



SLOVENSKI STANDARD

SIST EN 14387:2021

01-julij-2021

Nadomešča:

SIST EN 14387:2004+A1:2008

Oprema za varovanje dihal - Filter(-ri) za pline in kombinirani filter(-ri) - Zahteve, preskušanje, označevanje

Respiratory protective devices - Gas filter(s) and combined filter(s) - Requirements, testing, marking

Atenschutzgeräte - Gasfilter und Kombinationsfilter - Anforderungen, Prüfung, Kennzeichnung

Appareils de protection respiratoire - Filtres antigaz et filtres combinés - Exigences, essais, marquage

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Ta slovenski standard je istoveten z: EN 14387:2021

ICS:

13.340.30	Varovalne dihalne naprave	Respiratory protective devices
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en,fr,de

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 14387

February 2021

ICS 13.340.30

Supersedes EN 14387:2004+A1:2008

English Version

Respiratory protective devices - Gas filter(s) and combined filter(s) - Requirements, testing, marking

Appareils de protection respiratoire - Filtres anti-gaz et filtres combinés - Exigences, essais, marquage

Atemschutzgeräte - Gasfilter und Kombinationsfilter - Anforderungen, Prüfung, Kennzeichnung

This European Standard was approved by CEN on 4 January 2021.

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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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EN 14387:2021 (E)**European foreword**

This document (EN 14387:2021) 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 August 2021, and conflicting national standards shall be withdrawn at the latest by August 2021.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 14387:2004+A1:2008.

The following changes have been made compared to EN 14387:2004+A1:2008:

- a) definitions and symbols added;
- b) description deleted;
- c) nominal values and tolerances changed;
- d) use of a risk assessment, e.g. a Failure Modes and Effect Analysis (FMEA), added;
- e) twin filters added;
- f) clogging deleted;
- g) in Table 1 column referring to maximum resistance after clogging deleted;
- h) values in Table 2, Gas capacity and test conditions of gas filters of types A, B, E and K, changed;
- i) visual inspection changed to inspection and detailed list inserted;
- j) all figures adapted to the changes made in the test procedures, where appropriate.

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 organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1 Scope

This document refers to gas filters and combined filters for use as replaceable components in unassisted respiratory protective devices (RPD) with the exception of escape devices.

Filters for use against CO are excluded from this document.

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

Some filters complying with this document can also be suitable for use with assisted respiratory protective devices and/or escape devices. If so they need to be tested and marked in accordance with the appropriate European Standard.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 134:1998, *Respiratory protective devices - Nomenclature of components*

EN 143:2021, *Respiratory protective devices - Particle filters - Requirements, testing, marking*

EN 148-1:2018, *Respiratory protective devices - Threads for facepieces - Part 1: Standard thread connection*

EN 13274-3:2001, *Respiratory protective devices - Methods of test - Part 3: Determination of breathing resistance*

EN 13274-7:2019, *Respiratory protective devices - Methods of test - Part 7: Determination of particle filter penetration*

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EN ISO 16972:2020, *Respiratory protective devices - Vocabulary and graphical symbols (ISO 16972:2020)*

3 Terms, definitions and symbols

3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in EN ISO 16972:2020, EN 134:1998 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <https://www.iso.org/obp>

3.1.1

as received

not pre-conditioned or modified to carry out a test

[SOURCE: EN ISO 16972:2020, definition 3.16]

EN 14387:2021 (E)**3.1.2****ready for assembly state**

component with seals, plugs or other environmental protective means, if applicable, still in place

[SOURCE: EN ISO 16972:2020, definition 3.195]

3.1.3**ready for use state**

respiratory protective device (RPD) ready to be donned as described by the manufacturer

Note 1 to entry: In line with the information supplied by the manufacturer for donning the RPD, further actions can be necessary.

[SOURCE: EN ISO 16972:2020, definition 3.198]

3.2 Symbols

For the purposes of this document, the following symbols apply.

3.2.1

See information supplied by the manufacturer

3.2.2

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Crossed out 2: Symbol “for single shift use only”

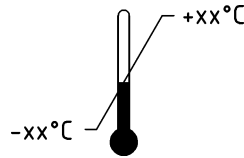
NOTE: During one shift multiple use is allowed.

3.2.3

Hour glass “end of shelf life”

YYYY-MM

Key: YYYY = year, MM = month

3.2.4

Temperature range of storage conditions

Key: -xx °C to +yy °C

3.2.5

Maximum humidity of storage conditions

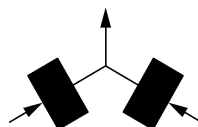
Key: < xx %

3.2.6

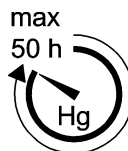
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Filters to be used with a full face mask but not to be connected directly to a half mask

3.2.7

Twin or multiple filters

3.2.8

Maximum time of use of HgP3 filters

4 Classification**4.1 General**

Gas filters are classified by type and class.

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4.2 Types of filters

4.2.1 Gas filters

Gas filters are produced in one of the following types:

— **Type A**

For use against certain organic gases, vapours and substances with a boiling point higher than 65 °C as specified by the manufacturer.

— **Type B**

For use against certain inorganic gases and vapours as specified by the manufacturer.

— **Type E**

For use against sulphur dioxide and other acidic gases and vapours as specified by the manufacturer.

— **Type K**

For use against ammonia and organic ammonia derivatives as specified by the manufacturer.

— **Type AX**

For use against certain organic gases and vapours with a boiling point lower than or equal to 65 °C as specified by the manufacturer.

Type AX filters are for ~~single shift use only~~ and shall be marked with the symbol given in 3.3.2.

— **Type SX**

For use against specific named gases and vapours as specified by the manufacturer.

4.2.2 Multi-type gas filters

Filters which are a combination of two or more of the above types excluding type SX and which meet the requirements of each type separately.

4.2.3 Combined filters

Gas or multi-type gas filters incorporating a particle filter in accordance with EN 143:2021.

4.2.4 Special filters

— **Type NOP3**

For use against nitrogen oxides, e.g. NO, NO₂, NO_x.

— **Type HgP3**

For use against mercury.

These filters shall always incorporate a P3 filter in accordance with EN 143:2021 and may be combined with each other and/or types specified in 4.2.1 except for type SX.

4.3 Capacity classes of filters

Gas filters of types A, B, E and K are classified in terms of capacity as follows:

- Class 1 low capacity filters;
- Class 2 medium capacity filters;
- Class 3 high capacity filters.

Capacity of any class of filters includes lower classes of the same type.

The classification of combined filter(s) includes particle filter(s) in accordance with EN 143:2021.

No capacity classes are assigned to the following filter types:

AX, SX, NOP3 and HgP3.

4.4 Limitations

Filters are reusable unless they are designated for single shift use only.

HgP3 filters are for a maximum use time of 50 h.

5 Requirements

5.1 General

All test samples specified in the related test clauses shall meet the relevant requirements.

Where it is required in a specific clause the manufacturer shall declare that a risk assessment, e.g. a Failure Modes and Effect Analysis (FMEA) has been conducted.

NOTE Further information is given in EN 60812 [1].

5.2 Values and tolerances

Temperature limits, values which describe test conditions and that are not stated as maxima or minima shall be subject to a tolerance of ± 5 %. Unless otherwise specified, the ambient conditions for testing shall be between 16 °C and 32 °C and (50 ± 30) % relative humidity.

Any temperature limits specified shall be subject to an accuracy of ± 1 °C.

5.3 Connection

The connection between filter(s) and respiratory interface with which it is intended to be used shall be robust and leaktight.

The manufacturer shall supply a declaration that this was addressed by a risk assessment, e.g. a FMEA.

Threads conforming to EN 148-2 or EN 148-3 shall not be used.

The connection between filter and facepiece may be achieved by a special connector or a screw thread including a thread conforming to EN 148-1:2018.

If the filter is designated to be used on a twin or multiple filter facepiece or has any other thread, it shall not be possible to connect it to a thread conforming to EN 148-1:2018.

The filter shall be readily replaceable without use of special tools and shall be designed or marked to prevent incorrect assembly.

Check in accordance with 6.2.