SLOVENSKI STANDARD
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Prevozni gasilniki

Mobile fire extinguishers

Fahrbare Feuerlöscher

Extincteurs d'incendie mobiles

Ta slovenski standard je istoveten z: **EN 1866:1998**

ICS:

13.220.10 Gašenje požara Fire-fighting

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Descriptors: firefighting equipment, fire extinguishers, movable extinguishers, definitions, classifications, characteristics, filling, operating time, mass, equipment specifications, components, inspection, tests, corrosion resistance, marking

English version

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Extincteurs d'incendie mobiles

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This European Standard was approved by CEN on 29 August 1997.

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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

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FOREWORD

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

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of an identical text or by endorsement, at the latest by March 1999, and conflicting national standards shall be withdrawn at the latest by March 1999.

They are included in a series of European Standards planned to cover:

a) Class of fire (EN 2);

b) Portable fire extinguishers (EN 3);

- Part 1 - Designation, duration of operation, A and B fires test
- Part 2 - Tightness, dielectric test, tamping test, special provisions
- Part 3 - Construction, resistance to pressure, mechanical tests
- Part 4 - Charges, minimum required fires
- Part 5 - Specificatioons 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

c) Mobile fire extinguishers (EN 1866);

d) Fire blankets (EN 1869);

e) Maintenance (prEN 12367).

This European Standard has the title "Mobile fire extinguishers"

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.

1 Scope

This European Standard specifies the characteristics, ratings and classification of mobile fire extinguishers and test method to be used. It applies to mobile fire extinguishers with a total mass above 20 kg and specified in clause 4 of this standard .
This standard is limited to water base and powder extinguishers.
It does not cover fire tests for class C fires, but powder extinguishers are effective on this type of fire. Class D fires are considered to be a very specialist application and are not included in this standard but, may be made the object of national specification.

2 Normative references

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 2 :1992	Classifications of fire
EN 3-1:1996	Portable fire extinguisher - Part 1 : Designation, duration of operation, class A and B fire test
EN 3-2:1996	Portable fire extinguisher - Part 2 : Tightness, tamping test, special provisions
EN 3-3:1996	Portable fire extinguisher - Part 3 : Construction, resistance to pressure, mechanical tests
EN 3-4:1996	Portable fire extinguisher - Part 4 : Charges, minimum required fire
EN 3-5:1996	Portable fire extinguisher - Part 5 : Specifications and supplementary tests
EN 3-6:1995	Portable fire extinguisher - Part 6 : Provisions for the attestation of conformity of portable fire extinguishers in accordance with EN 3 part 1 to part 5
ISO 4582:1980	Plastics - Determination of changes in colour and variations in properties after exposure to daylight under glass, natural weathering or artificial lightHot rolled steel sections - Part 1 : Equal leg angles, Dimensions
ISO 2604-2:1975	Steel products for pressure purposes - Quality requirements : Part II : wrought seamless tubes
ISO 9227:1990	Corrosion tests in artificial atmospheres - Salt spray tests

3 Definitions

For the purposes of this standard, the following definitions apply:

3.1 **body** : Shell of the mobile fire extinguisher not fitted with its accessories but fitted with all its welded parts.

3.2 **cartridge extinguisher** : Mobile fire extinguisher in which the propellant gas is contained in a separate cylinder.

3.3 **charge of an extinguisher** : Mass or volume of the extinguishing media contained in the mobile fire extinguisher. The charge of appliances based on water is expressed in volume (litres) and that of other appliances in mass (kilograms).

3.4 **closure** : Component, other than a safety device or pressure indicator , subject to the internal pressure and used to close off and seal the body.

3.5 **duration of operation** : The time during which the extinguishing media is discharged, without any interruption in the discharge and with valve fully opened not including the residual propellant gas.

3.6 **extinguisher** : Appliance containing an extinguishing agent which can be expelled by the action of internal pressure and be directed on to a fire. This pressure may be stored pressure or obtained by the release of an auxiliary gas.

3.7 **extinguishing media** : The substance contained in the extinguisher which causes extinction.

3.8 **mobile fire extinguisher** : Extinguisher that is designed to be transportable and operated by hand and has a total mass more than 20 kg.
A mobile fire extinguisher is normally mounted on wheels. Two bodies can be combined to form a single unit subject to the limits given in table 1.
In this standard the mobile fire extinguisher shall be called " Extinguisher".

3.9 **propellant** : Gas in a liquefied or compressed state, which provides the internal pressure used to expel the extinguishing media.

3.10 **propellant container** : Gas cylinder that fits into or is attached to the extinguisher and which contains the propellant (cartridge, bottle).

3.11 **residual mass** : Mass of the extinguishing media remaining in the extinguisher after a complete discharge.

3.12 **stored pressure extinguisher** : Extinguisher in which the propellant gas is stored with the extinguishing media in the body as a whole and in which the extinguisher body is permanently pressurized.

3.13 **water base extinguisher** : Extinguisher in which the extinguishing media is water or water plus additives or foam.

4 Description of an extinguisher

An extinguisher shall be described by the type of extinguishing media it contains. At present, there are :

- powder extinguisher
- water extinguisher
- water and additives extinguisher
- foam extinguisher

5 Effective range of operating temperatures

5.1 General

Extinguishers shall be able to operate and be resistant to the shock at temperatures between -20°C (or - 30°C for countries with low temperatures) and at least + 50°C (T(max)°C).
For the water base extinguishers without antifreeze additives the low limit temperatures shall be + 5°C.
For the water base extinguishers with antifreeze additives the low limit temperatures shall be 0°C, - 10°C, - 15°C, -20°C, -25°C, - 30°C following the manufacturers request.

5.2 Requirements

After the test described in A.5.

The requirements for all extinguishers are as follows :

- they shall operate satisfactorily;
- the discharge shall commence within 10 s of the opening of the control valve;
- the discharge duration shall not be less than the value applicable given in table 3 and table 4;

- the initial charge remaining in the extinguisher after one single and complete discharge including full decompression shall be as given in table 5.

6 Filling specifications

6.1 Nominal charges

Nominal charges of extinguishers shall be equal to one of the values given in the table 1 depending on to the nature of the extinguishing media.

Table 1: Nominal charges for extinguishing media

Powder in kg	Water base in l
50	45 or 50

6.2 Filling tolerances

The actual charge of the extinguisher shall be equal to the nominal charge within the tolerances given in table 2.

Table 2: Filling tolerances on nominal charges

Powder	Water base
± 2%	0% - 5%

For the charge of the propellant container, the tolerance shall be (0;-5)%

7 Duration of operation, residual mass and discharge range

7.1 Duration of operation

7.1.1 Powder extinguishers

When determined in accordance with A.1, the duration of operation of type I (short duration time) and type II (long duration time) powder extinguishers shall be as given in table 3.

Table 3 : Duration time for 50 kg powder extinguishers

Type	Duration time in s	
	Min.	Max.
I	30	<50
II	≥50	70

7.1.2 Water base extinguishers

When determined in accordance with A.1, the duration of operation of water base extinguishers, shall be given in table 4.

Table 4 : Duration time for 45 or 50 l water base extinguishers

Type	Duration time in s	
	Min.	Max.
Water	60	90
Water + additive or foam	40	120

7.2 Maximum residual mass

The maximum percentage of residual mass of the extinguishing media shall be less than or equal to the values given in the table 5.

Table 5: Maximum residual mass

Powder	Water base
10 %	5 %

7.3 Discharge range

The discharge range of a water base extinguisher shall be at least 3m.

8 Body construction

8.1 General

Until the EC directives will be issued, national regulations are valid.

8.2 Main closures

Non metalic closure shall be prohibited.
Main closures which are or may be subjected to pressure shall be marked in an indelible manner in order to allow their possible future identification. Main closures made out of melded products shall be subject to an appropriate control made by the manufacturer and verified by authorised technical auditors.

NOTE: The minimum identification should be :

- the identification of the manufacturer;
- the year of manufacture;
- the maximum permissible pressure.

8.3 Design and correct manufacture of the cylinders

8.3.1 General requirements

8.3.1.1 The manufacturer shall, under his responsability, guarantee that he has the manufacturing resources and processes which are used so as to ensure the manufacture of cylinders which satisfy the requirements of this section.

8.3.1.2 The manufacturer shall ensure by means of adequate supervision that the base sheets and pressed parts

used in the manufacture of cylinders are free from any defects likely to impair the safe use of the cylinder.

8.3.2 Parts subjected to pressure

8.3.2.1 The manufacturer shall describe the welding methods and procedures used and shall indicate the inspections carried out in the course of production.

Butt welds shall be carried out by means of an automatic welding procedure. Butt welds on the strength envelope shall not be within any areas which include variations in shape.

8.3.2.2 The manufacturer shall take the necessary steps to ensure that the welds show continuous penetration with no deviation in the weld. Welds and brazed joints shall be free from defects which are prejudicial to the safe use of the cylinder.

8.3.3 Attached parts

Parts attached to the body of the cylinder shall be manufactured and fitted in a way that avoids concentrations of stress and corrosion risks. In the case of welded and brazed parts the metal shall be compatible with the cylinder material.

9 Requirements for components

9.1 Retention of charge

Extinguishers and propellant containers shall be designed in such a way as to permit their retention of charge to be verified at regular intervals.

9.1.1 Verification

9.1.1.1 CO2 container

Content shall be validated by weight.
The appropriate marking shall be shown on the main body of the appliance.

9.1.1.2 Stored pressure extinguishers

It shall be possible to check the state of charge of stored pressure extinguishers by measuring the internal pressure.This shall be obtained 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 pressure indicator shall be fitted.

9.1.2 Acceptance levels

9.1.2.1 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 kg or l 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 kg or l of the charge of the extinguisher.

c) for propellant containers tested by weighing a rate exceeding 5% of the nominal charge per year.

For a), b) and c) shall be carried out by sampling.