

Specification for small disposable fire extinguishers of the aerosol type

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Committees responsible for this British Standard

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- Automobile Association
- BRE/LPC Laboratories
- Chief and Assistant Chief Fire Officers Association
- Consumer Policy Committee of BSI
- Home Office
- Society of Motor Manufacturers and Traders Ltd.

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Amendments issued since publication

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14356 Corrigendum No. 1	4 March 2003	Changes to national foreword, Annex B and Annex H
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The following BSI references relate to the work on this standard:
Committee reference FSH/2/9
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Foreword

This British Standard has been prepared under the direction of the Fire Standards Policy Committee and specifies requirements for non-refillable fire extinguishers of the aerosol type. This British Standard supersedes BS 6165:1992, which is withdrawn.

It is recognized that small disposable non-refillable fire extinguishers can be exposed to more severe environmental conditions and are required to maintain their performance for longer periods than are other aerosol dispensers. For example, they can be installed in cars or other vehicles where they can be repeatedly exposed to higher than normal temperatures for up to five years. For these reasons, the requirements of this standard for the strength and pressure resistance of the extinguisher bodies are more stringent than those specified for the otherwise similar Group 1 containers in BS 3914:1991.

This British Standard has been written with the aim of producing a specification for a relatively inexpensive small disposable fire extinguisher with an acceptable minimum level of performance. This type of extinguisher 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. The standard therefore is unlikely to meet the requirements of the various specifying authorities for more comprehensive protection. These extinguishers are not intended to supplant the performance of extinguishers that comply with the requirements, which should still be regarded as the principal type to meet the needs of various authorities.

In order to minimize hindrance to developments in design, the general emphasis is on performance requirements rather than on dimensional requirements.

Clean agents for use with small portable extinguishers are not yet proven and are not therefore included in this standard but will be covered by an amendment when necessary.

Attention is drawn to the fact that many countries, including the United Kingdom, have statutory regulations concerning aerosol dispensers with which exporters to these countries have to comply. It is not practicable to give such details in a British Standard, and the user of this standard should, in the UK, seek the advice of the Department of Trade or, outside the UK, the Commercial Attaché or Consulate of the country concerned.

Annex A to Annex H are normative.

Special attention is drawn to EEC Directive 75324 of 20 May 1975, on Approximation of Aerosol Dispensers [1].

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 15 and a back cover.

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1 Scope

This British Standard specifies performance requirements for, and the maximum capacity of, small disposable fire extinguishers of the aerosol type, with metal bodies. It covers extinguishers containing powder and water-based media.

Requirements are specified for minimum performance in extinguishing test fires of type B and, optionally, type A classification of BS EN 2.

Annex A gives the conditioning treatment to be applied to extinguishers prior to testing as described in Annex B to Annex H.

NOTE Unless otherwise specified in the text, all pressures are gauge pressures and are expressed in bars.

1 bar = 10^5 N/m² = 10^5 Pa.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this British Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. For undated references, the latest edition of the publication referred to applies.

BS 3914:1991, *Specification for non-refillable metal aerosol dispensers of 50 ml to 1400 ml capacity and up to 85 mm diameter*.

BS 6002-1, *Sampling procedures for inspection by variables — Specification for single sampling plans indexed by acceptable quality level (AQL) for lot-by-lot inspection*.

BS EN 2, *Classification of fires*.

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

3 Terms and definitions

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

3.1

aerosol

dispensing container with a valve, holding a product that is kept under greater than atmospheric pressure by means of propellant (liquefied, compressed or dissolved gas or combination of such gases) and that is discharged when the valve is operated

NOTE This definition is that used in the packaging industry (see BS 3130-4:1976) and is in popular usage for consumer products. Scientifically, the term aerosol is defined as “a suspension of solid or liquid particles in a gas”. To avoid confusion, this British Standard avoids the use of the term “aerosol” as a noun and uses only the term “fire extinguisher of the aerosol type”.

3.2

batch

definite quantity of some commodity or service produced at one time under conditions that are presumed uniform

NOTE The circumstances under which the conditions can be presumed cannot be generally stated; for example, a change in the material or tool used in an interruption in the manufacturing process can give rise to different conditions (see BS ISO 3534-2: 1993).

3.3

body

shell of the extinguisher not fitted with its accessories, such as valves and gauges, but fitted with all its welded/brazed parts

3.4

charge of an extinguisher

mass or volume of the extinguishing medium contained in the extinguisher

3.5

equilibrium pressure

pressure developed within the container when filled with the quantity of solid, liquid and gaseous contents normally specified under production conditions and at a temperature of 55 °C

3.6

extinguishing medium

substance including any admixture such as corrosion inhibitor, freezing point depressant or blowing agent, contained in the extinguisher that causes extinction of a fire

3.7

fire extinguisher

appliance containing an extinguishing medium that can be expelled by the action of internal pressure and be directed on to a fire

3.8

fire extinguisher of the aerosol type

small disposable container incorporating a valve and containing a fire extinguishing medium kept under greater than atmospheric pressure by means of a propellant. The contents are discharged when the valve is operated

NOTE Fire extinguishers of the aerosol type are designed to be discarded after use and not to be refilled.

3.9

overcap

headcap

cover over head of extinguisher

3.10

powder extinguisher

extinguisher containing fire extinguishing powder

3.11

small disposable fire extinguisher

fire extinguisher of the aerosol type with capacity of less than 950 ml

NOTE See 5.3.1.1.

3.12

test fire rating

designation of the largest test fire that an extinguisher extinguishes when tested in accordance with 7.6.1 and 7.6.2

3.13

water-based extinguisher

extinguisher containing water only or water with additive

NOTE This includes foam extinguishers.

4 Contents of the extinguisher

4.1 Extinguishing medium

The extinguishing medium shall be one of the following:

- water-based, including foam (see notes 1 and 2);
- powder conforming to BS EN 615.

NOTE 1 It is recommended that extinguishers containing halons other than halon 1211 and halon 1301 should be removed from service. They should not be discharged. The use of halon 1211 and 1301 will be restricted to the “Critical Uses” listed by Annex VII of EC 3093/94 [2]. This permits no uses of these halons other than for very specific aircraft, defence or police fire extinguishing applications, such as extinguishing fires on the persons of police officers.

NOTE 2 Halon portable fire extinguishers withdrawn from service should be emptied in such a way that the halon is recovered, either for the limited possibility of reuse or for disposal by a non-contaminating method. This may be done by a suitable agency who will not necessarily be the manufacturer of the extinguisher.

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 stored pressure water-based portable fire extinguishers. Tracers may be added to the propellant to facilitate leakage detection, but the content shall not exceed a mass fraction of 5 % of the propellant content.