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Respiratory protective devices — Selection, use and maintenance —

Part 1:
Establishing and implementing a respiratory protective device programme

Appareils de protection respiratoire — Choix, utilisation et entretien —

Partie 1: Élaboration et mise en oeuvre d'un programme pour les appareils de protection respiratoire

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2. www.iso.org/directives

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The committee responsible for this document is ISO/TC 94, Personal safety — Protective clothing and equipment, Subcommittee SC 15, Respiratory protective devices.

— *Part 1: Establishing and implementing a respiratory protective device programme*

— *Part 2: Condensed guide to establishing and implementing a respiratory protective device programme (Technical specification)*

— *Part 3: Fit testing procedures*

Introduction

This part of ISO 16975 contains the essential requirements for establishing and implementing a complete respiratory protective device (RPD) programme for respiratory protective devices that meet the requirements of the performance standards. It contains information on risk assessment, selection procedure, training, use and maintenance.

Informative annexes provide additional guidance on how to implement such a programme.

The following definitions apply in understanding how to implement an ISO International Standard and other normative ISO deliverables (TS, PAS, IWA).

— “shall” indicates a requirement

— “should” indicates a recommendation

— “may” is used to indicate that something is permitted

— “can” is used to indicate that something is possible, for example, that an organization or individual is able to do something

3.3.1 of the ISO/IEC Directives, Part 2 (sixth edition, 2011) defines a requirement as an "expression in the content of a document conveying criteria to be fulfilled if compliance with the document is to be claimed and from which no deviation is permitted."

3.3.2 of the ISO/IEC Directives, Part 2 (sixth edition, 2011) defines a recommendation as an “expression in the content of a document conveying that among several possibilities one is recommended as particularly suitable, without mentioning or excluding others, or that a certain course of action is preferred but not necessarily required, or that (in the negative form) a certain possibility or course of action is deprecated but not prohibited.”

Respiratory protective devices — Selection, use and maintenance — Part 1: Establishing and implementing a respiratory protective device programme

1 Scope

This part of ISO 16975 specifies detailed information to assist persons responsible for establishing and implementing a programme for respiratory protective devices (RPD) that meet the performance requirements of the performance standards.

This part of ISO 16975 does not apply to RPD programmes for RPD used exclusively under water, for use in aircraft, and medical life support respirators and resuscitators.

NOTE The information contained in this part of ISO 16975 can be used to assist in the preparation of national or local regulations; however this part of ISO 16975 does not supersede national or local regulations.

WARNING — Failure to select, use and maintain RPD correctly can result in injury, illness or death.

2 Normative references

The following referenced documents, in whole or in parts, 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.

ISO 16900-1: Respiratory protective devices — Methods of tests and test equipment — Part 1: Determination of inward leakage

ISO 16972, *Respiratory protective devices — Terms, definitions, graphical symbols and units of measurement*

ISO 16973[1)], Respiratory protective devices—Classification of respiratory protective devices, excluding RPD for underwater application

ISO/TS 16974 *Respiratory protective devices — Marking and information supplied by the manufacturer*

ISO/TS 16975-2[1)], *Respiratory protective devices — Selection use and maintenance — Part 2: Condensed guide to establishing and implementing a respiratory protective device programme*

ISO/TS 16975-3[1)], *Respiratory protective devices — Selection use and maintenance — Part 3: Fit testing procedures*

ISO/TS 16976-1 *Respiratory protective devices — Human factors — Part 1: Metabolic rates and respiratory flow rates*

ISO/TS 16976-2 *Respiratory protective devices —Human factors — Part 2: Anthropometrics*

ISO 17420-3 *Respiratory protective devices — Performance requirements — Part 3: Thread connection*

1) Under preparation.

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 16972 and the following apply.

3.1
adequate RPD
RPD capable of reducing the inhalation exposure to an acceptable level

3.2
assigned protection factor (APF)
anticipated level of respiratory protection that would be provided by a properly functioning RPD or class of RPD within an effective RPD programme

3.3
competent person
person with suitable and sufficient experience and with practical and theoretical knowledge of the elements of a RPD programme for which (s)he is responsible

3.4
hazardous substance
any substance that presents a potential to cause injury or ill health if it is inhaled, ingested or comes into contact with or absorbed through the skin.

Note 1 to entry: A hazardous substance may be a pure substance or generated as by-products during work activities, for example, wood dust, stone dust welding fume

Note 2 to entry: Hazardous substances can be present in the atmosphere in a number of physical states;

a) gases, such as ammonia and chlorine,

b) vapours such as from solvents,

c) particles such as dust, mist, smoke, fumes, fibres, fog and bioaerosols.

3.5
hazardous atmospheres
any atmosphere that is oxygen-deficient and/or the level of substances in the atmosphere is at a concentration deemed to be hazardous

3.6
protection class
PC
numerical designation from PC1 to PC6 allocated to individual RPD based upon laboratory testing indicating its relative protection

3.7
protection level
degree of respiratory protection allocated to an RPD for the purposes of selection and use that is expected to be provided to wearers when used within an effective RPD programme

3.8
respiratory protective device
RPD
personal protective equipment designed to protect the wearer's respiratory tract against inhalation of hazardous atmospheres

3.9
risk assessment
process of hazard, adequacy and suitability assessments relating to the selection of RPD

3.10
RPD programme
process of selecting, using and maintaining RPD to ensure adequate protection to the wearer

3.11
suitable RPD
RPD that is adequate and is matched to the requirements of the wearer, the task and the working environment[Source: ISO 16972:201x, definition 3.yyy, modified]

3.12
work rate class
numerical designation from W1 to W4 allocated to individual RPD based upon laboratory testing indicating its relative ability to meet the wearer's demand for breathable gas at different activity levels

Note 1 to entry: Further information on work rate is given in 7.3.4.4

3.13
immediately dangerous to life or health
IDLH
atmosphere that poses an immediate threat to life, would cause irreversible adverse health effects, or would impair an individual's ability to escape from a dangerous atmosphere.

4 Symbols and abbreviated terms

AB	Abrasive Blasting (Special Application Class)
ADE ASM	Adequacy Assessment
APF	Assigned Protection Factor
CBRN	Chemical, Biological, Radiological, and Nuclear (Special Application Class)
ES	Escape (Special Application Class)
FF	FireFighting (Special Application Class)
HAZ-ASM	Hazard Assessment
HHG	Health Hazard Group
HR	Hazard Ratio
IDLH	Immediately Dangerous to Life or Health
MA	Marine (Special Application Class)
MN	Mining (Special Application Class)
NPF	Nominal Protection Factor
OEL	Occupational Exposure Level
OEL-TWA	Occupational Exposure Level – Time Weighted Average
PC	Protection Class
PL	Protection Level

PPE Personal Protective Equipment

QLFT Qualitative Fit Test

QNFF Quantitative fit factor

QNFT Quantitative Fit Test

RFF Required Fit Factor

RI Respiratory interface

RPD Respiratory Protective Devices

S Breathable gas **c**apacity

SU ASM Suitability Assessment

SY Breathable gas **c**apacity Class of airline supplied RPD

W Work rate Class

WE Welding (Special Application Class)

5 Situations for using RPD

RPD are considered to be at the bottom of the hierarchy of control measures and should only be used after an acceptable case for their use has been established by way of an appropriate risk assessment. RPD are used to further reduce inhalation exposures to hazardous atmospheres when sufficient engineering and administrative controls are lacking, these controls are not reasonably practical (maintenance, escape or rescue work), or prior to implementing or improving a control measure.

6 RPD programme

6.1 General

The RPD programme includes processes for selecting, using and maintaining RPD to ensure adequate protection to the wearer.

Prior to using RPD it is essential to establish a written RPD programme. The RPD programme needs to be understood by all persons within the organization, as appropriate.

6.2 RPD programme elements

The RPD programme consists of the following elements:

a) Roles and responsibilities (6.3)

b) RPD programme implementation (6.4)

c) Risk assessment (Clause 7)

d) Selection procedures (Clause 7)

e) medical assessment (7.3.4.2)

f) Fit testing (7.4)

g) Training (7.5)

h) Use (7.6)

i) Maintenance procedures (7.7)

j) Storage (7.8)

k) Programme review (7.9)

l) Records and record keeping (7.10)

6.3 Roles and responsibilities

6.3.1 General

All persons involved in the respiratory protection programme shall be competent in their area of responsibility within the RPD programme and maintain the appropriate knowledge, experience, and training to effectively carry out their duties.

6.3.2 Employer

The employer shall:

— be responsible for the entire RPD programme;

— define, implement and document the RPD programme;

— provide adequate resources and organization to ensure the programme's continued effectiveness; and

— assign a RPD programme administrator.

The employer and the programme administrator may be the same person.

6.3.3 RPD Programme administrator

The programme administrator shall be responsible for effective management of the entire RPD programme.

6.3.4 Wearer

The wearer shall be responsible for:

— using the RPD in accordance with the instructions and training received;

— reporting of any damage, defects or non-function of the RPD provided;

— reporting any physical or medical limitations or changes that can impact their ability to wear and use the RPD correctly.

6.4 RPD programme implementation

The RPD programme shall be implemented, evaluated and updated as necessary to reflect those changes in workplace conditions that affect RPD use.