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Prenosni aerosolni razpršilniki za gašenje požara

Portable aerosol dispensers for fire extinguishing purposes

Löschspraydosens

Générateur d'aérosol portatif à fonction extinctrice

Ta slovenski standard je istoveten z: prEN 16856

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Portable aerosol dispensers for fire extinguishing purposes

Générateur aérosol à fonction extinctrice

Löschspraydosen

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European foreword

This document (prEN 16856:2017) has been prepared by Technical Committee CEN/TC 70 “Manual means of fire fighting equipment”, the secretariat of which is held by AFNOR.

This document is currently submitted to the CEN Enquiry.

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Introduction

This draft standard has been written with the aim of producing a specification for small disposable, aerosol dispensers for fire extinguishing purposes with an acceptable level of performance. This type of product is intended for use only in situations where fires of limited proportions are anticipated because of the nature of some process or activity, where the possibility of fire spreading to other materials is remote, or where people are present at the likely times of risk. These products are not intended to supplant extinguishers that comply with EN 3 (all parts), which should still be regarded as the principal type to meet the needs of various authorities.

Special attention is drawn to Directive 75/324/EEC of 20 May 1975, on the approximation of the laws of the member states relating to Aerosol Dispensers, Directive 2008/47/EC and Commission Directive 94/1/EC of 6 January 1994 adapting some technicalities of Council Directive 75/324/EEC on the approximation of the laws of the Member States relating to aerosol dispensers.

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1 Scope

This draft European Standard specifies the requirements for non-refillable portable aerosol dispensers for fire extinguishing purposes.

It specifies the characteristics, performance and test methods for extinguishing aerosol dispensers, in accordance with Directive 75/324/EEC, for fire extinguishing purposes. Requirements in this draft Standard are specified for products containing less than 1 kg or 1 l of extinguishing media, which can be expelled by the action of internal pressure and are intended to extinguish test fires of type A + B, or type A + F, or type A + B + F classes of EN 2. These extinguishing aerosol dispensers are intended to be used by untrained persons for domestic applications. They are not intended to be used on gas fires (class C) and metal fires (class D).

Requirements are specified for minimum performance in Annex I for extinguishing test fires of type A, type B and type F classes of EN 2, as appropriate.

Annex A gives the conditioning treatment to be applied to extinguishing aerosol dispensers prior to testing as described in Annex B to Annex K.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 615, *Fire protection — Fire extinguishing media — Specifications for powders (other than class D powders)*

EN ISO 9227, *Corrosion tests in artificial atmospheres — Salt spray tests (ISO 9227)*

ISO 657-1, *Hot-rolled steel sections — Part 1: Equal-leg angles — Dimensions*

ISO 4470, *Sawn timber — Determination of the average moisture content of a lot*

EN 2, *Classification of fires*

EN 3 (all parts), *Portable Fire Extinguishers*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— IEC Electropedia: available at <http://www.electropedia.org/>

— ISO Online browsing platform: available at <http://www.iso.org/obp>

3.1

aerosol dispenser for fire extinguishing purposes

non-refillable metallic container intended for a single use, which holds a compressed gas and liquid, paste or powder extinguishing media, equipped with a valve allowing a controlled discharge of the contents

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Note 1 to entry: Extinguishing aerosol dispensers are designed to be discarded after any use and are not to be refilled.

Note 2 to entry: Disposal may be controlled by National laws and regulations.

3.2**batch**

definite quantity of products or components produced at one time under uniform condition

3.3**body**

seamless metallic container of the extinguishing aerosol dispenser not fitted with its accessories, such as valves

3.4**valve**

self-closing release device allowing the discharge of the extinguishing media to be interruptable

3.5**charge of an extinguishing aerosol dispenser**

mass or volume of the extinguishing medium contained in the extinguishing aerosol dispenser

3.6**maximum pressure at maximum operating temperature** **$P(T_{\max})$**

pressure within the extinguishing aerosol dispenser when filled with the quantity of solid, liquid and gaseous content to the maximum upper tolerance specified under production conditions, at a temperature of 50 °C

3.7**burst pressure**

maximum pressure achieved during a burst test

3.8**test pressure**

pressure, when applied, shows no visible permanent deformation

3.9**working pressure**

pressure declared by the manufacturer as the pressure within the extinguishing aerosol dispenser, when filled with quantities of solid, liquid and gaseous content at 20 °C

3.10**extinguishing medium**

substance including any additive, such as corrosion inhibitor, freezing point depressant or blowing agent, contained in the extinguishing aerosol dispenser that causes extinction of a fire

3.11**protective cap**

cover over the valve of the extinguishing aerosol dispenser

Note to entry: if fitted, the protective cap is the safety device

3.12**propellant**

compressed gas held in the container, which allows the required pressure for the discharge of the extinguishing medium

3.13**fire rating**

designation of the largest test fire that has been extinguished when tested in accordance with 7.5.2, 7.5.3 and 7.5.4

3.14**domestic**

premises occupied as a private dwelling, including any garden, yard, garage, outhouse, or appurtenance of such premises, which is not used in common by the occupants of more than one such dwelling

3.15**safety device**

part that needs to be broken or removed before the extinguishing aerosol dispenser, and can be activated to prevent inadvertent operation

3.16**security seal**

part that is broken when removing the safety device and once broken cannot be replaced

3.17**minimum operating temperature**

T_{\min}

minimum temperature declared by the manufacturer at which the extinguishing aerosol dispenser will operate

T_{\max} is defined by the Directive

4 Contents of the extinguishing aerosol dispenser

4.1 Extinguishing medium

The extinguishing medium shall be one of the following:

- water based, including additives conforming to the physical characteristics declared by the manufacturer;
- powder conforming to EN 615.

4.2 Propellant

Only propellants listed in Table 1 or mixtures thereof shall be used. The maximum water content shall be as specified in Table 1, except when used in a water-based extinguishing aerosol dispenser. Tracers may be added to the propellant to facilitate leakage detection, but the content shall not exceed a mass fraction of 10 % of the propellant content.

Table 1 — Permitted propellants

Propellant	Maximum water content mass fraction, %
Air	0,006
Argon	0,006
Helium	0,006
Nitrogen	0,006

5 Construction, design and prototype testing

5.1 Operation

5.1.1 The extinguishing aerosol dispenser shall be operated by activating the valve. The method of activation shall be readily apparent. It shall be possible to operate the valve by one single action after having removed the safety device. It shall not be necessary for any movement of the actuating mechanism to be repeated in order to initiate discharge.

5.1.2 The construction of the extinguishing aerosol dispenser shall ensure no parts can be removed, excluding items in 5.1.5 and 5.1.6.

5.1.3 The design of the extinguishing aerosol dispenser shall allow visual identification of whether or not it has been used.

5.1.4 The extinguishing aerosol dispenser shall not need to be turned upside down to operate.

5.1.5 The extinguishing aerosol dispenser shall incorporate a safety device to prevent inadvertent operation, which shall be so constructed that any unaided manual attempt to initiate discharge will not deform or break any part in a way that would prevent the subsequent discharge of the extinguishing aerosol dispenser.

5.1.6 The extinguishing aerosol dispenser shall have a security seal, which shall be broken by the removal of the safety device. The force required to remove the safety device and break the security seal shall be between 5 N and 50 N, see Annex F. This security seal shall be such that it will not be broken or damaged in normal service and cannot be refitted after operation.

5.1.7 The extinguishing aerosol dispenser shall incorporate a valve to enable the discharge to be interrupted. The force required to actuate the device shall be between 5 N to 50 N, see Annex F.

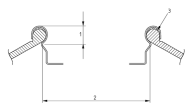
5.2 Body and closure

5.2.1 Body

The body shall be a metallic seamless container and shall have a maximum total capacity of 1 000 ml.

5.2.2 Closure

The closure shall be crimped under the neck ring of the body. The crimping diameter and the crimping depth shall be determined by the manufacturer, see Figure 1.

**Key**

- 1 crimp depth
- 2 crimp diameter
- 3 neck ring

Figure 1 — Crimp diameter and depth**5.3 Corrosion resistance****5.3.1 External corrosion**

After testing in accordance with B.1, the extinguishing aerosol dispenser shall show no signs of corrosion or other chemical degradation likely to impair its operation or safety, and shall fulfill the following requirements:

- the force required to activate the extinguishing aerosol dispenser shall be as specified in 5.1.7;
- the force required to release the safety device shall be as specified in 5.1.6;
- when the extinguishing aerosol dispenser is tested in accordance with G.1 the duration of operation at (20 ± 10) °C shall be within ± 25 % with a maximum deviation of 5 s of the value determined in 7.2;
- the extinguishing aerosol dispenser shall fulfil requirement of 5.7;
- the rate of pressure loss shall not exceed 5 % of the working pressure per annum.

5.3.2 Internal corrosion

After storage in accordance with B.2, the extinguishing aerosol dispenser shall fulfill the following requirements:

- a) the rate of pressure loss shall not exceed 5 % of the working pressure per annum;
- b) when the extinguishing aerosol dispenser is tested in accordance with G.1 the duration of operation at (20 ± 10) °C shall be within ± 25 % with a maximum deviation of 5 s of the value determined in 7.2;
- c) test for conformity to 7.5, see Annex H;
- d) the extinguishing aerosol dispenser shall fulfil requirement of 5.7.

5.3.3 Chemical and pressure stability

The contents shall not generate pressure by reacting with the body or any lining. The complete assembly shall be chemically stable. Small increases are permitted, but the total pressure may increase by a maximum of 10 % of the working pressure during the test, but shall be stable by the end of the test. It shall be tested in accordance with Annex K.