

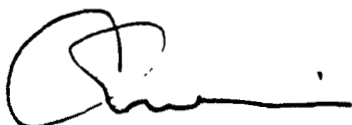
No. R. 370

20 March 2003

## STANDARDS ACT, 1993

## COMPULSORY SPECIFICATION FOR BREATHING APPARATUS

I, Alexander Erwin, Minister of Trade and Industry, hereby under Section 22 of the Standards Act, 1993 (Act No. 29 of 1993), and on the recommendation of the Council of the South African Bureau of Standards, withdraw the compulsory specification for breathing apparatus as published by Government Notice No. R2250 (Government Gazette No. 12751) of 21 September 1990, and declare the specification for breathing apparatus as set out in the Schedule to be a compulsory specification, with effect from the date two (2) months after the date of publication of this notice.



A. ERWIN  
Minister of Trade and Industry

## SCHEDULE

### COMPULSORY SPECIFICATION FOR BREATHING APPARATUS

#### 1 Scope

**1.1** This specification covers the following types of breathing apparatus for personal respiratory protection:

- a) self-contained open-circuit compressed-air type;
- b) fresh-air hose for use with full face mask, half mask or mouthpiece assembly;
- c) compressed-air line with full face mask, half mask or mouthpiece assembly;
- d) compressed-air line or powered fresh-air hose, incorporating hood for abrasive blasting;
- e) closed-circuit type;
- f) compressed oxygen type;
- g) closed-circuit type that comprises
  - 1) a compressed oxygen type, or
  - 2) chemical oxygen type;
- h) escape type;
- i) closed-circuit compressed oxygen type for special use;
- j) powered fresh-air hose, incorporating hood;
- k) compressed-air line, incorporating hood;
- l) open-circuit compressed-air type with full mask or mouthpiece; and
- m) open-circuit compressed-air type, incorporating hood.

**1.2** This specification covers the design classification of breathing apparatus and the environments in which these devices are to be used.

**1.3** This specification also covers the following details:

- a) connections between gas cylinder valves and gas cylinders;
- b) threaded connections between the gas cylinder valve and the pressure reducer for devices that contain oxygen;
- c) oxygen and nitrogen or breathable air; and
- d) dimensions and tolerances for connections.

**1.4** This specification does not cover self-contained self-rescue apparatus of the type covered in SABS 1737:2001, *Body-worn escape type breathing apparatus*.

**1.5** This specification does not cover devices intended for use in diving applications.

## **2 Definitions**

For the purposes of this specification, the following definitions apply:

### **2.1**

#### **breathing apparatus**

device intended to supply the wearer with a source of breathable air which is isolated from the wearer's immediate environment

### **2.2**

#### **closed-circuit escape breathing apparatus**

apparatus that allows the wearer to rebreathe exhaled air after carbon dioxide concentration has been effectively reduced and oxygen concentration has been enriched. Is used either with a full face mask or with a mouthpiece and noseclip. Is primarily intended to be used for escape from hazardous atmospheres

### **2.3**

#### **closed-circuit self-contained breathing apparatus**

apparatus that allows the wearer to rebreathe exhaled air after carbon dioxide concentration has been effectively reduced and the oxygen concentration has been enriched. Is used either with a full face mask or with a mouthpiece and noseclip

### **2.4**

#### **compressed-air line apparatus**

apparatus that supplies the wearer with air from a source of compressed air

### **2.5**

#### **escape breathing apparatus**

simple short-duration self-contained apparatus intended primarily to be used for escape from hazardous atmospheres

### **2.6**

#### **fresh-air hose apparatus**

apparatus that supplies the wearer with air drawn from a fresh air source with or without the assistance of a blower

### **2.7**

#### **open-circuit self-contained breathing apparatus**

apparatus in which compressed air, carried in cylinders, is fed through a demand valve and a breathing tube to a full mask and exhaled air passes through a non-return valve to the atmosphere

### **2.8**

#### **respirator**

device worn over the nose or mouth (or both), intended to protect the wearer from contaminated air by filtering the outside air before it is inhaled

## **3 Requirements**

### **3.1 General requirements**

A breathing apparatus shall be so designed and constructed that it can supply the wearer with a source of breathable air which is clean, at the desired temperature and is isolated from the wearer's immediate environment.

## 3.2 Inhalation air temperature

In all the standards referred to in 3.3, where reference is made to the temperature of the inhaled gas when the breathing apparatus is tested at a flow rate of 35 l/min, the temperature of the inhaled gas shall not exceed 75 °C (not 60 °C as given in 5.16.5 of SABS EN 401:1993, *Respiratory protective devices for self-rescue - Self-contained closed-circuit breathing apparatus - Chemical oxygen (KO<sub>2</sub>) escape apparatus - Requirements, testing, marking*, and in 6.17.5 of SABS EN 1061:1996, *Respiratory protective devices for self-rescue - Self-contained closed-circuit breathing apparatus - Chemical oxygen (NaClO<sub>3</sub>) escape apparatus - Requirements, testing, marking*).

## 3.3 Particular requirements

3.3.1 Respiratory protective devices shall comply with the following standards:

- a) SABS EN 132:1998, *Respiratory protective devices - Definitions of terms and pictograms*;
- b) SABS EN 133:1990, *Respiratory protective devices - Classification*;
- c) SABS EN 134:1998, *Respiratory protective devices - Nomenclature of components*; and
- d) SABS EN 135:1998, *Respiratory protective devices - List of equivalent terms*.

3.3.2 Self-contained open-circuit compressed-air breathing apparatus shall comply with SABS EN 137:1993, *Respiratory protective devices - Self-contained open-circuit compressed air breathing apparatus - Requirements, testing, marking*.

3.3.3 Fresh-air hose breathing apparatus shall comply with SABS EN 138:1994, *Respiratory protective devices - Fresh air hose breathing apparatus for use with full face mask, half mask or mouthpiece assembly - Requirements, testing, marking*.

3.3.4 Compressed-air line breathing apparatus shall comply with SABS EN 139:1994, *Respiratory protective devices - Compressed air line breathing apparatus for use with a full face mask, half mask or a mouthpiece assembly - Requirements, testing, marking*, and with SABS EN 270:1994, *Respiratory protective devices - Compressed air line breathing apparatus incorporating a hood - Requirements, testing, marking*.

3.3.5 Gas cylinder valves shall comply with SABS EN 144-1:1991, *Respiratory protective devices - Gas cylinder valves - Thread connection for insert connector*, and with SABS EN 144-2:1998, *Respiratory protective devices - Gas cylinder valves - Outlet connections*.

3.3.6 Self-contained closed-circuit breathing apparatus, compressed oxygen type, shall comply with SABS EN 145:1997, *Respiratory protective devices - Self-contained closed-circuit breathing apparatus compressed oxygen or compressed oxygen-nitrogen type - Requirements, testing, marking*, and with SABS EN 145-2:1992, *Respiratory protective devices - Self-contained closed-circuit compressed oxygen breathing apparatus for special use - Safety requirements, testing, marking*.

3.3.7 Powered fresh-air hose breathing apparatus shall comply with SABS EN 269:1994, *Respiratory protective devices - Powered fresh air hose breathing apparatus incorporating a hood - Requirements, testing, marking*.

3.3.8 Compressed-air line or powered fresh-air hose breathing apparatus (for use in abrasive blasting operations) shall comply with SABS EN 271:1995, *Respiratory protective devices - Compressed air line or powered fresh air hose breathing apparatus incorporating a hood for use in abrasive blasting operations - Requirements, testing, marking*.

**3.3.9** Self-contained closed-circuit breathing apparatus (escape type) shall comply with SABS EN 400:1993, *Respiratory protective devices for self-rescue - Self-contained closed-circuit breathing apparatus - Compressed oxygen escape apparatus - Requirements, testing, marking*, and with SABS EN 401:1993, *Respiratory protective devices for self-rescue - Self-contained closed-circuit breathing apparatus - Chemical oxygen (KO<sub>2</sub>) escape apparatus - Requirements, testing, marking*, and with SABS EN 1061:1996, *Respiratory protective devices for self-rescue - Self-contained closed-circuit breathing apparatus - Chemical oxygen (NaClO<sub>2</sub>) escape apparatus - Requirements, testing, marking*.

**3.3.10** Self-contained open-circuit breathing apparatus (escape type) shall comply with SABS EN 402:1993, *Respiratory protective devices for escape - Self-contained open-circuit compressed air breathing apparatus with full face mask or mouthpiece assembly - Requirements, testing, marking*, and with SABS EN 1146:1997, *Respiratory protective devices for self-rescue - Self-contained open-circuit compressed air breathing apparatus incorporating a hood (compressed air escape apparatus with hood) - Requirements, testing, marking*.

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