Respiratory protective devices - Self-contained open-circuit compressed air breathing apparatus incorporating a hood for escape - Requirements, testing, marking

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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 1146:2005 sisaldab Euroopa standardi EN 1146:2005 ingliskeelset teksti. Käesolev dokument on jõustatud 25.11.2005 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN 1146:2005 consists of the English text of the European standard EN 1146:2005. This document is endorsed on 25.11.2005 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.

Käsitlusala: This European Standard specifies minimum requirements for self-contained open-circuit compressed air breathing apparatus for escape only, incorporating a hood.	**Scope:** This European Standard specifies minimum requirements for self-contained open-circuit compressed air breathing apparatus for escape only, incorporating a hood.

ICS 13.340.30

Võtmesõnad: artificial breathing apparatus, electrology apparatus, hats, instructions, rating tes, rescue equipment, respirators, safety, safety engineering, self containing boxes, self-rescue, specification (approval), specifications, supplied air breathing apparatus, testing

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

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Supersedes EN 1146:1997

English Version

Respiratory protective devices - Self-contained open-circuit compressed air breathing apparatus incorporating a hood for escape - Requirements, testing, marking

Appareils de protection respiratoire - Appareils de protection respiratoire isolants autonomes à circuit ouvert à air comprimé avec cagoule pour l'évacuation - Exigences, essais, marquage

Atemschutzgeräte - Behältergeräte mit Druckluft mit Haube für Selbstrettung - Anforderungen, Prüfung, Kennzeichnung

This European Standard was approved by CEN on 22 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.

EUROPEAN COMMITTEE FOR STANDARDIZATION
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Contents

Foreword

This European Standard (EN 1146:2005) 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 supersedes EN 1146:1997.

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 is an integral part 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 for escape only, incorporating a hood.

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.

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

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

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 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 13274-1, *Respiratory protective devices — Methods of test — Part 1: Determination of inward leakage and total inward leakage*

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*

EN 13274-6, *Respiratory protective devices — Methods of test — Part 6: Determination of carbon dioxide content of the inhalation air*

EN ISO 4674-1:2003, *Rubber or plastic-coated fabrics — Determination of tear resistance — Part 1: Constant rate of tear methods (ISO 4674-1:2003)*

EN ISO 4674-2:2003, *Rubber or plastic-coated fabrics — Determination of tear resistance — Part 1: Ballistic pendulum method (ISO 4674-2:1998)*

EN ISO 7854:1997, *Rubber- or plastics-coated fabrics — Determination of resistance to damage by flexing (ISO 7854:1995)*

EN ISO 13934-2, *Textiles — Tensile properties of fabrics — Part 2: Determination of maximum force using the grab method (ISO 13934-4:1999)*

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

Compressed air escape apparatus with hood are designed and constructed to enable the wearer to breathe air supplied to a hood from a pressure vessel(s) via a pressure reducer giving a continuous flow of air. The exhaled air may pass without re-circulation from the hood 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 hood.

5 Classification

Compressed air escape apparatus with hood are classified according to the rated working duration (see 6.24.1 and 6.24.3 in accordance with 7.7 and 7.9, whatever comes first) which is defined by performing a breathing machine test in accordance with 7.7 with a minute volume of 35 l/min (20 cycles/min, 1,75 l/stroke).

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

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 6.26.