

# Respiratory protective devices — Methods of test —

## Part 5: Climatic conditions

The European Standard EN 13274-5:2001 has the status of a  
British Standard

ICS 13.340.30

## National foreword

This British Standard is the official English language version of EN 13274-5:2001.

The UK participation in its preparation was entrusted by Technical Committee PH/4, Respiratory protection, to Subcommittee PH/4/9, Test methods and interpretation, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

A list of organizations represented on this subcommittee can be obtained on request to its secretary.

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This British Standard, having been prepared under the direction of the Health and Environment Sector Committee, was published under the authority of the Standards Committee and comes into effect on 15 June 2001

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English version

## Respiratory protective devices — Methods of test — Part 5: Climatic conditions

Appareils de protection respiratoire — Méthodes d'essai —  
Partie 5: Conditions climatiques

Atemschutzgeräte — Prüfverfahren — Teil 5:  
Klimabedingungen

This European Standard was approved by CEN on 16 March 2001.

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 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 Management Centre has the same status as the official versions.

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## Foreword

This European Standard 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 October 2001, and conflicting national standards shall be withdrawn at the latest by October 2001.

This European Standard 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 standard.

EN 13274-5 is one of several parts, which are as follows:

*Part 1: Determination of inward leakage and total inward leakage;*

*Part 2: Practical performance tests;*

*Part 3: Determination of breathing resistance;*

*Part 4: Flame tests;*

*Part 5: Climatic conditions;*

*Part 6: Determination of carbon dioxide content of inhalation air;*

*Part 7: Determination of particle filter penetration;*

*Part 8: Determination of dolomite dust clogging of particle filters.*

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

## Introduction

This standard is intended as a supplement to the specific device standards for respiratory protective devices. Climatic conditions are specified for complete or parts of devices. If deviations from the climatic conditions given in this standard are necessary, these deviations will be specified in the relevant device standard.

## 1 Scope

This European Standard specifies temperature, humidity, duration and method of application for climatic conditioning of respiratory protective devices.

## 2 Normative references

This incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN 132, *Respiratory protective devices — Definitions of terms and pictograms*.

## 3 Terms and definitions

For the purposes of this, the terms and definitions of EN 132 together with the following terms and definitions apply.

### 3.1

#### **ambient conditions**

atmosphere where the temperature is 16 °C to 32 °C and the relative humidity is  $(50 \pm 30) \%$

### 3.2

#### **dry atmosphere**

atmosphere where the relative humidity is less than 20 %

### 3.3

#### **wet atmosphere**

atmosphere where the relative humidity is greater than or equal to 95 %

## 4 Prerequisites

In order to implement this European Standard at least the following parameters need to be specified in the relevant device standard:

- items to be tested;
- number of specimens;
- selection of conditioning phases;
- sequence of conditioning phases, where more than one is required;
- specification of any observations to be carried out;
- orientation and position of specimen during conditioning;
- condition of specimen, e.g. packaged, sealed, fully assembled.

## 5 General test requirements

Unless otherwise specified, the values stated in this European Standard are expressed as nominal values. Except for temperature limits, values which are not stated as maxima or minima shall be subject to a tolerance of  $\pm 5\%$ . Unless otherwise specified, the ambient temperature for testing shall be between  $16\text{ }^{\circ}\text{C}$  and  $32\text{ }^{\circ}\text{C}$  and the temperature limits shall be subject to an accuracy of  $\pm 1\text{ }^{\circ}\text{C}$ .

## 6 Procedure

### 6.1 General

In order to ensure that there is no thermal shock during the conditioning of the specimens, the temperature gradient shall be less than  $2\text{ }^{\circ}\text{C}/\text{min}$  between phases at different temperatures, or between the beginning and the end of a thermal cycle.

A phase for climatic conditioning shall be composed of the three parameters: temperature, relative humidity and duration, that is one of each of those given in 6.2 to 6.4. For example:  $(30 \pm 3)\text{ }^{\circ}\text{C}$ , wet atmosphere,  $(24 \pm 1)\text{ h}$ .

A cycle may consist of one or more phases.

Each specimen shall be placed in the conditioning environment such that air is free to circulate around it, and such that no component of the specimen has its weight supported by another, unless specifically intended by the manufacturer. Separate specimens shall not be touching.

### 6.2 Temperature

The temperatures used for climatic conditioning shall be chosen from the following.

**6.2.1** Manufacturer's highest recommended temperature.

**6.2.2**  $(70 \pm 3)\text{ }^{\circ}\text{C}$ .

**6.2.3**  $(60 \pm 3)\text{ }^{\circ}\text{C}$ .

**6.2.4**  $(30 \pm 3)\text{ }^{\circ}\text{C}$ .

**6.2.5** Ambient temperature  $16\text{ }^{\circ}\text{C}$  to  $32\text{ }^{\circ}\text{C}$ .

**6.2.6**  $(-6 \pm 3)\text{ }^{\circ}\text{C}$ .

**6.2.7**  $(-15 \pm 3)\text{ }^{\circ}\text{C}$ .

**6.2.8**  $(-30 \pm 3)\text{ }^{\circ}\text{C}$ .

**6.2.9** Manufacturer's lowest recommended temperature.

### 6.3 Relative humidity

The relative humidities for climatic conditioning shall be chosen from the following.

**6.3.1** Manufacturer's highest recommended relative humidity.

**6.3.2** Wet atmosphere (see 3.3).

**6.3.3** Ambient conditions (see 3.1).

**6.3.4** Dry atmosphere (see 3.2).

## 6.4 Duration of exposure

The durations of exposure for climatic conditioning shall be chosen from the following.

**6.4.1**  $(72 \pm 3)$  h.

**6.4.2**  $(24 \pm 1)$  h.

**6.4.3**  $(17 \pm 3)$  h.

**6.4.4**  $\geq 12$  h.

**6.4.5**  $(10 \pm 6)$  h.

**6.4.6**  $\geq 4$  h.

**6.4.7**  $(3 \pm 1)$  h.



## **Annex ZA (informative)**

### **Clauses of this European Standard addressing essential requirements or other provision of EU Directives**

This European Standard 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 89/686/EEC.

**WARNING** Other requirements and other EU Directives may be applicable to the product(s) falling within the scope of this standard.

The clauses of this standard are likely to support requirements in Clauses 1.3.2 and 3.10.1 of Annex II of Directive 89/686/EEC.

Compliance with this standard provides one means of conforming with the specific essential requirements of the Directive concerned and associated EFTA regulations.

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