

Respiratory protective devices — Self-contained open-circuit compressed air breathing apparatus with half mask designed to include a positive pressure lung governed demand valve for escape purposes only

The European Standard EN 14529:2005 has the status of a
British Standard

ICS 13.340.30

National foreword

This British Standard is the official English language version of EN 14529:2005.

The UK participation in its preparation was entrusted by Technical Committee PH/4, Respiratory protection, to Subcommittee PH/4/13, Breathing apparatus, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

A list of organizations represented on this subcommittee can be obtained on request to its secretary.

Cross-references

The British Standards which implement international or European publications referred to in this document may be found in the *BSI Catalogue* under the section entitled “International Standards Correspondence Index”, or by using the “Search” facility of the *BSI Electronic Catalogue* or of British Standards Online.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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Summary of pages

This document comprises a front cover, an inside front cover, page i, a blank page, the EN title page, pages 2 to 26, an inside back cover and a back cover.

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WARNING

The UK, as a member of CEN, is obliged to publish EN 14529:2005 as a British Standard. However, attention is drawn to the fact that during the development of this European Standard, the UK consistently voted against its approval as a European Standard.

The reason for this disapproval is as follows. The Scope of EN 14529:2005 states that this standard "... specifies minimum requirements for self-contained open-circuit compressed air breathing apparatus with half mask designed to include a positive pressure lung governed demand valve for escape purposes only.

"Such equipment is intended for use in work situations where the risk on overpressurisation of the pressure vessels with their valves due to hot environmental conditions is low.

"This European Standard does not apply to apparatus for work and rescue or to diving apparatus."

During discussion of this standard by BSI Committee PH/4/13, which mirrors the work of CEN Committee TC79/SC6, the UK committee expressed the opinion that the self-contained open-circuit compressed air breathing apparatus with half mask covered in this standard is not a safe combination to be used in those emergency situations where wearers may be exposed to other conditions (such as exposure in confined spaces to, or leaks of, noxious or toxic substances) that will, on the basis of a risk assessment in accordance with The Control of Substances Hazardous to Health Regulations 2002, require the combination to meet higher minimum performance requirements for the protection of the wearer.

English Version

Respiratory protective devices - Self-contained open-circuit
compressed air breathing apparatus with half mask designed to
include a positive pressure lung governed demand valve for
escape purposes only

Appareils de protection respiratoire - Appareils de
protection respiratoire autonomes à circuit ouvert, à air
comprimé avec demi-masque et soupape à la demande à
commande à la première inspiration, à pression positive,
pour l'évacuation uniquement

Atemschutzgeräte - Behältergeräte mit Druckluft
(Pressluftatmer) mit Halbmaske in der Ausführung mit
einem Überdrucklungenautomaten nur für Fluchtzwecke

This European Standard was approved by CEN on 1 July 2005.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.



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Foreword

This European Standard (EN 14529:2005) has been prepared by Technical Committee CEN/TC 79 “Respiratory protective devices”, the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by April 2006, and conflicting national standards shall be withdrawn at the latest by April 2006.

This European Standard has been prepared under a mandate given to CEN/CENELEC by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s) 89/686/EEC and 97/23/EEC.

For relationship with EU Directive(s), see informative Annexes ZA and ZB, which are integral parts of this European Standard.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

Introduction

A given respiratory protective device can only be approved when the individual components satisfy the requirements of the test specification which may be a complete European Standard or part of a European Standard and practical performance tests have been carried out successfully on complete apparatus where specified in the appropriate European Standard. If for any reason a complete apparatus is not tested then simulation of the apparatus is permitted provided the respiratory characteristics and weight distribution are similar to those of the complete apparatus.

1 Scope

This European Standard specifies minimum requirements for self-contained open-circuit compressed air breathing apparatus with half mask designed to include a positive pressure lung governed demand valve for escape purposes only.

Such equipment is intended for use in work situations where the risk on overpressurisation of the pressure vessels with their valves due to hot environmental conditions is low.

This European Standard does not apply to apparatus for work and rescue or to diving apparatus.

Laboratory and practical performance tests are included for the assessment of compliance with the requirements.

2 Normative references

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

EN 132:1998, *Respiratory protective devices – Definitions of terms and pictograms*

EN 134:1998, *Respiratory protective devices - Nomenclature of components*

EN 140:1998, *Respiratory protective devices – Half mask and quarter masks – Requirements, testing, marking*

EN 148-1, *Respiratory protective devices - Threads for facepieces - Part 1: Standard thread connection*

EN 148-2, *Respiratory protective devices - Threads for facepieces - Part 2: Centre thread connection*

EN 148-3, *Respiratory protective devices - Threads for facepieces - Part 3: Thread connection for M 45 x 3*

EN 1964-1, *Transportable gas cylinders — Specification for the design and construction of refillable transportable seamless steel gas cylinders of water capacities from 0,5 litre up to and including 150 litres — Part 1: Cylinders made of seamless steel with an R_m value of less than 1100 MPa*

EN 1964-2, *Transportable gas cylinders — Specification for the design and construction of refillable transportable seamless steel gas cylinders of water capacities from 0,5 litre up to and including 150 litres — Part 2: Cylinders made of seamless steel with an R_m value of 1100 MPa and above*

EN 1964-3, *Transportable gas cylinders — Specification for the design and construction of refillable transportable seamless steel gas cylinders of water capacity from 0,5 litre up to and including 150 litres — Part 3: Cylinders made of seamless stainless steel with an R_m value of less than 1100 MPa*

EN 1975, *Transportable gas cylinders - Specification for the design and construction of refillable transportable seamless aluminium and aluminium alloy gas cylinders of capacity from 0, 5 litre up to 150 litre*

EN 12021, *Respiratory protective devices - Compressed air for breathing apparatus*

EN 12245, *Transportable gas cylinders - Fully wrapped composite cylinders*

EN 13274-2:2001, *Respiratory protective devices - Methods of test - Part 2: Practical performance tests*

EN 13274-3:2001, *Respiratory protective devices - Methods of test - Part 3: Determination of breathing resistance*

EN 13274-4:2001, *Respiratory protective devices - Methods of test - Part 4: Flame tests*

EN 13274-5, *Respiratory protective devices - Methods of test - Part 5: Climatic conditions*

3 Terms and definitions

For the purposes of this European Standard, the terms and definitions given in EN 132:1998 and the nomenclature given in EN 134:1998 apply.

4 Description

Lung governed demand compressed air escape apparatus are designed and constructed to enable the wearer to breathe air on demand from a pressure vessel(s) either via a pressure reducer and a lung governed demand valve or a lung governed demand valve connected to the half mask. The exhaled air passes without re-circulation from the half mask via the exhalation valve to the ambient atmosphere.

This apparatus typically comprises pressure vessel(s), body harness, lung governed demand valve, pressure indicator(s), warning device (optional), connecting hoses and tubes and a half mask.

5 Classification

Lung governed demand compressed air escape apparatus are classified according to the rated working duration (see 6.23.1) which is defined by performing a breathing machine test in accordance with 7.6.4 with a minute volume of 35 l/min (20 cycles/min, 1,75 l/stroke).

Rated working duration is defined in steps of 5 minutes, starting with 5 minutes as a minimum, up to a maximum of 30 min rated working duration, since the necessary escape time is considered to be the classification.

NOTE It should be recognised that the effective duration may vary according to the breathing rate.

6 Requirements

6.1 General

In all tests all test samples shall meet the requirements.

Wherever a test clause is referenced, all sub-clauses of the test clause shall apply, unless otherwise stated.

6.2 Ergonomics

The requirements of this European Standard are intended to take account of the interaction between the wearer, the apparatus, and where possible the working environment in which the apparatus is likely to be used. The device shall satisfy 6.3, 6.8 and 6.9.

6.3 Design

The diameter of pressurised parts downstream of the shut-off valve(s) shall not exceed 32 mm.

The apparatus shall be designed so as not to interfere with work activities when carried in accordance with the manufacturers instructions.

The apparatus shall be so designed that there are no protruding parts or sharp edges likely to be caught on projections in narrow passages or that may hurt the wearer.