

Fire extinguishing installations and equipment on premises —

**Part 3: Code of practice for selection,
installation and maintenance of
portable fire extinguishers**

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Foreword

This revision of BS 5306-3 has been prepared under the direction of the Fire Standards Committee. This revision supersedes BS 5306-3:1980 which is withdrawn.

The other Parts of BS 5306 in preparation or published are as follows:

- *Part 0: Guide for selection of installed systems and other fire extinguishing equipment*¹⁾;
- *Part 1: Hydrant systems, hose reels and foam inlets;*
- *Part 2: Sprinkler systems;*
- *Part 4: Specification for carbon dioxide systems*¹⁾;
- *Part 5: Halon systems;*
- *Section 5.1: Halon 1301 total flooding systems;*
- *Section 5.2: Halon 1211 total flooding systems;*
- *Part 6: Foam systems*¹⁾;
- *Part 7: Extinguishing powder systems*¹⁾.

The rating system of BS 5423 in which the fire performance of extinguishers on class A and class B fires, as defined in BS 4547, are assessed on the basis of their ability to extinguish specified test fires, is used in this code for the determination of the distribution of extinguishers on premises. The method of calculation used to determine the recommended ratings for extinguishers for class B fires in the first edition of this standard proved cumbersome in use. In this revision class B ratings recommended are determined by direct readings from tables to give the same result as by calculation but more simply. Additional consideration is given to factors that may affect the type of extinguisher selected for class A fires. Special precautions for class C and class D fires are outlined.

Recommendations for the identification of the content of fire extinguishers by colour are given in BS 5423.

The scope of the CP 402-3:1964 covered portable fire extinguishers for plant. However, whilst the provisions of this code could in general be applied to the needs of plant (both installed and mobile) in a building or on a building site, the code has not been framed specifically with plant in mind, and the reference to “plant” has accordingly been omitted from both the title and the scope, as in the first edition of this standard.

The application of this code to the needs of small private dwellings was considered at the drafting stage but it was concluded that, whereas the general principles of the code are applicable to all buildings, there are considerations of scale and economics in small private dwellings that make it unrealistic to regard the code’s recommendations as applying strictly to such premises. The code is, however, fully applicable to large private houses and mansions.

It was also considered whether the recommendations for planning and provision given in section 2 of this code could be extended to cover the needs of caravans, small marine craft and motor vehicles. It was finally decided not to undertake this task as it generally falls outside the defined scope of the series. Portable fire extinguishers in caravans have been dealt with in BS 3632 and BS 4626, whilst those for marine craft and motor vehicles are the subject of a number of government advisory publications and regulations.

¹⁾ In preparation.

The recommendations for inspection, maintenance and testing in section 3 of this code may be applied to portable extinguishers wherever they may be located.

The requirements of BS 6643 have been taken into account in the revised recommendations for recharging in section 4.

Recommendations are introduced in this revision covering identification and reporting procedures for the annual inspection and maintenance, since it is important not only that extinguishers are, but are known to have been, serviced.

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 22, 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

0 Introduction

It is important that the fire protection of a building should be considered as a whole. Portable fire extinguishers form only part, although an important part, of such facilities, and it should not be assumed that their provision entirely obviates the need for other protection, e.g. hydrants, hose reels, sprinkler or other automatic or manual extinguishing systems, or trolley mounted or large mobile extinguishing units.

Advice on such matters can always be obtained from fire authorities, the Health and Safety Executive and fire insurers. Many fire safety consultants and fire engineering companies also offer this service. In addition reference should be made as necessary to other Parts of this code.

Portable fire extinguishers are valuable in the early stages of fire when their portability and immediate availability for use by one person enable a prompt attack to be made. They cannot be expected to deal with a large fire since they are essentially first aid fire-fighting appliances of a limited capacity.

It should be realized that the usefulness of portable fire extinguishers depends to a considerable extent on proper maintenance and on the presence of persons who know how to operate them, and staff should be trained in their use.

Particular attention is drawn to the necessity for compliance with statutory requirements and to the necessity for observance of contractual obligations to insurers.

1 Scope

This Part of BS 5306 gives recommendations on the suitability, siting, inspection, testing and maintenance of portable fire extinguishers primarily those complying with BS 5423 that can be carried by one person and that are used for the protection of buildings and other premises and their contents. The recommendations are based on the assumption that no other fire fighting equipment or systems are to be provided. Where such other means are provided, expert advice should be sought on the reduced scale of provision of portable extinguishers.

Extinguishers complying with the withdrawn standards BS 740-2, BS 1382, BS 1721, BS 3326, BS 3465 and BS 3709 may well continue in service for a number of years before being replaced by extinguishers complying with BS 5423. The procedures of this code should be applied to extinguishers complying with these withdrawn standards except where, for constructional reasons, this is not possible. Since these standards did not include a fire rating system, extinguishers complying with them are not marked with test fire ratings as described in 5.1 but for installation purposes may be regarded as having ratings in accordance with the values given in appendix D. Recommendations for the inspection, service and maintenance of soda acid extinguishers complying with BS 138 and chemical foam extinguishers complying with BS 740-1 (both withdrawn) have not been included since it is considered that extinguishers of this type should be withdrawn from service.

This code does not cover detailed recommendations for small private dwellings.

NOTE The titles of the publications referred to in this standard are listed on the inside back cover.

2 Definitions

For the purposes of this Part of BS 5306 the definitions given in BS 4422-4 apply together with the following²⁾.

2.1 body

the body shell (see 2.3) complete with body fittings (see 2.2)

2.2 body fittings

those parts of the extinguisher (see 2.8) that, under normal working conditions, are permanently attached to the body shell (see 2.3) and are subject to the working pressure

2.3 body shell

the unfinished outer case of the extinguisher (see 2.8) usually comprising a cylindrical part with dished ends, and containing an aperture or apertures for charging the extinguisher or for subsequent fitting of components such as nozzles, pressure gauges and closures

2.4 charge

the extinguishing medium (see 2.7) contained in the extinguisher and, where appropriate, the propellant

²⁾ These definitions are in general agreement with those of BS 4422-4 but follow current use and practice as in BS 5423.

2.5**competent person**

a person with the necessary training and experience, and with access to the requisite tools, equipment and information, to be capable of carrying out the inspection and maintenance procedures of clause 8

2.6**disposable body**

the body (see 2.1) of a gas cartridge (see 2.20) or of an extinguisher (usually the stored pressure type) that is not designed for recharging and should be discarded after use

2.7**extinguishing medium**

the product or products contained in the extinguisher that cause extinction

2.8**fire extinguisher**

an appliance containing an extinguishing medium that can be expelled by the action of internal pressure and be directed on to a fire. This pressure may be stored pressure or be obtained by chemical reaction or by the release of gas from a separate pressure container

NOTE This is referred to throughout this code as “extinguisher”.

2.9**fire extinguisher, carbon dioxide**

an extinguisher containing liquid carbon dioxide (CO_2) that is released as a gas on the actuation of the extinguisher

2.10**fire extinguisher, foam (chemical)**

an extinguisher from which foam is expelled when chemical solutions stored separately within the body of the extinguisher are allowed to mix and react (see 8.6)

2.11**fire extinguisher, foam (gas cartridge)**

an extinguisher from which foam is expelled by pressure released from a gas cartridge (see 2.20)

2.12**fire extinguisher, foam (stored pressure)**

an extinguisher from which foam is expelled by the release of pressure stored within the body

2.13**fire extinguisher, halon (stored pressure)**

an extinguisher containing a halon (see 2.19) that is expelled by the release of pressure stored within the body

2.14**fire extinguisher, powder (gas cartridge)**

an extinguisher containing powder that is expelled by pressure released from a gas cartridge (see 2.20)

2.15**fire extinguisher, powder (stored pressure)**

an extinguisher containing powder that is expelled by the release of pressure stored within the body

2.16**fire extinguisher, water (gas cartridge)**

an extinguisher from which the water is expelled by pressure released from a gas cartridge

2.17**fire extinguisher, water (stored pressure)**

an extinguisher from which the water is expelled by the release of pressure stored within the body

2.18**fire extinguisher, water (soda acid)**

an extinguisher from which the water is expelled by pressure resulting from an acid/alkali reaction in the contents of the extinguisher (see 8.3)

2.19**halon**

a halogenated hydrocarbon used as an extinguishing medium

NOTE Halons used as extinguishing media are designated by a number in which:

- a) the first digit is the number of carbon atoms in the molecule;
- b) the second digit is the number of fluorine atoms in the molecule;
- c) the third digit is the number of chlorine atoms in the molecule;
- d) the fourth digit is the number of bromine atoms in the molecule.

Thus bromochlorodifluoromethane is halon 1211. The halon number does not distinguish between isomers.

2.20**gas cartridge (pressure container)**

a pressure vessel that fits into, or is attached to, the fire extinguisher and that contains either compressed or liquefied gas that, on operation, is used to expel the extinguishing medium

NOTE This is referred to throughout this code as “gas cartridge”.

2.21**field rechargeable extinguisher**

an extinguisher of the gas cartridge type or a stored pressure type that may be recharged in the field

NOTE All gas cartridge type extinguishers are “field rechargeable” and the use of the term is not normally necessary for these extinguishers. Only some stored pressure type extinguishers, however, are “field rechargeable”.

2.22**primary sealed stored pressure extinguisher**

a stored pressure extinguisher in which the operating head and valve to control the flow of medium during discharge can be detached from the body of the extinguisher without releasing propellant or medium, which are retained in the body by a closure that is ruptured on operation

2.23**factory sealed rechargeable body**

the body (see 2.1) of a gas cartridge (see 2.20) or of an extinguisher (usually the stored pressure type) that is intended to be recharged after use but only by the manufacturer or his approved agent

2.24**valve operated stored pressure extinguisher**

a stored pressure extinguisher in which a single valve serves both to retain the propellant and extinguishing medium before operation of the extinguisher, and to control the flow of medium during discharge

2.25**user**

the person(s) responsible for or having effective control over fire safety provisions adopted in or appropriate to the premises or the building