

**Hingamisteede kaitsevahendid. Soovitused
valikuks, kasutamiseks ja hooldamiseks.
Juhised**

Respiratory protective devices - Recommendations
for selection, use, care and maintenance - Guidance
document

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 529:2005 sisaldab Euroopa standardi EN 529:2005 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 25.11.2005 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 529:2005 consists of the English text of the European standard EN 529:2005.</p> <p>This document is endorsed on 25.11.2005 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
--	---

<p>Käsitlusala: This European Standard provides guidance on the best practice for establishing and implementing a suitable respiratory protective device programme.</p>	<p>Scope: This European Standard provides guidance on the best practice for establishing and implementing a suitable respiratory protective device programme.</p>
--	--

ICS 13.340.30

Võtmesõnad:

English Version

**Respiratory protective devices - Recommendations for selection,
use, care and maintenance - Guidance document**

Appareils de protection respiratoire - Recommandations
pour le choix, l'utilisation, l'entretien et la maintenance -
Guide

Atenschutzgeräte - Empfehlungen für Auswahl, Einsatz,
Pflege und Instandhaltung - Leitfaden

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
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: rue de Stassart, 36 B-1050 Brussels

Contents

	Page
Foreword	5
Introduction	6
1 Scope	7
2 Normative references	7
3 Terms and definitions	7
4 Classification	9
4.1 General classification	9
4.2 Main components	9
4.2.1 General	9
4.2.2 Facepieces	9
4.2.3 Filters	9
4.2.4 Breathable air or gas supply source for breathing apparatus	9
5 Programme process	10
5.1 Employers and self-employed persons responsibilities	10
5.1.1 Programme policy	10
5.1.2 Provision of respiratory protective devices	10
5.1.3 Organisation	10
5.1.4 Resources	10
5.1.5 Management review	10
5.1.6 Training	10
5.1.7 Supervision	10
5.2 Employees responsibilities	11
5.2.1 Wearers	11
5.2.2 Competent persons	11
5.3 Manufacturers' responsibilities	11
6 Risk assessment process	11
7 Criteria for using respiratory protective devices	12
8 Risk assessment for respiratory protective device use	12
8.1 Elements of respiratory protective device programme	12
8.2 Factors to consider in risk assessment	13
9 Adequacy and suitability	13
9.1 General	13
9.2 Adequacy	13
9.2.1 General	13
9.2.2 Assessing atmospheres immediately dangerous to life or health	13
9.2.3 Assessing the minimum required protection factor	14
9.3 Suitability	14
9.3.1 General	14
9.3.2 Assessing suitability for the workplace environment	14
9.3.3 Assessing suitability for the task	15
9.3.4 Assessing suitability for the wearer	15
9.3.5 CE-Marking	15
10 Use	16
11 Operating information, instruction and training	16
11.1 General	16
11.2 Employers	16
11.3 Wearers	16

11.4	Supervisors	17
12	Maintenance	17
13	Storage.....	17
13.1	Employers duties	17
13.2	Employees' duties.....	17
14	Record keeping	17
Annex A	(informative) Types and components of respiratory protective devices	19
A.1	Facepieces.....	19
A.1.1	Half mask without inhalation valves and with separable filters to protect against gases or gases and particles and particles only (EN 1827).....	19
A.1.2	Half masks and quarter masks (EN 140)	19
A.1.3	Full face Masks (EN 136)	19
A.2	Filters	20
A.2.1	General.....	20
A.2.2	Particle filters (EN 143, EN 12941 and EN 12942)	20
A.2.3	Gas filters and combined filters (EN 14387, EN 12941 and EN 12942).....	20
A.2.4	Service life of filters	21
A.3	Filtering devices.....	22
A.3.1	General.....	22
A.3.2	Negative pressure devices	22
A.3.3	Assisted filtering devices	23
A.4	Breathing apparatus	24
A.4.1	Fresh air hose breathing apparatus.....	24
A.4.2	Compressed air line breathing apparatus (EN 14593-1, EN 14593-2, EN 14594, EN 1835 and EN 12419).....	25
A.4.3	Self-contained breathing apparatus	26
A.4.4	Ventilated protective suits (EN 943-1 and EN 1073-1)	27
A.4.5	Compressed air for breathing apparatus (EN 12021)	27
	Escape devices	30
Annex B	(informative) Atmospheres immediately dangerous to life or health	32
B.1	General.....	32
B.2	Conditions	32
B.3	Situations likely to present atmospheres immediately dangerous to life or health.....	32
B.3.1	Confined spaces	32
B.3.2	Oxygen deficiency.....	32
B.3.3	Emergency situations created by hazardous substances	33
Annex C	(informative) Protection factors	34
C.1	General.....	34
C.2	Using protection factors	34
Annex D	(informative) Suitability factors	37
D.1	General.....	37
D.2	Environmental factors	37
D.2.1	Oxygen deficiency.....	37
D.2.2	Oxygen enrichment.....	37
D.2.3	Asphyxiants.....	37
D.2.4	Contaminant levels immediately dangerous to life or health	38
D.2.5	Potentially corrosive atmospheres.....	38
D.2.6	Potentially explosive atmospheres.....	38
D.2.7	Potentially permeating contaminants.....	39
D.2.8	Particulate contaminants (aerosols).....	39
D.2.9	Gas and vapour contaminants	39
D.2.10	Climatic extremes.....	40
D.3	Task/job factors impacting on the wearer	40
D.3.1	Work rate	40
D.3.2	Visibility	41
D.3.3	Mobility	41
D.3.4	Communication	41

D.3.5	Thermal stress.....	42
D.3.6	Duration of wear.....	42
D.3.7	Tools used	42
D.4	Wearer factors	43
D.4.1	Medical fitness	43
D.4.2	Facial characteristics.....	43
D.4.3	Spectacles	44
D.4.4	Contact lenses.....	44
D.4.5	Non PPE accessories.....	44
D.4.6	Interaction with other PPE.....	44
D.5	Legal factors.....	45
D.5.1	European Product Directives	45
D.5.2	European Standards	45
Annex E	(informative) Assessing the fit of tight fitting facepiece.....	46
E.1	General.....	46
E.2	Fit checking	46
E.2.1	General.....	46
E.2.2	Negative pressure fit check.....	46
E.2.3	Positive pressure fit check.....	46
E.3	Fit test methods	46
E.3.1	Qualitative fit testing.....	46
E.3.2	Quantitative fit testing	47
Annex F	(informative) Respiratory protection passport	48
Bibliography	49

Foreword

This European Standard (EN 529:2005) 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 March 2006, and conflicting national standards shall be withdrawn at the latest by March 2006.

This European Standard supersedes CR 529:1993.

Users of this European Standard, prepared in the field of application of Article 118A of the EC Treaty, should be aware that European Standards have no formal legal relationship with Directives which may have been made under Article 118A of the Treaty. In addition, national legislation in the Member States may contain more stringent requirements than the minimum requirements of a Directive based on Article 118A. Information on the relationship between the national legislation implementing Directives based on Article 118A and this European Standard may be given in a national foreword of the national standard implementing 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

Hazardous substances such as dusts, fibres, fumes, vapours, gases, micro-organisms and radioactive particulates and gases encountered at work can cause significant damage to health or, in extreme cases, can lead to death. This frequently occurs by the inhalation of harmful levels of hazardous substances that are present in the workplace air. Besides the inhalation exposure dermal exposure to hazardous substances can also lead to local skin damage, and sensitisation, as well as systemic effects.

Similarly exposure to an oxygen deficient atmosphere can lead to death.

Exposure (via all routes - inhalation, dermal and ingestion) to hazardous substances at work should be eliminated or alternative substances which are less hazardous used. Where elimination is not practicable adequate protective measures should be put in place so that exposures are reduced to a minimum.

The use of suitable protective measures at source should be the first choice for minimising the exposure. Such measures protect everyone in the workplace, whereas a respiratory protective device only protects the person who wears it. If adequate protective measures at source or any other administrative measures are not reasonably practicable or found to be inadequate for controlling inhalation exposure then an adequate and suitable respiratory protective device should be used.

Respiratory protective devices are designed to be worn in hazardous environments and should provide wearers with an adequate supply of breathable air or gas. Respiratory protective devices are considered to be at the bottom of the hierarchy of protective measures and should only be used after an acceptable case for their use has been established by way of an appropriate risk assessment.

Fatalities and serious accidents can occur if there is a failure to select and use a respiratory protective device suited to the substances, the wearer, the task and the environment in which the device is used. The failure to maintain the device in good working condition can also lead to similar consequences. These problems should be avoided by implementing a suitably designed respiratory protective device programme.

1 Scope

This European Standard provides guidance on the best practice for establishing and implementing a suitable respiratory protective device programme. It is published to provide a Europe-wide baseline for the selection, use, care and maintenance of respiratory protective devices. It provides guidelines for preparing national guidance in this area. The guidance contained in this European Standard is not intended to be exhaustive, but highlights important aspects to which attention should be given. The recommendations in this European Standard will help to comply with national legislation on this subject where it exists, or with European legislation.

Respiratory protective devices used exclusively in diving and at increased or reduced atmospheric pressures are not covered by this guidance.

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*

3 Terms and definitions

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

3.1

atmosphere immediately dangerous to life or health

atmosphere in which the concentrations of hazardous substances, including asphyxiants, or the oxygen levels present create one or more of the following conditions:

- immediate threat to life;
- could cause delayed threat to life;
- would cause immediate acute health effects;
- would prevent the respiratory protective device wearer from an unaided escape to safety in case of the device malfunctioning or failing to operate correctly

3.2

assigned protection factor (APF)

level of respiratory protection that can realistically be expected to be achieved in the workplace by 95 % of adequately trained and supervised wearers using a properly functioning and correctly fitted respiratory protective device and is based on the 5th percentile of the Workplace Protection Factor (WPF) data

3.3

breathing zone

space outside the facepiece extending 0,3 m in radius in front of the respiratory protective device wearer's face and centred on the mid-point of a line joining the ears