SLOVENSKI STANDARD
SIST EN 3-6:1995

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Prenosni gasilniki - 6. del: Navodila za dokazovanje skladnosti prenosnih gasilnikov z EN 3, 1. do 5. del

Portable fire extinguishers - Part 6: Provisions for the attestation of conformity of portable fire extinguishers in accordance with EN 3 part 1 to part 5

Tragbare Feuerlöscher - Teil 6: Festlegungen für die Bestätigung der Konformität tragbarer Feuerlöscher nach EN 3 Teil 1 bis Teil 5

Extincteurs d'incendie portatifs - Partie 6: Modalité visant à évaluer la conformité des extincteurs portatifs conformément a EN 3 partie 1 a partie 5

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Portable fire extinguishers - Part 6: Provisions for the attestation of conformity of portable fire extinguishers in accordance with EN 3 part 1 to part 5

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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.

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CEN

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 the Technical Committee CEN/TC 70 "Manual means of fire fighting equipment", the secretariat of which is held by IBN.

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of an identical text or by endorsement, at the latest by July 1995, and conflicting national standards shall be withdrawn at the latest by January 1997.

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

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

The European Standard EN 3 consist of 6 parts and has the generale title of "Portable fire extinguishers" and the following different subtitles :

- Part 1: Designation, Duration of operation, Class A and B standard fires;
- 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: Specification 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.

1 Scope

This standard etablishes general principles for attesting the conformity of portable fire extinguishers to prEN 3-1, prEN 3-2, EN 3-3, prEN 3-4, prEN 3-5. It specifies methods for type testing and control during manufacture.
The attestation of conformity may allow the manufacturer to request certification of his product from an accredited certification body.

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.

prEN 3-1:1993	Designation, Duration of operation; class A and B standard fires;
prEN 3-2:1993	Retention of pressure, Dielectric test, Test for compaction and resistance to vibrations, Special provisions
EN 3-3:1994	Construction, Resistance to pressure, Mechanical tests;
prEN 3-4:1993	Charge, Minimum fires required;
prEN 3-5:1993	Complementary requirements and test.
EN 45001	General criteria for the operation of testing laboratories.
EN 29002	Quality systems - Model for quality assurance in production and installation.
EN 45011	General criteria for certification bodies operating product certification.

3 Type testing

3.1 Request

The manufacturer shall submit to the body accredited to carry out verification of conformity of the portable extinguishers to prEN 3-1, prEN 3-2, EN 3-3, prEN 3-4, prEN 3-5 :

a) Technical documentation in triplicate relating to the portable extinguisher to be verified; this documentation shall be comprise mainly:

   1) one complete set of drawings clearly characterizing the model;
   2) an extract from the company register;
   3) an identification sheet of the extinguishing agent giving its physical and chemical characteristics;
   4) an explanatory note on the type of heat treatment and welding and assembly process the cylinder has undergone;
   5) certificates relating to the cast analysis of the steels supplied for manufacturing the cylinders;
   §) part attestations of conformity to pr EN 3-1, pr EN 3-2, EN 3-3, pr EN 3-4, pr EN 3-5 drawn up by an accredited body together with test reports if they already exist for certain requirements.

b) The prototypes necessary for carrying out the verifications.

3.2 Conformity verification tests

The accredited body shall assess conformity of the portable extinguisher to prEN 3-1, prEN 3-2, EN 3-3, prEN 3-4, prEN 3-5. For this, it shall carry out the test programme specified in annex A of this standard. After this test programme has been carried out, it shall supply an attestation of conformity to prEN 3-1, prEN 3-2, EN 3-3, prEN 3-4, prEN 3-5 and the test report in conformity with EN 45001 an model of which is given in annex B.

3.2.1 Particular requirements

3.2.1.1 For the heat treatment, welding and assembly methods, the type test may be carried out per model or per family of cylinders.
"Cylinder model" means vessels of the same design and same thickness fitted with the same accessories and made of sheet of identical specifications.
"Cylinder family" means cylinders from the same factory, of the same diameter and only differing length. Only the longest cylinder shall be verified.

3.2.1.2 The manufacturer shall make available to the accredited body a batch of 50 extinguishers from which the number of extinguishers necessary for the verification shall be taken. The extinguishers selected shall be regarded as prototypes.

4 Control during manufacture

4.1 General

In addition to, any scheme of quality control, which should include appropriate tests to ensure that all extinguishers, including filling packs, are charged with extinguishing agent of the performance and specification as tested in the type approval, cartridges and extinguishers complying with this standard shall be produced according to the production testing scheme of this section.

4.2 Non destructive testing

4.2.1 All extinguisher bodies shall be tested for resistance to test pressure and shall meet the requirements according to 6.3 of EN 3-3:1994.
All fittings (excluding pressure relief devices and fitting designed to be ruptured on operation) subject to pressure shall comply with the resistance to test pressure requirements of EN 3-3 and prEN 3-5. Compliance shall be demonstrated by pressure testing components selected from production using an adequate sampling plan.

> NOTE : Fittings include closures, valves, hose assemblies. The fittings need not be tested as part of the complete extinguisher but the test equipment connection and blanking features must replicate the adjacent components.

4.2.2 All gas cartridges shall be tested for resistance to test pressure and shall meet the requirements according to clause 9 of EN 3-3:1994.

4.3 Destructive testing

4.3.1 The manufacturer proceed to the minimum burst pressure and to the mechanical strength test as defined in EN 3-3.
The number of test shall be taken in accordance with the table 1 below.

TABLE 1

Number of extinguishers per batch N	Number of extinguishers sampled		
	total	Crushing test	Bursting test
N ≤ 500	3	1	2
500 < N ≤ 1500	5	2	3
1500 < N ≤ 3000	7	3	4

4.3.2 One of each fitting subject to pressure, excluding pressure relief devices and fittings designed to be ruptured by pressure on operation, from each production batch of not more than 500, or one in each 500 from each production batch of more than 500, shall be tested for minimum burst pressure and shall comply with the requirements according to clause 9 of EN 3-3:1994.

4.3.3 One gas cartridge in every 1000 or one in each batch, whichever is the smaller number, shall be tested for minimum burst pressure and shall comply with the requirements according to clause 9 of EN 3-3:1994.

4.3.4 If any item fails to meet the minimum requirements, further samples shall be taken in accordance with the table 2 below and the test against which failure was recorded shall be repeated.

TABLE 2

Batch sampling plan following failure	
Batch size N	Sample size
N ≤ 500	13
500 < N ≤ 1500	20
1500 < N ≤ 3000	30

If one or more of the samples fails to meet the minimum requirements, the whole batch shall be rejected.

4.4 Records

The manufacturer shall retain at least the records below :

a) the certificates mentioned in 3.1;
b) the documentation on heat treatment, where appropriate;
c) the complete list of extinguishers manufactured together with their identification;
d) the results of the non destructive tests carried out within the framework of the quality system;
e) a written undertaking stating that the welding methods used are identical to those used for the cylinders submitted to the type tests;
f) the results of the destructive tests carried out within the framework of the quality system.

5 Verification of production

5.1 Quality system conforming to EN 29002

If a Quality system conforms to EN 29002, its satisfactory application both generally and on the production line shall be verified by quality auditors authorized to undertake the periodic checks required.

The technical auditors shall :

- verify the documents listed in 4.4;
- sampling of finished products and carrying out inspections and tests to verify the conformity of the extinguishers manufactured to prEN 3-1, prEN 3-2, EN 3-3, prEN 3-4, prEN 3-5 and to the certified prototypes.

The technical audits shall be carried out twice a year.
Other visits may be made if they are justified.

Where necessary, and where there is a major failure of the quality system, the requirements of 5.2.1 can be applied for each production batch.

5.2 Quality system not conforming to EN 29002

5.2.1 If the quality system used by the manufacturer does not conform to EN 29002, the national body authorized for the attestation of conformity of extinguishers manufactured to prEN 3-1, prEN 3-2, EN 3-3, prEN 3-4, prEN 3-5 and to the certified prototypes shall :

- verify that the checks and tests in production are carried out under conditions sufficient to guarantee that the requirements of prEN 3-1, prEN 3-2, EN 3-3, prEN 3-4, prEN 3-5 are met;
- during each visit, verify the documents listed in 4.4;
- sample the finished product and carry out inspections and tests that they consider necessary.

5.2.2 The frequency of the operation called for in 5.2.1 shall be determined according to national rules.

5.2.3 The actions called for in 5.2 shall only be allowed during a transition period of 5 years from the date of publication of this standard.

5.3 Dealing with nonconforming products

The manufacturer shall take the necessary corrective action, as a function of the nonconformities found on :

- the products in stock;
- the products in the course of production;
- the products distributed for sale.

The accredited body or the national bodies shall approve the programme for dealing with nonconforming products and shall follow up the corrective actions undertaken.

6 Product certification

A certification body may supply the product certification on the basis of attestation of conformity following a type test.
On the basis of the attestation of conformity following control during manufacture following 5.1 and 5.2, a certification body may supply a mark of conformity which shall be applied to the portable extinguishers.

Annex A (normative) Plan for the laboratory, for tests and controls

Note : see clause 3.2.

The following plan details the tests/controls as per prEN 3-1, prEN 3-2, prEN 3-4 and prEN 3-5, which the Test House carries out with fire extinguishers/and their components parts for approvals. Moreover, the number of the individual tests/controls and the number of the necessary fire extinguishers and/or tests is given, which can or must be combined with the same fire extinguishers or their components, or must be combined.

Combinations are shown only on one line. They are not repeated with the numbers named there with which they are combined.

The sequence of the tests with combinations is determined by the practical progress of the tests/controls.

As a rule, two attempts are carried out for each of the various tests/controls in accordance with the plan, so long as it is not laid down otherwise in EN3 or in this plan. If the results of one of tests is negative, a second series of tests can be carried out. There must then be no negative result.

If for different type of extinguisher, the manufacture use same components, the results are valid for all types.

The laboratory shall decide the valid results (i.e. tests 21 and 24).

Table A.1

N°	EN 3 Part	Clause	Tests/Controls Title	N° of Tests	a) Number of extinguishers to be supplied b) Tests or verifications to be performed with same extinguishers as reported in the 1 column						
						Water	Foam	CO_2	Halon	-ABC Powder	-BC
1	1	3	Max. Weight	2	a)	-	-	-	-	-	-
					b)	With N°3	With N°4	With N°4	With N°4	With N°4	With N°4
2	1	6	Discharge Duration Residues	3	a)	3	3	3	3	3	3
					b)	-	-		-	-	-
3	1	7.2	Class A Fire Test	≥ 2	a)	≥ 2	≥ 2	-	-	≥ 2	-
					b)	-	-	-	-	-	-
4	1	7.3	Class B Fire Test	≥ 2	a)	-	≥ 2	≥ 2	≥ 2	≥ 2	≥ 2
					b)	-	-	-	-	-	-
5	2	3.1 With 3.2	Retention of Charge Checking	2	a)	2 1)	2 1)	-	-	2 1)	2 1)
			Leak Rates		b)	Otherwise With N°3	Otherwise With N°3	With N°4	With N°4	Otherwise With N°4	Otherwise With N°4
6	2	4	Electrical Conductivity	1	a)	1	1	-	-	-	-
					b)	-	-	-	-	-	-
7	2	5	Compaction	≥ 7	a)	-	-	-	-	-	-
					b)	-	-	-	-	With N°2, 3, 4, 22.	With N°2, 3, 4, 22.

1) Cartridge models only
Reference clause 4, pr EN 3-1:1994 - precised specifications/characteristics of the media is necessary