

ICS: 13.220.10

Geregistreeerde Belgische norm

NBN EN 1866

2e uitg., maart 2006

Normklasse: S 21

Verrijdbare blustoestellen

Extincteurs d'incendie mobiles

Mobile fire extinguishers

Toelating tot publicatie: 31 januari 2006

Vervangt NBN EN 1866 (1998).

Deze Europese norm EN 1866:2005 heeft de status van een Belgische norm.

Deze Europese norm bestaat in drie officiële versies (Duits, Engels, Frans).



Belgisch instituut voor normalisatie (BIN), vereniging zonder winstoogmerk
Brabançonnellaan 29 - 1000 BRUSSEL - telefoon: 02 738 01 12 - fax: 02 733 42 64
e-mail: info@bin.be - BIN Online: www.bin.be - prk. 000-0063310-66

norme belge enregistrée

NBN EN 1866

2e éd., mars 2006

Indice de classement: S 21

Extincteurs d'incendie mobiles

Verrijdbare blustoestellen

Mobile fire extinguishers

Autorisation de publication: 31 janvier 2006

Remplace NBN EN 1866 (1998).

La présente norme européenne EN 1866:2005 a le statut d'une norme belge.

La présente norme européenne existe en trois versions officielles (allemand, anglais, français).



Institut belge de normalisation (IBN), association sans but lucratif
avenue de la Brabançonne 29 - 1000 BRUXELLES - téléphone: 02 738 01 12 - fax: 02 733 42 64
e-mail: info@ibn.be - IBN Online: www.ibn.be - CCP. 000-0063310-66

English Version

Mobile fire extinguishers

Extincteurs d'incendie mobiles

Fahrbare Feuerlöscher

This European Standard was approved by CEN on 17 November 2005.

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, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.



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

Management Centre: rue de Stassart, 36 B-1050 Brussels

Contents

Page

Foreword	5
1 Scope	6
2 Normative references	6
3 Terms and definitions	7
4 Symbols and abbreviations.....	9
5 Description of an extinguisher.....	9
6 Requirements	10
6.1 Effective range of operating temperatures	10
6.1.1 General	10
6.1.2 Requirements	10
6.2 Filling specifications.....	11
6.2.1 Nominal charges	11
6.2.2 Filling tolerances.....	11
6.3 Duration of operation, residual mass and discharge range	11
6.3.1 Duration of operation.....	11
6.3.2 Maximum residual mass.....	12
6.3.3 Discharge range	12
6.4 Retention of charge	12
6.4.1 General	12
6.4.2 Propellant container	12
6.4.3 Stored pressure extinguishers	12
6.4.4 Acceptance levels	13
6.5 Control valve	13
6.6 Working position.....	14
6.7 Hose and coupling.....	14
6.8 Propelling agent.....	14
6.9 Operation devices.....	14
6.9.1 General	14
6.9.2 Operating and jet control mechanisms devices	15
6.9.3 Safety devices	15
6.9.4 Discharge from water, water base, and foam extinguishers	15
6.9.5 Pressure gauge.....	15
6.9.6 Other characteristics	17
6.10 Identification.....	17
6.10.1 Colour	17
6.10.2 Marking	18
6.11 Periodical checking	21
7 Materials	21
7.1 Materials for bodies	21
7.2 Materials for operating devices and filling caps.....	21
7.3 Materials for other components.....	21
8 Design and prototype testing.....	22
8.1 Calculation design method	22
8.2 Experimental design method	22
8.3 Prototype testing.....	22
8.3.1 Pressure test	22
8.3.2 Burst test	22
8.4 Macroscopic examination	23
8.5 Attached parts.....	23

8.6	Overfill pressure test	23
8.7	Requirements for components subject to pressure	23
8.7.1	Test conditions	23
8.7.2	Requirements	23
9	Manufacturing	24
9.1	General requirements	24
9.2	Welded and brazed parts.....	24
9.2.1	General	24
9.2.2	Welding procedures.....	24
9.2.3	Welding personnel	24
9.2.4	Brazing procedures	24
9.2.5	Brazing personnel.....	24
9.3	Traceability	24
9.3.1	Pressure retaining parts.....	24
9.3.2	Operating devices, filling caps and hose assemblies.....	24
9.3.3	Marking of the body.....	25
10	Inspection and testing during manufacturing	25
10.1	Extinguisher bodies.....	25
10.1.1	Non destructive examination personnel	25
10.1.2	Non destructive testing	25
10.1.3	Requirements	25
10.2	Accessories and Fittings (excluding pressure relief devices and fittings to be ruptured on over pressure).....	25
10.3	Assemblies	25
11	Tests	26
11.1	Temperature test.....	26
11.2	Corrosion tests	26
11.2.1	External corrosion test	26
11.2.2	Internal corrosion test for water, water base and foam extinguishers	26
11.3	Dielectric test	26
12	Fire performances.....	26
12.1	Class A fire test object	26
12.1.1	Powder extinguishers.....	27
12.1.2	Water, water based and foam extinguishers.....	27
12.2	Class B fire test object	27
12.2.1	Powder extinguishers.....	27
12.2.2	Water, water base and foam extinguishers.....	27
Annex A (informative) Classification of the different parts of an extinguisher subject to internal pressure.....		28
Annex B (normative) Specifications for plastics components (except hoses, pistols and nozzles)		29
B.1	General	29
B.2	Requirements for plastics components subject to pressure	29
B.2.1	General	29
B.2.2	Burst under pressure.....	29
B.2.3	Temperature conditioning 60 °C	29
B.2.4	Ageing test - Xenon arc	30
B.2.5	Impact test after ageing at 20 °C.....	30
B.2.6	Plastic/metal thread design (jet control devices at the end of hoses are excluded)	31
Annex C (normative) Symbols of pressures.....		32
Annex D (normative) Test methods.....		33
D.1	Test methods.....	33
D.2	Duration of operation and residual mass.....	33
D.3	Measurement of the force	33
D.4	Measurement of the energy.....	33
D.5	Measurement of leakage of the control valve	33
D.6	Temperatures test.....	34
D.7	Internal corrosion test	34

EN 1866:2005 (E)

Annex E (normative) Overfill pressure test.....35

Annex F (normative) Test for burst pressure of hose and hose assembly and attached components.....36

Annex ZA (informative) Relationship between this European Standard and the essential requirements of EU Directive 97/23/EC37

Bibliography.....38

Foreword

This document (EN 1866:2005) has been prepared by Technical Committee CEN/TC 70 "Manual means of fire fighting equipemnt", 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 June 2006, and conflicting national standards shall be withdrawn at the latest by June 2006.

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 97/23/EC.

For relationship with EU Directive 97/23/EC, see informative Annex ZA, which is an integral part of this document.

This document supersedes EN 1866:1998.

This document is included in a series of European Standards planned to cover:

- a) class of fire (EN 2);
- b) portable fire extinguishers (EN 3);

EN 3 consists of the following parts, under the general title "Portable fire extinguishers":

- *Part 3: Construction, resistance to pressure, mechanical tests*
- *Part 6: Provisions for the attestation of conformity of portable fire extinguishers in accordance with EN 3 part 1 to part 5*
- *Part 7: Characteristics, performance requirements and test methods*
- *Part 8¹⁾: Construction resistance to pressure and mechanical tests for extinguishers with a maximum allowable pressure equal or lower than 30 bar*
- *Part 9¹⁾: Additional requirements for CO₂ extinguishers*
- *Part 10¹⁾: Provisions for the attestation of conformity for portable 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, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

1) Under preparation.

EN 1866:2005 (E)

1 Scope

This document specifies the rules of design, type testing and inspection during manufacturing, 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. This document is limited to water based and powder mobile extinguishers with a maximum allowed pressure PS of 30 bar. This document applies to mobile fire extinguishers with a nominal content of 50 kg (powder) and 45 l or 50 l (water, water based and foam) that are manoeuvred by an operator on foot only.

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 document, but may be made the object of national specification.

NOTE This document does not specify any metallic materials which comply with the essential requirements of the Directive 97/23EEC (PED). Materials that successfully pass the essential requirements of the PED may be used.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including amendments) applies.

EN 3-7, *Portable fire extinguishers – Part 7: Characteristics, performance requirements and test methods*

EN 287-1, *Qualification test of welders - Fusion welding - Part 1: Steels*

EN 287-2, *Approval testing of welders – Fusion welding – Part 2: Aluminium and aluminium alloys*

EN 288-4, *Specification and approval of welding procedures for metallic materials – Part 4: Welding procedure tests for the arc welding of aluminium and its alloys*

EN 1320, *Destructive tests on welds in metallic materials – Fracture test*

EN 1418, *Welding personnel – Approval testing of welding operators for fusion welding and resistance weld setters for fully mechanized and automatic welding of metallic materials*

EN 10204, *Metallic products – Types of inspection documents*

EN 13133, *Brazing – Brazer approval*

EN 13134, *Brazing – Procedure approval*

EN 13445-1, *Unfired pressure vessels – Part 1: General*

EN 13445-2, *Unfired pressure vessels – Part 2: Materials*

EN 13445-3, *Unfired pressure vessels – Part 3: Design*

EN 13445-4, *Unfired pressure vessels – Part 4: Fabrication*

EN 13445-5, *Unfired pressure vessels – Part 5: Inspection and testing*

EN ISO 4892-2, *Plastics – Methods of exposure to laboratory light sources – Part 2: Xenon-arc sources (ISO 4892-2:1994)*

EN ISO 15609-1, *Specification and qualification of welding procedures for metallic materials – Welding procedure specification – Part 1: Arc welding (ISO 15609-1:2004)*