:
Rho (ρ) marked and UKCA marked pressure equipment in accordance with the United Kingdom Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 and British Compressed Gas Association-Guidance Note 48 Rev 2 and manufactured to the applicable health and safety standard(s) incorporated shall be acceptable for importation into the Republic of South Africa provided the pressure equipment is verified for compliance with the relevant national legislation (see foreword) by the importer. Gas cylinders for LPG service only require a cylinder verification certificate issued by the relevant national body (see forward)..

LEGISLATION



SANS 10019 EDITION 9.1 (2023)
Transportable pressure receptacles for compressed, dissolved and liquefied gases — Basic design, manufacture, use and maintenance

LEGISLATION CONTINUED

SANS 10019 EDITION 9.1 (2023)
Transportable pressure receptacles for compressed, dissolved and liquefied gases — Basic design, manufacture, use and maintenance

1 SCOPE

1.1 This standard covers the minimum requirements for the design, manufacture, use and maintenance of refillable and non-refillable pressure receptacles of water capacity 0,5 L to 3 000 L and cartridges of water capacity greater than 0,5 L, and includes requirements over and above those contained in the pressure receptacles design and manufacturing standards (see table 1 and annex A).

1.2 In addition to industrial, refrigerant, medical and domestic type pressure receptacles, this standard also covers cylinders for self-contained underwater breathing apparatus (SCUBA) for recreational and professional diving, and self-contained breathing apparatus (SCBA). In the absence of specific areas addressed in the respective codes of practices for commercial diving, or the absence of SANOP 96 for military diving, this standard should apply, unless documented mitigations in line with best practices are in place.

LEGISLATION CONTINUED

SANS 10019 EDITION 9.1 (2023)

4 Design and manufacturing requirements

4.1 General:

4.1.1 Pressure receptacles shall be designed and manufactured in accordance with the requirements of the relevant national legislation (see foreword), in conjunction with the appropriate of the design and manufacturing standards given in table 1 (see also annex A).

4.1.2 The preferred standards given in table 1 do not preclude the design, manufacture and use of pressure receptacles in accordance with

a) any of the current standards as given in annex A,
b) the special conditions specified in annex B, or
c) SANS 1825, and
d) the standards given in the relevant national legislation (see foreword), subject to 4.8.4.

LEGISLATION CONTINUED

SANS 10019 EDITION 9.1 (2023)

4.8 Pressure receptacles general requirements:

4.8.1 Only pressure receptacles that, in respect of basic design and manufacture, comply with the appropriate and relevant requirements of this standard, together with standards approved by the relevant national department (see foreword) shall be allowed for general distribution and use in South Africa.

4.8.2 Refillable pressure receptacles that are not accompanied by a manufacturer's certificate of construction and certification by an approved inspection authority, or a certificate of re-certification issued by an approved inspection authority shall not be allowed for distribution and use in South Africa.

4.8.4 New pressure receptacles shall not be manufactured in accordance with any local, regional or international standard after the indicated date of its withdrawal, taking into account the manufacturing end date stipulated in the type approval certificate issued to the pressure receptacle manufacture.

LEGISLATION CONTINUED

SANS 10019 EDITION 9.1 (2023)

8 Marking, labelling, colour coding and certificates

8.1 Permanent marking:
8.1.1 Each pressure receptacle shall be legibly and durably marked (hard-stamped, embossed or embedded in the resin of composite pressure receptacles) with the information required by the applicable design standard or ISO 13769.

8.2 Identification of permanent marking:
The manufacturer shall, on the certificate of manufacture (see 8.7.2) or on the certificate of re-certification, list all the permanent marking on the pressure receptacle.

8.7 Certificates:
8.7.1 General
Manufacturers and or the local importer or distributor (as defined in the relevant national legislation (see foreword)) shall keep and make available on request manufacturing and inspection certificates for all pressure receptacles that are sold. Batch certificates are acceptable.

8.7.2 Certificates of manufacture
The requirements for certificates of manufacture shall be as specified in the appropriate manufacturing standards and the relevant national legislation (see foreword). The manufacturer's certificate of manufacture shall declare compliance to this standard.

8.7.3 Revalidation inspection and test certificates
8.7.3.1 Revalidation inspection and test certificates shall comply with the requirements given in SANS 1825.

LEGISLATION CONTINUED

SANS 10019 EDITION 9.1 (2023)

Annex G
(normative)
SCUBA and SCBA cylinder requirements

G.10 Filling of pressure receptacles

G.10.1 General

SCUBA and SCBA cylinders shall comply with the requirements of 9.1.1, 9.1.2, 9.1.4, and 9.1.5, and the requirements of tables 14 and 18. Amdt 1

G.10.2 Persons competent to fill pressure receptacles

G.10.2.1 No person shall fill a pressure receptacle with breathing gas for use in the SCUBA and SCBA industry unless such person is deemed competent to fill pressure receptacles with the gases being handled and is conversant with the relevant requirements of this standard.

G.10.2.2 The filling station shall determine and document the necessary criteria for performing the task under its control, and on a regular pre-determined basis and method, evaluate the effectiveness of these criteria and the individuals performing the filling, through monitoring, mentoring, observations, continuation training, or feedback from clients.

LEGISLATION CONTINUED

SANS 10019 EDITION 9.1 (2023)

G.10 Filling of pressure receptacles

G.10.1 General

SCUBA and SCBA cylinders shall comply with the requirements of 9.1.1, 9.1.2, 9.1.4, and 9.1.5.1, and the requirements of tables 14 and 18.

G.10.2 Persons competent to fill pressure receptacles

G.10.2.1 No person shall fill a pressure receptacle with breathing gas for use in the SCUBA and SCBA industry unless such person is deemed competent to fill pressure receptacles with the gases being handled and is conversant with the relevant requirements of this standard.

G.10.2.2 The filling station shall determine and document the necessary criteria for performing the task under its control, and on a regular pre-determined basis and method, evaluate the effectiveness of these criteria and the individuals performing the filling, through monitoring, mentoring, observations, continuation training, or feedback from clients.

LEGISLATION

SANS 1825 EDITION 4.3 (2024)
Gas cylinder test stations — General requirements for periodic inspection and testing of transportable refillable gas pressure receptacles

LEGISLATION CONTINUED

SANS 1825 EDITION 4.3 (2024)
Gas cylinder test stations — General requirements for periodic inspection and testing of transportable refillable gas pressure receptacles

1 SCOPE

1.1 This standard specifies minimum requirements for test stations for transportable gas cylinders of water capacity 0,5 L to 3 000 L, including gas cylinders used in fire-fighting systems.

1.2 Where an approved test station carries out the replacement of cylinder valves then that activity shall be included in the scope of activity for the gas test station.

1.3 This standard excludes the testing of hand-held fire extinguishers with an operating pressure less than 2 000 kPa.

1.4 This standard does not apply to facilities where only cylinder valves or screw-on type valve guards are replaced, or where the straightening of bent foot rings or valve guards are carried out without the application of heat.

LEGISLATION CONTINUED

SANS 1825 EDITION 4.3 (2024)
Gas cylinder test stations — General requirements for periodic inspection and testing of transportable refillable gas pressure receptacles

7 Cylinder records and inspection reports/certificates

7.4 Where the following information is missing on a pressure receptacle, the pressure receptacle shall be scrapped:

a) design specification;

NOTE Notwithstanding the requirement given in 7.3 (a), in cases where the design specification is not stamped on the cylinder, and the cylinder owner is able to obtain written evidence of the manufacturing design standard from the manufacturer and a copy of the original manufacturing certification for the cylinder(s) in question, then the design standard shall be stamped on the cylinder(s) by the approved test station and the cylinder(s) may then be tested.

b) test pressure (for Department of Transport (DOT) and the Canadian Interstate Commerce Commission (ICC) cylinders, the service pressure).

NOTE 1 Where the working or service pressure is available and the design specification is known, the test pressure can be calculated as specified in annex G.
NOTE 2 The calculated test pressure may be hard-stamped onto the cylinder shoulder, for example PH xxx kPa/MPa.


THANK YOU