

6

Fire extinguishing and escape

The Boat Safety Scheme Essential Guide



For more technical information

The requirements in this chapter have been informed by, and may refer to, the following technical references, codes and regulations. If you are building, fitting-out or making substantial changes to a vessel, we strongly recommend you refer to, and take account of, the codes and standards below:

- **BS 5306-3:2003 'Fire extinguishing installations and equipment on premises. Code of practice for the inspection and maintenance of portable fire extinguishers'**
- **BS 5499-2:1986 'Fire safety signs, notices and graphic symbols. Part 2 Specification for self-luminous fire safety signs'**
- **BS 5499-5&6:2002 'Graphical Symbols and Signs. Safety Signs, Including Fire Safety Signs – 'Part 5: Signs with Specific Safety Meanings' 'Part 6: Creation and design of graphical symbols for use in safety signs'. Requirements**
- **BS 6575:1985 'Specification for fire blankets' (superseded, withdrawn)**
- **BS EN 3-6:1996 'Portable fire extinguishers. Provisions for the attestation of conformity of portable fire extinguishers in accordance with EN 3 Pt 1 to Pt 5'**
- **BS EN 1869:1997 'Fire blankets'**



BSS Essential Guide

- BS EN ISO 9094–1:2003 ‘Fire Protection. Craft with a hull length of up to and including 15m’
- BS EN ISO 9094–2:2002 ‘Fire Protection. Craft with a hull length of over 15m and up to 24m’
- Statutory Instrument SI 1998 No. 1011 ‘The Merchant Shipping (Fire Protection: Small Ships) Regulations 1998’ <http://www.opsi.gov.uk/si/si1998/19981011.htm>
- MCA Information on the ‘Regulations Applicable to Pleasure Vessels’ http://www.mcga.gov.uk/c4mca/mcga-pleasure_craft_information_pack.pdf

This chapter covers the requirements to ensure that your boat has suitable fire-fighting equipment in order to provide an immediate response to a small fire. This will minimise the risk of a fire on your boat escalating out of control, and can help you and your passengers to escape safely.

You should ensure that your portable fire extinguishers are properly certified, that you have a sufficient number of an appropriate type and that they are in good condition. A fire blanket may provide a better method of extinguishing a cooking pan fire. There is a section on fire blankets in this chapter.

To help ensure that anyone onboard may escape more easily from a fire, we strongly recommend that whenever possible, your boat should have two means of escape from accommodation areas. This will be checked at examination and advice provided as appropriate.

Knowing about the location of your extinguishers, how to use them and the fire blanket and ensuring your crew know where the escape points are key parts of a fire action plan. There is more information on making a fire action plan in our leaflet ‘Avoiding Fire Afloat’.



Boats obliged to meet the navigation authorities’ requirements must comply with the following:

- 16** All vessels must carry specified fire fighting equipment.
- 17** All fire fighting equipment must be maintained in good condition and kept readily accessible for safe use in an emergency.

6.1 Portable fire extinguishers

Having the equipment to deal with small fires as well as the facility to aid an escape from a small fire is covered in this section.

The size and layout of a boat determines your ability to reach an extinguisher easily and to have the available capacity to control small fires.

6.1.1/R REQUIREMENT

Are the correct number of portable fire extinguishers provided, and do they have the correct fire ratings?

Check the number of portable fire extinguishers provided and check their individual and combined fire ratings.

Each portable fire extinguisher must have an individual fire rating of 5A/34B or greater.

The number of portable extinguishers and their combined fire ratings, must be as prescribed in the following table.

The minimum number of extinguishers may be reduced by a maximum of one 5A/34B rated extinguisher where the vessel has either no internal combustion engines, or no fuel-burning appliances.

| Length of vessel | Min. number of each | Min. combined fire rating |
|------------------|---------------------|---------------------------|
| Under 7m (23ft) | 2 | 10A/68B |
| 7-11m (23-36ft) | 2 | 13A/89B |
| Over 11m (36ft) | 3 | 21A/144B |

Notes – Owners of longer vessels must pay attention to the total required capacity in the ‘Min. combined fire rating’ column.

Portable fire extinguishers manufactured prior to the introduction of EN 3 may not have fire ratings marked on the extinguisher. Such extinguishers maintained in good condition, properly certified and satisfying the navigation authority’s previous individual and total weight requirements are acceptable. More information about this is available on www.boatsafetyscheme.com or by post or email from the BSS Office.

Fuel-burning appliances include those fuelled by LPG, diesel, paraffin, spirit and solid fuel.

Supplementary information on fire ratings and classification is available on www.boatsafetyscheme.com or by post or email from the BSS Office.

Poor quality of design or manufacture could mean you do not have a working extinguisher when you most need it. The navigation authorities need to be assured of an extinguisher's performance and seek independent verification.

6.1.2/R REQUIREMENT

Is the performance of all the portable fire extinguishers properly certificated?

Check all portable fire extinguishers, identified as being compliant at 6.1.1, for evidence of accredited third-party certification.

Portable fire extinguishers must be marked with at least one of the following certification marks:



British Approvals for Fire Equipment



Loss Prevention Certification Board



Loss Prevention Certification Board



Société Générale De Surveillance



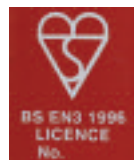
British Approvals for Fire Equipment



AFNOR 'NF' mark



Marine Equipment Directive
'ship's wheel'



British Standards Institution 'Kitemark'

Notes – 'CE' marking alone on any extinguisher does not indicate certification of performance to EN 3. Further information is available on www.boatsafetyscheme.com or by post or email from the BSS Office.

Firemaster 1000PR B/C [Brass/Chrome] models marked without the 'Kitemark' are acceptable.

Can you be confident about the working condition of your extinguishers? An extinguisher in poor condition may suffer pressure loss, contents loss, mechanism failure or other reasons for not working.

6.1.3/R REQUIREMENT

Are all portable fire extinguishers in good condition?

Check the condition of all portable fire extinguishers identified as compliant at 6.1.1 and 6.1.2.

Portable fire extinguishers must be in good general condition, and must not show any of the following indicators of poor condition:

- missing safety pin;
- dents;
- gouges;
- pressure gauge (where fitted) indicator in the 'red' sector;
- having passed the manufacturer's express 'expiry' or 'replace by' date;
- perished hose;
- significant rust or other form of corrosion;
- obvious under weight indicating whole or partial discharge;
- signs of damage to trigger assembly, including deterioration caused by ultraviolet light and heat.

Notes – Portable fire extinguishers having passed the manufacturer's express 'expiry' or 'replace by' dates are acceptable if supported by evidence of servicing in accordance with BS 5306 by a service technician within the last 12 months. Evidence must be in the form of a service label on the extinguisher and an associated invoice or service report on headed paper from a company recognisable as an extinguisher servicing company.

Best practice

We recommend all extinguishers of a serviceable type have an annual service by a suitably competent person.

We recommend using companies and technicians registered with the body known as BAFE to be assured of fire extinguisher servicing standards.

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The correct installation of your extinguishers is crucial. In the event of a fire on your boat, extinguishers that are not easy to reach quickly, may be useless.

6.1.4/R REQUIREMENT

Are portable fire extinguishers distributed around the vessel in readily accessible and safe locations adjacent to escape routes?

Check the accessibility and location of the portable fire extinguishers identified as compliant at 6.1.1 and 6.1.2.

Portable fire extinguishers must be readily accessible.

Portable fire extinguishers must be distributed around the vessel adjacent to escape routes.

Portable fire extinguishers must not be mounted in a position that requires the user to reach over a cooking appliance.

Best practice

We strongly recommend mounting portable fire extinguishers on fixed brackets to aid their more rapid use.

b

You may prefer to locate extinguishers in lockers for reasons of security, ease of passage, etc. In the event of a fire, people unfamiliar with your boat including the emergency services, need to locate extinguishing equipment quickly.

6.1.5/R REQUIREMENT

Are all portable fire extinguishers in open view or their location clearly marked?

Identify the location of all portable fire extinguishers identified as compliant at 6.1.1 and 6.1.2.

Where portable fire extinguishers are not in open view with all removable lids, doors, curtains, etc in place, check for the presence of a label in open view indicating their location.

Portable fire extinguishers, must:

- be in open view with all removable lids, doors, curtains etc in place; or,
- have their location clearly marked by a label in open view.

Notes – the location of any fixed portable fire extinguisher brackets may be used to determine the normal location of any extinguishers found lying loose at the time of an examination.

Where used, the preferred label has a red background and white image (off-white for luminous items) of a portable fire extinguisher. A few design examples of proprietary labels are shown below. Such labels in the form of stickers or sign-plates, may be available from local chandlers, internet based sign-suppliers, builders merchants, ironmongers, DIY stores, etc.



Landscape with text



Plain icon



Square, icon only



Portrait with text



Landscape with additional warning



Luminous (glow in dark)

6.2 Fire blankets

Extinguishers are not always the most suitable means to control or put out a fire. With pan fires, a fire blanket will be better than most extinguishers, indeed you may spread burning oil by using some types of extinguisher.

6.2.1/R REQUIREMENT

If the vessel has permanent cooking facilities, is a fire blanket of the correct specification provided?

Check for the presence of permanent cooking facilities and, if present, check for the provision of a fire blanket.

If permanent cooking facilities are present a fire blanket marked to indicate conformity to BS EN 1869, or to the 'light duty' requirements of BS 6575, must be provided.

Notes – a fire blanket is not required if a microwave oven is the only permanent cooking facility.

The occasional use of space heater stoves for cooking does not require the provision of a fire blanket.

If your fire blanket is not easily and quickly accessible, it may not be of any use.

6.2.2/R REQUIREMENT

Is the fire blanket located close to the main cooking appliance in a safe and ready-to-use location?

Check the location of the fire blanket.

Fire blankets must be located in a readily accessible position within approximately 2m (6ft 6in) of the main cooking appliance, and not mounted in a position that requires the user to reach over the cooking appliance.

Best practice

We strongly recommend having the fire blanket mounting permanently fixed to aid the blanket's more rapid use in an emergency.

b**Information**

A fire blanket can also aid escape by shielding you or somebody else from the fire.

i

6.3 Emergency escape

The examination will include advice on your boat's escape routes.

Your safety, that of your crew and that of visitors to the boat is in your hands, but we will offer you some information and advice to help you with that responsibility. To that end we bring to your attention the risks of having only one escape route from your boat. One escape route can easily be blocked by fire with the potential to trap someone within a burning boat.

6.3.1/A ADVICE

Is the vessel provided with adequate means of escape?

Check each accommodation space for the means to escape.

Measure the minimum dimensions of clear openings used as a means of escape such as hatches, windows or ports.

If a fixed window or port is designated an escape route, check that a means of 'breaking-out' is present.

Each accommodation space is recommended to have at least two means of escape.

The recognised minimum clear opening for a means to escape is 0.18m² (279 in²) and all openings must accommodate a 380mm (15 in) diameter circle.

A means of 'breaking out' any fixed window or port designated as an escape route can only be recognised if it is stored adjacent to it.

Notes – At the time of examination, if two means of escape meeting the minimum recommendations cannot be identified; the examiner will record what was found and alert you so that you are aware of this important safety issue that may affect yourself and your crew.

Best practice

If a window or hatch is the secondary means of escape, we recommend using a suitable proprietary fire or emergency exit label to identify it. It may help people not familiar with your boat to escape in an emergency.

b

Information

If the introduction of a second means of escape involves cutting or removing structural members, e.g. deck beams, frames or stiffeners, owners are advised to seek professional advice from the boat builder, supplier or a professional marine surveyor before commencing work.

i

Best practice

With regard to polystyrene thermal insulation, soft furnishings, fabrics and foam filling materials, we recommend checking with your supplier or the manufacturers' statements that any such material meets the latest national or international standards for fire-resistance, and for release of smoke and toxic gases in fires.

b