

# Fire Safety Guidance Note:

# GN08

# Hand Held Portable Firefighting Equipment

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## Explanatory Note:

The London Fire Commissioner (the Commissioner) is the fire and rescue authority for London. The Commissioner is responsible for enforcing the Regulatory Reform (Fire Safety) Order 2005 (as amended), hereafter referenced as 'The Order', in London.

This Note is one of a series produced by the Commissioner to provide advice to the general public on various aspects of fire safety. If you require any further guidance on the advice given here or require advice on another topic please contact your local fire safety office, telephone 020 8555 1200 and ask for the nearest fire safety office, or visit the London Fire Brigade web site at <http://www.london-fire.gov.uk>.

# 1 Introduction

- 1.1 The purpose of this Note is to provide information to user groups on the type, siting and maintenance of portable firefighting equipment for use in commercial and other premises. This information should be used to inform and review fire risk assessments and the management of the equipment, its use and servicing, by stakeholders responsible for fire safety in premises including the responsible person (RP) and premises management groups.
- 1.2 To help prevent small fires growing into larger fires, suitable firefighting equipment should be available at all times. On most occasions the equipment available will be of the hand-held portable type, but in some circumstances fixed or automatic equipment may be provided.
- 1.3 In some premises, having one or two portable extinguishers of the appropriate type available for use may be all that is necessary. In larger, more complex premises, more portable extinguishers may be required, and they should be sited in suitable locations, such as on the escape routes at each floor level. It may also be necessary to indicate the location of extinguishers by suitable signage. The FRA for the premises will detail this requirement.

## 2 Other Authorities you may need to consult

- 2.1 London Fire Brigade enforces fire safety legislation in many areas, but not all. Therefore, before providing firefighting equipment you are advised to consult the relevant enforcing authority for your premises, the other authorities involved may include:
  - Health and Safety Executive e.g. new construction sites, nuclear sites etc.
  - Crown Premises Fire Safety Inspectorate' e.g. prisons and crown properties etc.
  - Defence Fire Safety Regulator e.g. Her Majesty's Armed Forces bases
  - Local authority (contact the local borough council to find out which department may be involved)
- 2.2 Insurance companies may also wish to augment the number and type of extinguishers covering a specific risk as a condition to issuing an insurance policy.

## 3 General Principles

- 3.1 Portable firefighting equipment should be allocated appropriate to the perceived fire risk. This should be classified by the extinguisher rating, and not the extinguisher size, weight, or content in litres.
- 3.2 Different types of fire risk require the use of specific extinguishing agents. British Standard BS EN 2: Classification of fire; classifies these risks according to material involved. Appropriate extinguishing media have been indicated below:

<u>CLASS OF MATERIALS INVOLVED</u>	<u>EXTINGUISHING MEDIA</u>
<b>CLASS A:</b> Fires involving solid materials usually of an organic nature in which combustion normally takes place with the formation of glowing embers, e.g. wood, paper or textiles.	Extinguishers with an 'A' rating: e.g. 13A Types include Water extinguisher, Foam Extinguisher, Dry Powder extinguisher (size according to risk).
<b>CLASS B:</b> Fires involving liquids or liquefiable solids, e.g. petrol, diesel or oils.	Extinguishers with a 'B' rating: e.g., 34B Types include Foam extinguisher, CO <sup>2</sup> extinguisher, Dry powder extinguisher (size according to risk).
<b>CLASS C:</b> Fires involving gases	Foam extinguisher (according to risk) Seek specialist advice.
<b>CLASS D:</b> Fires involving metals	Special powder extinguishers (size and type according to risk), dry sand (quantity according to risk). Seek specialist advice.
<b>CLASS F:</b> Fires in cooking appliances that involves vegetable or animal fats.	Extinguishers with an 'F' rating: e.g., 15F Types include Foam extinguisher, CO <sup>2</sup> extinguisher, Dry powder extinguisher (size according to risk).

- 3.3 Fire extinguishers should conform to British Standard BS EN 3 and be maintained as outlined in British Standard BS 5306: Part -3: extinguishing installations and equipment on premises. Commissioning and maintenance of portable fire extinguishers. Code of practice. Schemes for ensuring the conformity with these Standards have been produced by the British Standards Institution and adopted by British Approvals for Fire Equipment (BAFE) and conforming equipment and services are recognised by that organisation's mark of approval.
- 3.4 There are also 20 year life cycle extinguishers that need to be refilled/refurbished after 10 years by the manufacturer. These extinguishers enable a business or an organisation to carry out their own maintenance with a simple visual inspection that is required at least annually. Depending on the type and location of the extinguisher, it may be appropriate to perform a visual inspection at shorter intervals (e.g. monthly). These extinguishers are either dry powder or foam within a Kevlar lined container and covered with a composite outer casing. Due to the 10-year operational corrosion guarantee they do not require a traditional service contract. These extinguisher types meet the requirements of the Regulatory Reform (Fire Safety) Order 2005 and are therefore acceptable to the London Fire Brigade. They are suitable for a number of locations within a premises and come in various sizes. The FRA will provide detailed information with regard to their location and placement, see paragraph 5.2.

- 3.5 Further innovations are extinguishers with a green colour coding. These can be used for small Lithium-ion battery fires and whilst suitable for Class A fires, they are more effective than standard extinguishers. These extinguishers contain clean agent gases or wet chemical solutions, minimising damage to sensitive equipment or valuable assets.
- 3.6 Water mist fire extinguishers have a white body. They can tackle a wide range of fires, including Class A, B, C, and electrical fires. They release a fine mist of water droplets which cools the fire, remove the heat, and creates a barrier between the flames and the extinguisher operator.
- 3.7 Fluorine-free foam. Manufacturers have begun to replace foam in foam extinguishers with fluorine-free foam. This type of firefighting foam is versatile in application but is a more environmental choice, being free from the harmful Per- or poly-fluorinated alkyl substances (PFAS) chemicals which are known and referred to as 'forever chemicals'. (The Persistent Organic Pollutants Regulations 2007 apply)(The FIA guidance document-Foam Extinguisher Restrictions Briefing provides further details of the restrictions placed on this type of foam used in foam extinguishers). The HSE is currently considering responses to a June 2024 call for evidence on PFAS-containing firefighting foams.

#### **Fire Blankets**

- 3.8 Fire blankets primarily intended for extinguishing cooking oil fires are described in British Standard BS EN 1869: fire blankets. These can also be used for fires involving personal clothing.
- 3.9 Heavy-duty fire blankets and heat protective blankets primarily for industrial use are described in British Standard BS 7944: Type 1 Heavy duty fire blankets and Type 2 Heavy duty heat protective blankets.

## **4 Colour of Fire Extinguishers**

- 4.1 The body colour of fire extinguishers is signal red, irrespective of the extinguishing media they contain. The extinguishers have a colour indication on the body of as noted in the table in paragraph 4.3 below.
- 4.2 Certain companies and other premises types may have extinguishers that co-ordinate to their specific 'Brand' or have less conspicuous colours. These may still have the 5% surface area in colour, as detailed in paragraph 4.3 below.
- 4.3 In the United Kingdom a colour zone of up to a maximum of 5% of the surface area of the extinguisher body may be used to identify the extinguishing agent. If used the colours will indicate: (Vaporising Liquid Extinguishers were coloured green and may still be found in certain applications).

<b><u>EXTINGUISHING AGENT</u></b>	<b><u>COLOUR</u></b>
Water	<b>RED</b>
Foam	<b>PALE CREAM</b>
Powder	<b>BLUE</b>
Powder Class D	<b>SIGNAL VIOLET</b>
Carbon Dioxide (CO <sub>2</sub> )	<b>BLACK</b>
Wet Chemical	<b>CANARY YELLOW</b>
Clean agent (including halons)	<b>GREEN</b>

## 5 Classification and Rating of Extinguishers

- 5.1 The scheme for the classification and rating of class A & B type extinguishers is detailed in British Standard BS EN 3-7 Portable fire extinguishers. Characteristics, performance requirements and test methods. On successful completion of the tests, a fire test rating is awarded to the extinguisher, and this is indicated on the instruction label (e.g. 13A, 34B, 15F).
- 5.2 The type, quantity, and distribution of extinguishers throughout the premises should be based on the risks identified in the fire risk assessment. The performance rating of the extinguishers is an important factor in this assessment, a 13A extinguisher need not be the heavy 9 litre water extinguisher found in many premises. A smaller version that still meets the 13A criteria is just as effective. A 2.5 kilogram Carbon Dioxide (CO<sub>2</sub>) extinguisher is rated as a 34B.
- 5.3 British Standard BS 5306-8: Fire extinguishing installations and equipment on premises. Selection and positioning of portable fire extinguishers. Code of practice; details the recommendations concerning the selection and positioning of portable fire extinguishers.

## 6 Location

- 6.1 Fire extinguishers should normally be located in conspicuous positions on escape routes, preferably near exit doors. Wherever possible, firefighting equipment should be grouped to form fire points. If extinguishers are placed in positions hidden from direct view, the Health & Safety (Safety Signs & Signals) Regulations 1996 require that their location be indicated by signs and, where appropriate, directional arrows.
- 6.2 Fire extinguishers can be either hung on suitable wall brackets or placed in purpose made stands. These stands often have the details of the specific extinguishers printed on the back of the stand. The stands are useful as if it is empty, you are aware that an extinguisher is missing and needs to be replaced.

## 7 Maintenance and Disposal

- 7.1 Regular inspection by the user should ensure that:
- (a) Each extinguisher is located in its designated place.
  - (b) Operating instructions are clean and legible.
  - (c) Each extinguisher has not been operated and not obviously damaged.
  - (d) Any pressure gauge or indicator is within operational and safety limits.
  - (e) The seals and tamper indicators are not broken or missing.
- 7.2 Basic servicing should be carried out annually by a competent person. Extended servicing, including discharging and recharging, should be carried out as detailed in British Standard BS 5306-3: Fire extinguishing installations and equipment on premises. Commissioning and maintenance of portable fire extinguishers. Code of practice. However, see paragraph 3.4 and 8.2.
- 7.3 Maintenance tests of all extinguisher types should be recorded.
- 7.4 The link detailed, can assist those who need to dispose of fire extinguishers.  
<https://www.fireprotectionrecycling.co.uk/>

## 8 Training

- 8.1 All staff should be familiar with the location and basic operating procedures for the equipment provided in case they need to use it. If your fire strategy means that certain people, e.g. fire marshals/fire wardens, will be expected to take a more active role, then they should be provided with more comprehensive training.
- 8.2 Staff should be aware of the situation they are in and the dangers of tackling fires with the risk of smoke inhalation and toxic fumes. Extinguishers should only be used for small, contained fires. Evacuation should be prioritised and staff should wait for the local fire and rescue service to attend where the use of fire extinguishers is not deemed safe for on-site staff.
- 8.3 For staff who are to undertake in-house inspections of the 20 year life cycle extinguishers, it is important that they have been appropriately trained and receive the correct equipment to be able to carry out this task.

## 9 Bibliography

- 9.1 Detailed guidance on the various standards listed in the guidance note may be obtained from the following bibliography.
- 9.2

AVAILABLE FROM	TITLE
British Standards Institution (Sales) 389 Chiswick High Road London W4 4AL Telephone: 0345 080 9000 Fax: 020 8996 7001	BS 5306-8: Fire extinguishing installations and equipment on premises. Selection and positioning of portable fire extinguishers. Code of practice

<p>E-mail: <a href="mailto:cservices@bsi-global.com">cservices@bsi-global.com</a>  Web: <a href="http://www.bsigroup.com">www.bsigroup.com</a></p>	<p>BS 5306-3: Fire extinguishing installations and equipment on premises. Commissioning and maintenance of portable fire extinguishers. Code of practice</p> <p>BS EN3: Parts 6 - 9 Portable Fire Extinguishers</p> <p>BS EN2: Classification of fires</p> <p>BS 5306-10: Colour coding to indicate the extinguishing medium contained in portable fire extinguishers – Code of practice</p> <p>BS EN 1869: Fire Blankets</p> <p>BS 7944: Type 1 Heavy duty fire blankets and Type 2 Heavy duty heat protective blankets.</p> <p>BS 9999: Code of practice for fire safety in the design, management and use of buildings</p> <p>BS 9991: Fire safety in the design, management and use of residential buildings. Code of practice</p> <p>BS 6165: Specification for Small Disposable Fire Extinguishers of the Aerosol Type</p> <p>BS 6643: Recharging Fire Extinguishers</p>
<p>The Stationery Office (Mail, Telephone, Fax &amp; Internet Orders)</p> <p>TSO Orders/Post Cash Dept.  PO Box 29  Norwich  NR3 1GN</p> <p>Telephone: 0333 202 5070  Fax orders: 0333 202 5080  Mail customer.services@tso.co.uk  Web: <a href="http://www.tso.co.uk/">www.tso.co.uk/</a></p>	<p>Fire safety in offices and shops  ISBN-13: 978 1 85112 815 0</p> <p>Fire safety in factories and warehouses  ISBN-13: 9778 1 85112 816 7</p> <p>Fire safety in premises providing sleeping accommodation  ISBN-13: 978 1 85112 818 1</p> <p>Fire safety in residential care premises  ISBN-13:978 1 85112 818 1</p> <p>Fire safety in educational premises  ISBN-13: 978 1 85112 819 8</p> <p>Fire safety in small and medium places of assembly  ISBN-13: 978 1 85112 820 4</p> <p>Fire safety in large places of assembly  ISBN-13: 978 1 85112 821 1</p> <p>Fire safety in theatres and cinemas  ISBN-13: 978 1 85112 822 8</p>

	<p>Fire safety at outdoor events ISBN-13: 978 1 85112 823 5</p> <p>Fire safety in healthcare premises ISBN-13: 978 1 85112 824 2</p>
	<p>Fire safety in the transport network ISBN-13: 978 1 85112 825 9</p> <p>Fire Safety Risk Assessment - Means of Escape for Disabled People ISBN: 978 1 85112 873 7</p>
<p>Communities &amp; Local Government <a href="http://www.communities.gov.uk">www.communities.gov.uk</a></p>	<p>A short guide to making your premises safe from fire. Product code: 05 FRSD 03546</p>
<p>Health &amp; Safety Executive Order a Publication: 0333 202 5070 Mail: <a href="mailto:hseorders@tso.co.uk">hseorders@tso.co.uk</a> Website: <a href="http://www.hsebooks.com">www.hsebooks.com</a></p>	<p>Health &amp; Safety (Safety Signs &amp; Signals) Regulations 1996</p>

The above publications are current at the time of preparation of this Guidance Note

The "Fire Safety" guides listed above may also be downloaded free of charge from the Fire Safety Law Section of the CLG website at: <https://www.gov.uk/workplace-fire-safety-your-responsibilities>

## Making London the Safest Global City