ILNAS

Institut luxembourgeois de la normalisation
de l'accréditation, de la sécurité et qualité
des produits et services

ILNAS-EN 143:2021

Respiratory protective devices - Particle filters - Requirements, testing, marking

Appareils de protection respiratoire - Filtres à particules - Exigences, essais, marquage

Atemschutzgeräte - Partikelfilter - Anforderungen, Prüfung, Kennzeichnung

02/2021

National Foreword

This European Standard EN 143:2021 was adopted as Luxembourgish Standard ILNAS-EN 143:2021.

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- Participate in the design of standards
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- Participate in technical committee meetings

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ILNAS-EN 143:2021 **EN 143**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

February 2021

ICS 13.340.30

Supersedes EN 143:2000

English Version

Respiratory protective devices - Particle filters - Requirements, testing, marking

Appareils de protection respiratoire - Filtres à particules - Exigences, essais, marquage

Atemschutzgeräte - Partikelfilter - Anforderungen, Prüfung, Kennzeichnung

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

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COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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European foreword

This document (EN 143:2021) 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of an identical text or by endorsement, at the latest by August 2021, and conflicting national standards shall be withdrawn at the latest by August 2021.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 143:2000, EN 143:2000/A1:2006 and EN 143:2000/AC:2005.

The following main technical changes have been made compared to EN 143:2000:

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) visual inspection changed to inspection and detailed list inserted;

h) filter penetration test changed to refer to EN 13274-7;

i) marking changed to filters in general;

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 specifies particle filters for use as replaceable components in unassisted respiratory protective devices (RPD) with the exception of escape devices and filtering face pieces.

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 other types of respiratory protective devices and/or escape devices. If so, they need to be tested and marked according to the appropriate European Standard.

This document does not cover requirements concerning respiratory hygiene. Requirements for decrease of the microbiological hazards caused by the growth of bacteria and viruses on the filtration material are not determined.

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

EN 134:1998, *Respiratory protective devices - Nomenclature of components*

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*

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 and EN 134:1998 and the following apply.

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

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

3.1.1
as received
not pre-conditioned or modified to carry out a test

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

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

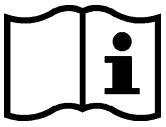
Note 1 to entry: In line with the information supplied by the manufacturer for donning the RPD, further actions can be necessary.

[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

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

NOTE: During one shift multiple use is allowed.

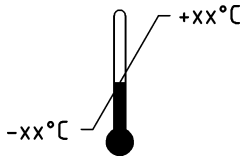
3.2.3

Hour glass “end of shelf life”

YYYY-MM

Key: YYYY = year, MM = month

3.2.4



Temperature range of storage conditions

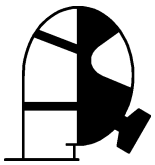
Key: -xx °C to +yy °C

3.2.5

Maximum humidity of storage conditions

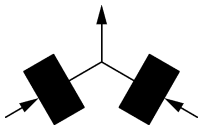
Key: < xx %

3.2.6



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

4 Classification

Particle filters are classified according to their filtering efficiency. There are three classes of particle filters:

P1, P2 and P3 in ascending order of the filtering efficiency.

The protection provided by a P2 or P3 filter includes that provided by the filter of lower class or classes.

5 Designation

Particle filters meeting the requirements of this document shall be designated in the following manner:

Particle filter EN 143, year of this document, filter type, class.

EXAMPLE Particle filter EN 143:2021 P3.