

**SLOVENSKI STANDARD****SIST CR 529:1998****01-april-1998****Smernice za izbor in uporabo opreme za varovanje dihal**

Guidelines for selection and use of respiratory protective devices

Anleitung zur Auswahl und Anwendung von Atemschutzgeräten

Guide pour la sélection et l'utilisation des appareils de protection respiratoire

**STANDARD PREVIEW****(standards.iteh.ai)**Ta slovenski standard je istoveten z: **CR 529:1993**[SIST CR 529:1998](#)<https://standards.iteh.ai/catalog/standards/sist/1202ed92-e289-4d8a-a423-e1d36d23cfbc/sist-cr-529-1998>**ICS:**

13.340.30 Varovalne dihalne naprave      Respiratory protective devices

**SIST CR 529:1998****en**

## iTeh STANDARD PREVIEW (standards.iteh.ai)

[SIST CR 529:1998](#)

<https://standards.iteh.ai/catalog/standards/sist/1202ed92-e289-4d8a-a423-e1d36d23cfbc/sist-cr-529-1998>

REPORT  
RAPPORT  
BERICHT

CR 529:1993

May 1993

---

English version

Guidelines for selection and use of respiratory  
protective devices

Guide pour la sélection et  
l'utilisation des appareils  
de protection respiratoire

Anleitung zur Auswahl und  
Anwendung von Atemschutzgeräten

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

[SIST CR 529:1998](#)

<https://standards.iteh.ai/catalog/standards/sist/1202ed92-e289-4d8a-a423-e1d36d23cfbc/sist-cr-529-1998>

This CEN REPORT has been established by Technical Committee CEN/TC 79 "Respiratory protective devices" and has been approved by CEN on 1992-06-18.

CEN members are the national standards bodies of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom,

CEN

European Committee for Standardization  
Comité Européen de Normalisation  
Europäisches Komitee für Normung

Rue de Stassart 36, B - 1050 Brussels

## CONTENTS

<b>Foreword</b>	5
<b>Preamble</b>	6
<b>Scope</b>	7
<b>Abbreviations used in this document</b>	9
<b>1 Introduction</b>	10
1.1 General	10
1.2 General control measures	10
1.3 Respiratory protective devices (RPDs)	10
<b>2 Selection</b>	12
2.1 General assessment	
2.1.1 Nature and assessment of the hazard	12
2.1.2 Extent and location of the hazard	12
2.1.3 Purity of breathable air	12
2.1.4 Freedom of movement	13
2.1.5 Vision	13
2.1.6 Communication	13
2.1.7 Climatic extremes	13
2.1.8 Other personal protective devices	14
2.1.9 Extreme situations	14
2.1.9.1 Unusual hazards	14
2.1.9.2 Low temperatures	14
2.1.9.3 Explosive/Flammable atmospheres	15
2.2 Protection given by different devices	15
2.2.1 Inward leakage requirements stated in standards	15
2.2.2 Actual protection level in work situations	17
<b>3 Description of equipment and limitations of use</b>	19
3.1 Filtering devices	
3.1.1 Particle filtering devices	
3.1.1.1 Filtering half mask to protect against particles	23
3.1.1.2 Particle filtering devices with quarter masks, half masks or full face masks	24
3.1.1.3 Power assisted particle filtering devices incorporating full facemasks, half masks or quarter masks	29
3.1.1.4 Powered particle filtering devices incorporating helmets or hoods	32
3.1.2 Gas filtering devices	35
3.1.2.1 General	35
3.1.2.2 Classes of gas filters	36
3.1.2.3 Types of filters	36



3.1.2.4 Marking of gas filters .....	37
3.1.2.5 Filtering devices with combined filter .....	38
3.1.2.6 Gas filtering devices incorporating full face mask or half mask, or quarter mask .....	38
3.2 Breathing apparatus .....	41
3.2.1 General .....	42
3.2.2 Fresh air hose breathing apparatus .....	42
3.2.2.1 Unassisted fresh air hose breathing apparatus .....	44
3.2.2.2 Fresh air hose breathing apparatus - Manually assisted type .....	46
3.2.2.3 Fresh air hose breathing apparatus - Power assisted type .....	48
3.2.3 Compressed air line breathing apparatus .....	48
3.2.3.1 Continuous flow type .....	50
3.2.3.2. Demand valve type .....	52
3.2.4 Self-contained open-circuit compressed air breathing apparatus .....	54
3.2.5 Self-contained closed-circuit oxygen breathing apparatus .....	55
3.2.5.1 Compressed oxygen apparatus .....	56
3.2.5.2 Oxygen-generating apparatus .....	58
4 Use .....	58
4.1 General .....	58
4.2 Working duration .....	58
4.2.1 Time limitations for work while wearing respiratory protective devices .....	58
4.2.2 Work rates and work duration .....	61
4.3 Wearer acceptability and facepiece fit .....	61
4.4 Instruction and training in respiratory protection .....	61
4.4.1 General .....	62
4.4.2 Wearers of filtering devices .....	62
4.4.2.1 Theoretical training .....	62
4.4.2.2 Practical training .....	62
4.4.2.3 Duration of training and instruction .....	62
4.4.3 Wearers of breathing apparatus - 1998 .....	62
4.4.3.1 Theoretical training .....	62
4.4.3.2 Practical training .....	63
4.4.3.3 Duration of training .....	63
5 Record keeping, storage and maintenance of respiratory protective devices .....	64
5.1 General .....	64
5.1.1 Inspection .....	64
5.1.2 Cleaning and disinfection .....	64
5.1.3 General maintenance .....	65
5.2 Record keeping .....	65
5.3 Storage .....	65
5.3.1 General .....	65
5.3.2 Storage times .....	65
5.3.3 Storage location .....	65
5.3.3.1 Storage premises (RPD premises) .....	65
5.3.3.2 Storage at the place of use .....	66

5.4 Maintenance . . . . .	66
5.4.1 General . . . . .	66
5.4.2 Cleaning and disinfection . . . . .	66
5.5 Filling compressed air cylinders . . . . .	66
5.5.1 Compressors for breathable air . . . . .	66
5.5.1.1 Requirements . . . . .	66
5.5.1.2 Operation . . . . .	67
5.5.1.3 Pre-filling routine . . . . .	67
5.5.1.4 Servicing . . . . .	67
5.5.2 Filling . . . . .	68
5.5.3 Additional recommendations for use of cylinders . . . . .	68
5.6 Filling oxygen cylinders . . . . .	68
5.6.1 High pressure oxygen transfer pump . . . . .	68
5.6.1.1 Requirements . . . . .	69
5.6.1.2 Operation . . . . .	69
5.6.1.3 Maintenance . . . . .	69
5.6.2 Filling . . . . .	70
5.6.3 Instructions for use . . . . .	70
5.7 Testing by specialist (RPD officer) . . . . .	71
5.8 Testing by specialist . . . . .	71
6 Maintenance and testing intervals . . . . .	71
APPENDIX 1. Selection of respiratory protective devices using charts . . . . .	80
APPENDIX 2. Selection of respiratory protective devices using nominal protection factors . . . . .	91
APPENDIX 3. Selection tables for respiratory protective devices . . . . .	98
APPENDIX 4. Time limitations for work while wearing respiratory protective devices . . . . .	102
APPENDIX 5. Work rates and work durations . . . . .	105
APPENDIX 6. Medical examinations . . . . .	110

<https://standards.ieh.ai/catalog/standards/sist/1202ed92-e289-4d8a-a423-e1d36d23cfbc/sist-cr-529-1998>

## FOREWORD

This Report was drawn up by CEN/TC 79 "Respiratory protective devices", the secretariat of which is held by DIN.

In 1974 CEN/TC 79 Sub-Group 1 "Terminology, Definitions, Classification and Selection" with SFS secretariat started work on this document.

Sub-Group 1 finalized the document at the meeting in October 1989 in Oslo.

The references to existing document are based on the status July 1.1992.

## iTeh STANDARD PREVIEW (standards.iteh.ai)

[SIST CR 529:1998](#)

<https://standards.iteh.ai/catalog/standards/sist/1202ed92-e289-4d8a-a423-e1d36d23cfbc/sist-cr-529-1998>

Page 6  
CR 529:1993

**Preamble**

Sub-Group 1 has collected information on the selection and use of respiratory protective devices from the draft proposals and minutes of the meetings of the other Sub-Groups CEN/TC 79.

This report also reflects the philosophy on which the requirements of the various technical standards have been based.

At the meeting of Sub-Group 1 in April 1989 this draft document was checked against the basic requirements for personal protective devices as presented in Official Journal of European Communities N 161 (20 June 1988) on pages 1-21.

The document does not cover diving equipment or diving suits nor escape devices.

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

[SIST CR 529:1998](#)

<https://standards.iteh.ai/catalog/standards/sist/1202ed92-e289-4d8a-a423-e1d36d23cfbc/sist-cr-529-1998>

## Scope

These guidelines are intended to provide guidance for the selection and use of respiratory protective devices.

The guidelines may be used wholly or in part by European countries in preparing recommendations for the use of RPD's in the workplace. If special needs exist in countries then these should be added to the national documents and CEN/TC 79 should be advised about the additions (for information only).

The guidelines do not eliminate the need to compare the recommendations for suitable respiratory protective devices with the real conditions and the needs for protection at the workplace.

It has to be noted these guidelines are based on the standards listed below and that the guidelines will be revised when new standards or additional information becomes available.

EN 132	Definitions	September 1990
EN 133	Classification	September 1990
EN 134	Terminology of piece parts	September 1990
EN 135	List of equivalent terms	September 1990
EN 136	Full face masks	December 1989
EN 137	Self-contained open-circuit compressed air breathing apparatus	September 1986
prEN 138	Fresh air hose breathing apparatus	August 1991
prEN 139	Compressed air line breathing apparatus	August 1991
EN 140	Half masks and quarter masks	December 1989
EN 141	Gas filters and combined filters	November 1989
EN 142	Mouthpiece assemblies	March 1989
EN 143	Particle filters	SIST CR 529:1998 September 1990
EN 144-1	Gas cylinder valves; Thread connection for insert connector d36d23cfbc/sist-cr-529-1998	May 1991
EN 144-2	Gas cylinder valves; Thread connection for side connector	August 1988
EN 145	Self-contained closed-circuit breathing apparatus, compressed oxygen type	September 1991
EN 145-2	Self-contained closed-circuit compressed oxygen breathing apparatus for special use	September 1991
EN 146	Powered particle filtering devices incorporating helmets and hoods	June 1987
EN 147	Power assisted particle filtering devices incorporating full face masks, half masks and quarter masks	June 1987
EN 148-1	Threads for facepieces; Standard thread connection	May 1991
EN 148-2	Threads for facepieces; Centre thread connection	August 1991
prEN 148-3	Threads for facepieces; Thread connection M 45 x 3	August 1991
EN 149	Filtering half masks to protect against particles	
prEN 269	Powered fresh air hose breathing apparatus incorporating a hood	
prEN 270	Compressed air line breathing apparatus incorporating a hood	