SLOVENSKI STANDARD
SIST EN 14435:2004

01-oktober-2004

Oprema za varovanje dihal ï Samoreġevalni avtonomni dihalni aparat na stisnjen zrak z odprtim krogotokom in polobrazno masko, naļ rtovan samo za uporabo pri nadtlaku ï Zahteve, preskuġanje, oznaļ evanje

Respiratory protective devices - Self-contained open-circuit compressed air breathing apparatus with half mask designed to be used with positive pressure only - Requirements, testing, marking

Atemschutzgeräte - Behältergeräte mit Druckluft (Pressluftatmer) mit Halbmaske zum Gebrauch für Überdruck - Anforderungen, Prüfung, Kennzeichnung

Appareils de protection respiratoire - Appareils de protection respiratoire isolants autonomes a circuit ouvert, a air comprimé avec un demi-masque conçus exclusivement pour une utilisation en pression positive - Exigences, essais, marquage

Ta slovenski standard je istoveten z: EN 14435:2004

ICS:

13.340.30	Varovalne dihalne naprave	Respiratory protective devices

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EUROPEAN STANDARD

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English version

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This European Standard was approved by CEN on 19 May 2004.

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.

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COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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Contents

Foreword

This document (EN 14435:2004) 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of an identical text or by endorsement, at the latest by February 2005, and conflicting national standards shall be withdrawn at the latest by February 2005.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative annex ZA, which is an integral part of this document.

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 standard or part of a standard and practical performance tests have been carried out successfully on complete apparatus where specified in the appropriate standard. If for a particular reason a complete apparatus is not tested then simulation of the apparatus is permitted provided the respiratory characteristics and mass distribution are similar to those of the complete apparatus.

1 Scope

This European Standard specifies minimum performance requirements for self-contained open-circuit compressed air breathing apparatus with half mask designed to be used with positive pressure only.

This European Standard does not apply to escape apparatus, diving apparatus and apparatus used for fire fighting.

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 document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 132, *Respiratory protective devices - Definitions of terms and pictograms*

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

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

EN 144-1, *Respiratory protective devices - Gas cylinder valves - Part 1: Thread connections for insert connector*

EN 144-2, *Respiratory protective devices - Gas cylinder valves - Part 2: Outlet connections*

EN 837-1:1996, *Pressure gauges - Part 1: Bourdon tube pressure gauges - Dimensions, metrology, requirements and testing*

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

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

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

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

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

EN 50014, *Electrical apparatus for potentially explosive atmospheres - General requirements*

EN 50020, *Electrical apparatus for potentially explosive atmospheres - Intrinsic safety "i"*

EN 61000-6-2, *Electromagnetic compatibility (EMC) - Part 6-2: Generic standards; Immunity for industrial environments (IEC 61000-6-2:1999, modified)*

3 Terms and definitions

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

4 Description

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

It may include a pressure reducer, pressure reducer safety valve, supplementary air supply, or other components and parts.

The apparatus functions by enabling the wearer to breathe compressed air on demand. The exhaled air from the wearer then passes without re-circulation to the ambient atmosphere.

5 Requirements

5.1 General

In all tests all test samples shall meet the requirements.

The apparatus shall not incorporate the following:

— second medium pressure connector;

— rapid filling connector;

— ambient air bypass.

5.2 Ergonomics

The requirements of this standard are intended to take account of the interaction between the wearer, the self-contained open-circuit compressed air breathing apparatus, and where possible the working environment in which the self-contained open-circuit compressed air breathing apparatus is likely to be used. See annex ZA.

5.3 Design

The design of the apparatus shall be such as to allow its inspection in accordance with the information supplied by the manufacturer.

The apparatus shall be sufficiently robust to withstand the rough usage it is likely to receive in service with respect to its classification.

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

The surface of any part of the apparatus likely to be in contact with the wearer shall be free from sharp edges and burrs.

All parts requiring manipulation by the wearer shall be readily accessible and easily distinguishable from one another by touch. All adjustable parts and controls shall be constructed so that their adjustment is not liable to accidental alteration during use.

The apparatus shall be so designed that the wearer can remove it and, while still wearing the half mask, continue to breathe from the apparatus.

The apparatus shall be designed to ensure its full function in any orientation.

The main valve(s) of pressure vessel(s) shall be arranged so that the wearer can operate it (them) while wearing the apparatus.

If apparatus (of the same type) are designed for use with different sizes of pressure vessels, changing of pressure vessels shall be possible without the use of special tools. Where the manufacturer claims the apparatus can be used with a different range of pressure vessels then the worst case(s) shall be identified and tested.

Apparatus fitted with more than one pressure vessel may be fitted with individual valves on each pressure vessel.

It shall not be possible simultaneously to fit two or more pressure vessels of different filling pressures to the same apparatus.

It shall not be possible to fit an apparatus with a lower rated working pressure to a pressure vessel with a higher rated filling pressure.

Testing shall be done in accordance with 6.3 and 6.11.

The apparatus shall continue to function satisfactorily after being submerged in water. Before immersion and after removal from the water the apparatus shall meet the requirements of 5.21.

Testing shall be done in accordance with 6.8.

5.4 Materials

All materials used in the construction shall have adequate resistance to deterioration by heat and adequate mechanical strength.

NOTE The materials used should be anti-static so far as it is practicable.

Testing shall be done in accordance with 6.3, 6.4 and 6.11.

Exposed parts, i.e. those which may be subjected to impact during use of the apparatus shall not be made of aluminium, magnesium, titanium or their alloys.

Materials which come into direct contact with the wearer's skin shall not be known to be likely to cause irritation or any other adverse effect to health. The finish of any part of the apparatus likely to be in contact with the wearer shall be free from sharp edges and burrs.

Testing shall be done in accordance with 6.3 and 6.11.

5.5 Cleaning and disinfecting

All materials used shall withstand the cleaning and disinfection agents and procedures recommended by the manufacturer.

Testing shall be done in accordance with 6.3 and 6.11.

5.6 Mass

The mass of the apparatus as ready for use with half mask and fully charged pressure vessel(s) shall not exceed 18 kg.

Testing shall be done in accordance with 6.3.

5.7 Connections

5.7.1 General

Components of the apparatus shall be readily separated for cleaning, examining and testing. All demountable connections shall be readily connected and secured, where possible by hand. Any means for sealing used shall be retained in position when the joints and couplings are disconnected during normal use and maintenance.

Testing shall be done in accordance with 6.3 and 6.11.

5.7.2 Couplings (if fitted)

The apparatus shall be constructed so that any twisting of the hoses and tubes does not affect the fit or performance of the apparatus, or cause the hoses and or tubes to become disconnected. The design of the couplings shall be such as to prevent unintentional interruption of the air supply.

Testing shall be done in accordance with 6.3 and 6.11.