

Specification for

Small disposable fire extinguishers of the aerosol type

Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the Fire Standards Policy Committee (FSM/-) to Technical Committee FSM/2, upon which the following bodies were represented:

- Association of Metropolitan Authorities
- British Aerosol Manufacturers' Association
- British Fire Consortium
- British Fire Services' Association
- British Telecommunications plc
- Chief and Assistant Chief Fire Officers Association
- Consumer Policy Committee of BSI
- Department of the Environment (the Buying Agency)
- Department of Transport (Marine Directorate)
- Fire Extinguishing Trades Association
- Health and Safety Executive
- Home Office
- Independent Fire Equipment Distributors' Association
- Institution of Fire Engineers
- London Fire and Civil Defence Authority
- London Regional Transport
- Loss Prevention Council
- Ministry of Defence
- National Association of Fire Officers
- Society of Chemical Industry
- Society of Motor Manufacturers and Traders Limited

The following body was also represented in the drafting of the standard, through subcommittees and panels:

Automobile Association

This British Standard, having been prepared under the direction of the Fire Standards Policy Committee, was published under the authority of the Standards Board and comes into effect on 15 October 1992

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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 This British Standard supersedes BS 6165:1981, which is withdrawn.

It is recognized that small disposable non-refillable fire extinguishers may 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 may be installed in cars or other vehicles, where they may 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.

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 may be 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 more robust higher performance extinguishers that comply with the requirements of BS 5423, which should still be regarded as the principal type to meet the need of various authorities.

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

This revision incorporates appropriate changes from the 1981 edition, corresponding to those made to BS 5423 in 1987. The scope is now restricted to powder extinguishers and halon 1211 extinguishers, since it is considered that the other extinguishing media are little used in this type of extinguisher.

The text has been completely rearranged. Tests required to be made during production are distinguished from those for type approval.

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.

Special attention is drawn to EEC Directive 75/324 of 20 May 1975, on *Approximation of Aerosol Dispensers* [1].

Product certification. Users of this British Standard are advised to consider the desirability of third party certification of product conformity with this British Standard based on testing and continuing surveillance, which may be coupled with assessment of a supplier's quality systems against the appropriate Part of BS 5750.

Enquiries as to the availability of third party certification schemes will be forwarded by BSI to the Association of Certification Bodies. If a third party certification scheme does not already exist, users should consider approaching an appropriate body from the list of Association members.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their 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 to iv, pages 1 to 14, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

Section 1. General

1.1 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 deals only with extinguishers that use powder or halon 1211 as the extinguishing medium.

Requirements are specified for minimum performance in extinguishing test fires of type B and, optionally, type A classification of BS 4547:1972.

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

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

$$1 \text{ bar} = 10^5 \text{ N/m}^2 = 10^5 \text{ Pa}$$

1.2 References

1.2.1 Normative references

This British Standard incorporates, by reference, provisions from specific editions of other publications. These normative references are cited at the appropriate points in the text and the publications are listed on the inside back cover. Subsequent amendments to, or revisions of, any of these publications apply to this standard only when incorporated in it by updating or revision.

1.2.2 Informative references

This British Standard refers to other publications that provide information or guidance. Editions of these publications current at the time of issue of this standard are listed on the inside back cover, but reference should be made to the latest editions.

1.3 Definitions

1.3.1

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 (sometimes together with the propellant) when the valve is operated

NOTE This definition is that used in the packaging industry (see BS 3130-4) 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”. In view of the danger of 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”.

1.3.2

body

metal shell of an extinguisher, excluding all closures, safety devices and pressure indicators but including any skirt

NOTE “Body” is the term commonly used for reference to fire extinguishers. In the packaging industry in general the term “container” is used for the equivalent item.

1.3.3

extinguisher

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

1.3.4

extinguishing medium

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

1.3.5

charge of an extinguisher

mass of the extinguishing medium contained in the extinguisher

1.3.6

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

1.3.7

filling density

mass in kilograms of charge per litre of body volume as fitted for use, i.e. complete with valve and internal fittings

1.3.8

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 Powder fire extinguishers of the aerosol type are designed to be discarded after use and not to be refilled. Extinguishers containing halon are intended to be returned to the manufacturer for recovery of any residual halon.