SLOVENSKI STANDARD
SIST EN 3-2:1997

01-december-1997

Prenosni gasilniki - 2. del: Tesnost, dielektriļ ni preskus, preskus s stresanjem, posebne zahteve

Portable fire extinguishers - Part 2: Tightness, dielectric test, tamping test, special provisions

Tragbare Feuerlöscher - Teil 2: Dichtheitsprüfung, Prüfung der elektrischen Leitfähigkeit, Verdichtungsprüfung, Besondere Anforderungen

Extincteurs d'incendie portatifs - Partie 2: Etanchéité, essai diélectrique, essai de tassement, dispositions spéciales

Ta slovenski standard je istoveten z: **EN 3-2:1996**

ICS:

13.220.10	Gašenje požara	Fire-fighting

SIST EN 3-2:1997 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 3-2

February 1996

ICS 13.220.30

Supersedes EN 3-2:1978

Descriptors: fire fighting, fire equipment, fire extinguishers, movable extinguishers, portable equipment, tests, leak tests, dielectric strength tests, compression tests

English version

Portable fire extinguishers - Part 2: Tightness, dielectric test, tamping test, special provisions

Extincteurs d'incendie portatifs - Partie 2: Etanchéité, essai diélectrique, essai de tassement, dispositions spéciales

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CEN

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

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FOREWORD

This European Standard has been prepared by Technical Committee CEN/TC 70 "Manuel means of fire fighting equipment", the secretariat of which is held by IBN.

This European Standard supersedes EN 3-2:1978.

This European Standard is one part of EN 3 prepared by CEN/TC 70.

This European Standard EN 3 consist of 6 Parts and has the generic title "Portable fire extinguishers" and the following different subtitles :

- Part 1 : Description, duration of operation, class A and B fire test
- Part 2 : Tightness, dielectric test, tamping test, special provision
- Part 3 : Construction, resistance to pressure, mechanical tests
- Part 4 : Charges, minimum required fires
- Part 5 : Specifications and supplementary tests
- Part 6 : Provisions for the attestation of conformity of portable fire extinguishers in accordance with EN 3 Part 1 to Part 5

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of an identical text or by endorsement at the latest August 1996, and conflicting national standards shall be withdrawn at the latest by January 1997.

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

1 Scope

This Standard specifies the tightness, the dielectric test, the tamping test and special provisions applicable to portable fire extinguishers.

2 Normative reference

This European Standard incorporates by dated or undated references, 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 European Standard only when incorporated in it by amendment of revision. For undated reference the latest edition of the publication referred to applies.

EN 3-1:1995 Portable fire extinguishers - Part 1: Designation, duration of operation, class A and B fire test.

3 Tightness

All extinguishers and gas cartridges shall be designed in such a way as to permit their retention of charge to be verified at regular intervals.

3.1 Verification

3.1.1 Retention of charge shall be checked by weighing for :

- CO_2 cartridges;
- CO_2 extinguishers;
- Halon extinguishers, these shall also be verified for pressure.

The appropriate markings shall be shown on the main body of these appliances.

3.1.2 It shall be possible to check the retention of charge of stored pressure extinguishers by measuring the internal pressure, with the exception of CO_2 extinguishers. These shall be obtained in one of the following ways.

a) By means of a connection to enable the internal pressure to be checked directly by an independent apparatus. Such a connection shall be fitted with a pressure retaining cap and shall communicate directly to the contents under pressure. A removable pressure indicating device may be considered as a pressure retaining cap.

b) By means of a built-in pressure indicating device which can itself be checked independently that it is in good working order by the application of an external pressure.
(see C.2)

3.2 Acceptance Levels

3.2.1 In a pressurized state significant leakage shall not occur from an extinguisher or its attachments.

Significant leakage is defined as :

a) for stored pressure extinguishers a rate exceeding 1 cm^3 of gas per day, per kilogram or litre of the charge of the extinguisher.

b) for extinguishers pressurized only at the moment of operation a rate exceeding 5 cm^3 of gas per minute, per kilogram or litre of the charge of the extinguisher.

c) for extinguishers tested by weighing a rate exceeding 5 % per year.

For 3.2.1 a) and c), all extinguishers shall be tested as specified. For 3.2.1 b) sample extinguishers only are to be tested as specified.

3.2.2 Stored pressure extinguishers and gas cartridges shall be subject to a leakage test.

A significant rate of leakage as defined in 3.2.1 a) and c) shall result in the rejection of the extinguisher.

4 Dielectric test

4.1 Purpose of test

The dielectric test is designed to establish the suitability of water based extinguishers for use on live electrical installations by measurement of the electrical conductivity of the discharge stream. Extinguishers using other than water based agents are not subject to this test.

The test shall be carried out in accordance with annex A.

4.2 Measure of the current

When the appliance is in operation and the metallic plate is live, the intensity of the current between the handle of the nozzle and earth, and between earth and the extinguisher, shall be not more than 0.5 mA at any time during the complete discharge of the extinguisher.

5 Tamping Test

The test shall be carried out on all powder type extinguishers and shall be achieved in accordance with annexe B.

The compaction test shall be carried out on each extinguisher before submission to the fire test as specified in clause 7 of EN 3-1:1995.

6 Special provisions

6.1 Controlled discharge

Extinguishers shall be fitted with a self-closing control to enable the discharge to be interrupted temporarily.

6.2 Operating position

Extinguishers shall operate without being turned over to an inverted position. The operating devices of an extinguisher shall be located either on the upper part of the extinguisher or partly on the upper part of the extinguisher and partly at the end of the hose or nozzle.

6.3 Hose assembly

All extinguishers having a mass of extinguishing medium greater than 3 kg, or a volume of extinguishing medium greater than 3 l shall be provided with a discharge hose.

The length of the flexible section of the hose assembly shall be 400 mm or greater.

6.4 Propellants

Only propellants listed in table 1 or mixtures thereof, shall be used. The maximum water content shall be as specified, except when used in stored pressure water based extinguishers. Tracers may be added to the propellant to facilitate leakage detection, but the content shall not exceed 3 % m/m of the propellant content.

Table 1

Propellants	
Types	Maximum water content Percentage, m/m
Air	0.006
Argon	0.006
Carbon dioxide	0.015
Helium	0.006
Nitrogen	0.006

Annex A (normative)

Dielectric test

NOTE : see clause 4.

A.1 Apparatus

A metallic plate 1 m x 1 m hung vertically by insulators and with no object or structure closer than :

1 m below the bottom of the plate.
1 m either side of the edges of the plate.
1 m from either face of the plate.
0.5 m above the top of the plate.

A high voltage transformer enabling an alternating voltage of 35 kV to be established between the metallic plate and earth.

The impedance of the circuit shall be such that, then the secondary is short circuited and the primary supplied by a voltage equal to 10 % of its normal supply voltage, the secondary current is not less than 0,1 mA.

An insulating support (for fixed nozzle extinguishers). An insulating tray (for extinguishers fitted with a hose).

A.2 Test Procedure

The fixed nozzle type appliance is fixed on the insulating support and so arranged that the discharge outlet, situated at 1 m from the metallic plate, is directed towards its centre.

An extinguisher with hose is placed on the insulating tray so arranged that the discharge outlet is 1 m from the plate and directed towards its centre.

The current shall be measured by a suitable device connected between the earth of the metallic plate and the defined points on the extinguisher. If no complete metallic path exists between the extinguishing agent and at least one of the defined connection points to the measuring device, such a path shall be created for the purpose of the test.