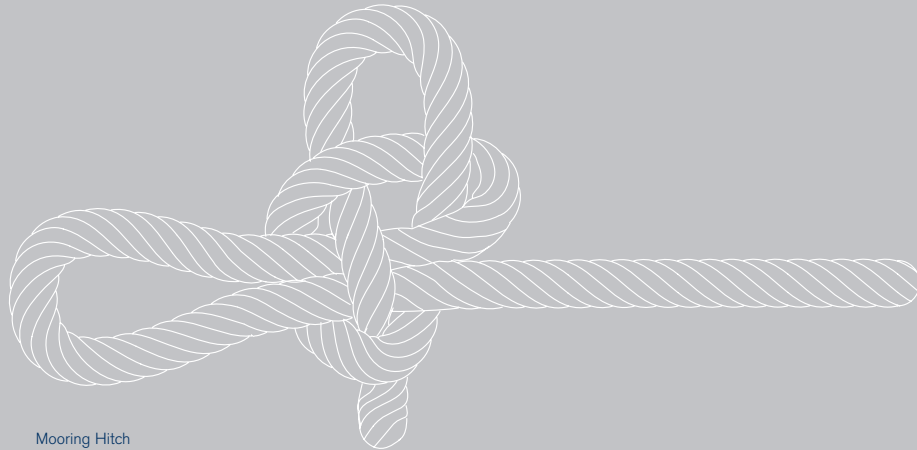


part six – fire prevention & extinguishing equipment

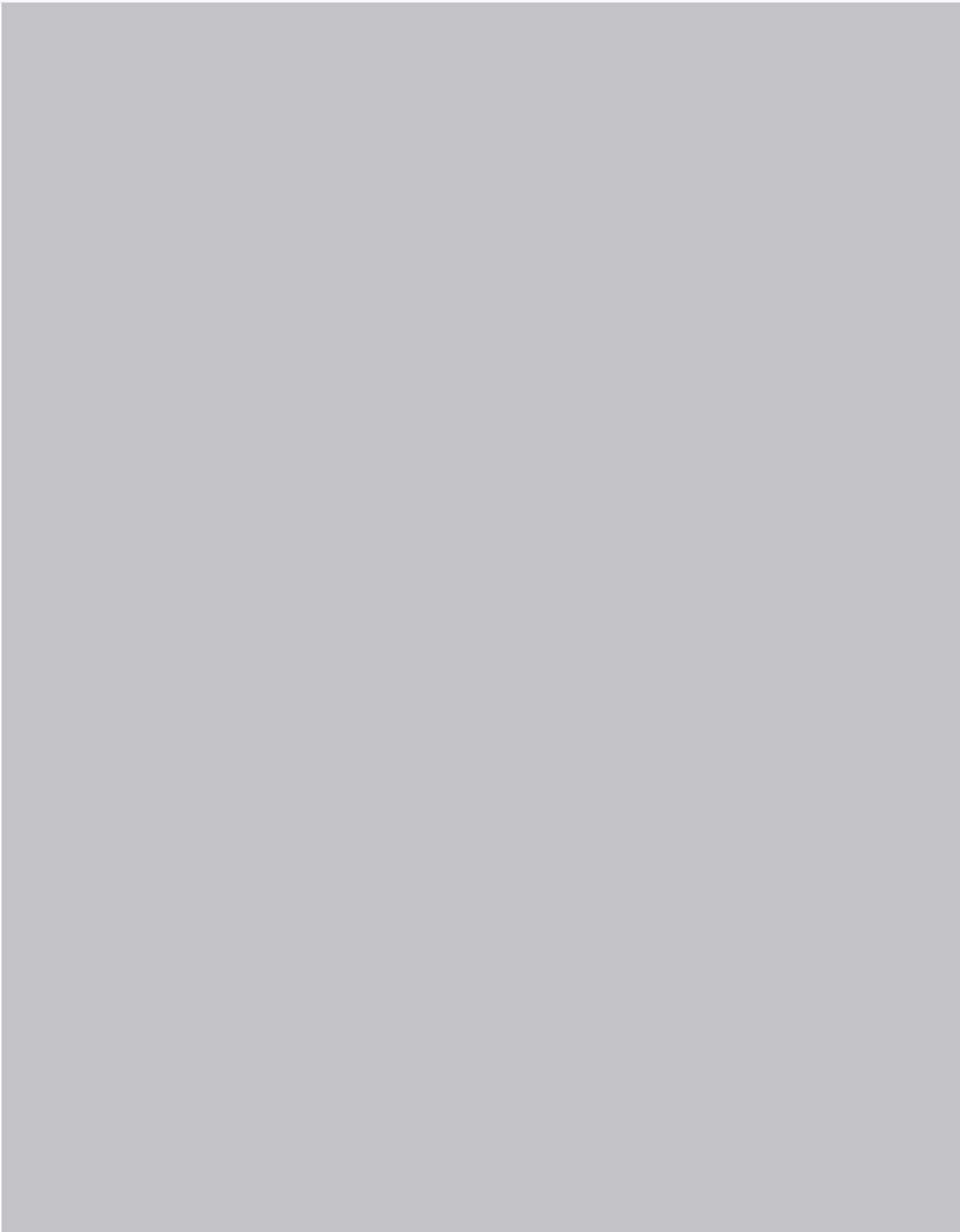


Mooring Hitch

The main aim of this part of the Standards is to ensure your boat has suitable fire fighting equipment to provide an immediate response to a small fire. This will minimise the risk of a fire on your boat, or on a boat nearby, escalating out of control, and can help you and your passengers to escape safely.

Making sure that your portable fire extinguishers are properly certified, that you have a sufficient number of appropriate extinguishers and that the extinguishers are in good condition all helps.

A fire blanket may provide an alternative method of extinguishing a cooking pan fire or allowing safe escape from the boat. It's also strongly recommended that your boat has two means of escape from accommodation areas.



number of fire extinguishers

You must have at least the minimum number of fire extinguishers relevant to the size of your boat and located near to the main fire risk points. Powered boats, or boats with cooking, heating, refrigerating or lighting appliances must be equipped with the minimum number of portable fire extinguishers according to the following table:

BOAT LENGTH	MIN. NUMBER OF EXTINGUISHERS	MIN. FIRE RATING OF EACH EXTINGUISHER	MIN. COMBINED FIRE RATING EXTINGUISHERS
Up to 7m (23ft)	2	5A/34B	10A/68B
7m – 11m (23-36ft)	2	5A/34B	13A/89B
Over 11m (36ft)	3	5A/34B	21A/144B

The number of extinguishers may be reduced by one 5A/34B fire extinguisher if there are no cooking, heating, refrigerating, lighting or fuel-burning appliances on the boat, or if the boat doesn't have an engine.

Extinguishers made before 16 June 1998, which comply with the navigation authorities' previous weight, number and certification requirements for fire extinguishers, are exempt from this part of this Standard concerning minimum fire rating and combined fire rating. Further information on previous weight and number requirements for extinguishers can be obtained from the Boat Safety Scheme office.

[6.1]







approval of portable fire fighting equipment

All fire extinguishers, regardless of their age and type, must be independently verified to a high standard of manufacturing quality and performance. They must all be marked with one or more of these certifying marks:

When an examiner checks the condition of fire fighting equipment on board, here are some examples of what he's looking for which you can check on a regular basis. Fire extinguishers must be replaced if they have missing pins, dents, perished hoses, incorrect pressure or damage to the trigger assembly. **[6.1]**



Fire ratings are marked on modern portable fire extinguishers, for example 5A/34B. The fire rating is the measure of the ability of a fire extinguisher to fight a fire of a certain size. The bigger the number in the fire rating the bigger the fire on which the extinguisher has been tested. The letter in the fire rating indicates the class of fire on which the extinguisher has been tested. The "A" rating relates to fires involving paper, wood, textiles or fabric and the "B" class fires are fuelled by flammable liquids.

-  the BSI Kitemark
-  the British Approvals of Fire Equipment (BAFE) symbol
-  the Société Générale de Surveillance (SGS) symbol
-  the AFNOR 'NF' shield
-  the Loss Prevention Certification Board (LPCB)
-  or other accredited certifying body's mark to EN3

Examples of certifying marks of approved fire extinguishers and fire fighting equipment

 <p>BSI KITEMARK</p>	 <p>BRITISH APPROVALS FOR FIRE EQUIPMENT</p>	 <p>SOCIÉTÉ GÉNÉRALE DE SURVEILLANCE</p>
 <p>THE NF MARK AFNOR (FRANCE)</p>	 <p>LOSS PREVENTION CERTIFICATION BOARD</p>	 <p>LOSS PREVENTION CERTIFICATION BOARD</p>

Whilst in a lock an outboard engine malfunctioned and burning petrol was thrown out, over and around the rear deck area and the surrounding water. The boat owner tried both portable fire extinguishers from the boat, however neither of them worked properly and the fire continued to burn. The owner of another boat in the lock used one of his extinguishers and the fire was put out. On inspection it was discovered that the two extinguishers originally used failed to work because they were not certified and had passed their expiry date. **[6.1]**



location of fire fighting equipment

In the event of an onboard fire the extinguishers must be easy to reach – they must be kept in readily accessible positions close to the main fire risk points, e.g. the engine space and the galley.

If there's a fire in the engine space and additional air is allowed into the area the fire will quickly escalate. To reduce the risk of this happening it's a good idea that any portable extinguisher used to protect the engine space is capable of being used without fully opening the primary access/engine hatch. **[6.1]**

condition of fire extinguishers

To ensure that your boat's fire extinguishers work effectively, they must be maintained in a good condition. It's a good idea to have them serviced annually. **[6.1]**

fixed system

Fixed systems are counted as additional to the absolute minimum requirements for portable extinguishers. If the fixed system is remotely operated it's a good idea for the release device to be readily accessible from outside the fire risk space so that the person using it is not placed in danger. **[6.2]**

fire blanket

In boats with cooking facilities a fire blanket must be kept nearby, ready for immediate use, so that any pan fire can be dealt with swiftly and prevented from spreading. A fire blanket can also aid escape by shielding you or somebody else from the fire.

In order for the fire blanket to be effective it needs to have been made to a relevant manufacturing Standard. As a minimum the blanket must be marked as complying with the 'light duty' requirement of BS 6575, or, more recently, BS EN 1869. Blankets manufactured before the earlier Standard was introduced, in 1985, may well have deteriorated and now be ineffective in dealing with a fire. **[6.3]**

exposed glass-fibre reinforced plastic (GRP)

On boats with hulls made of GRP, in areas of high fire risk, such as an engine room or fuel compartment, there's an increased risk of fire as a result of intense heat on the exposed GRP.

To help reduce this risk it's recommended that any exposed GRP structure on your boat is coated with suitable fire-retardant material, complying with Class 2 requirements of BS 476 Part 7. **[6.4]**

polystyrene thermal insulation

If non-fire retardant polystyrene is present on your boat this can cause a fire to escalate. To minimise the chance of this happening it's recommended that polystyrene thermal insulation complies with Type A requirements of BS 3837 Part 1. **[6.5]**

soft furnishings

A cabin fire on your boat can quickly escalate if it comes into contact with flammable soft furnishings. To minimise the risk of this happening it's recommended that all soft furnishings, fabrics and foam materials used in the



Make sure the fire blanket can be easily reached if there's a fire on the cooker. We often find blankets mounted by the side or at the back of the cooker, or in cupboards or drawers, making it dangerous to reach in the event of a cooker fire. It needs to be accessible at all times, in a safe and prominent place. Don't forget, it's also a good idea to make sure that anyone unfamiliar with the layout of your boat is made aware of where to find fire blankets, extinguishers and escape routes. **[6.3]**

Have you considered how you would escape in the event of a cabin fire? An alternative to a purpose built hatch is a suitably-sized window, but remember, if the window is not capable of being opened, a safe means to break it must be kept nearby. Always consider your escape routes and plan for the worst, even if you may never need to use them. It's better to be safe than sorry! **[6.7]**



lining and furnishing of your boat's interior are made of fire resistant materials. Foam materials, if they catch fire, can also release noxious fumes that can injure or potentially kill a boat's passengers and crew.

It's recommended that upholstery fabrics comply with cigarette and butane flame tests of BS EN 1021 Parts 1 and 2. It's recommended that suitable foams are selected which release minimum amounts of noxious products in the event of a fire. **[6.6]**

two means of escape

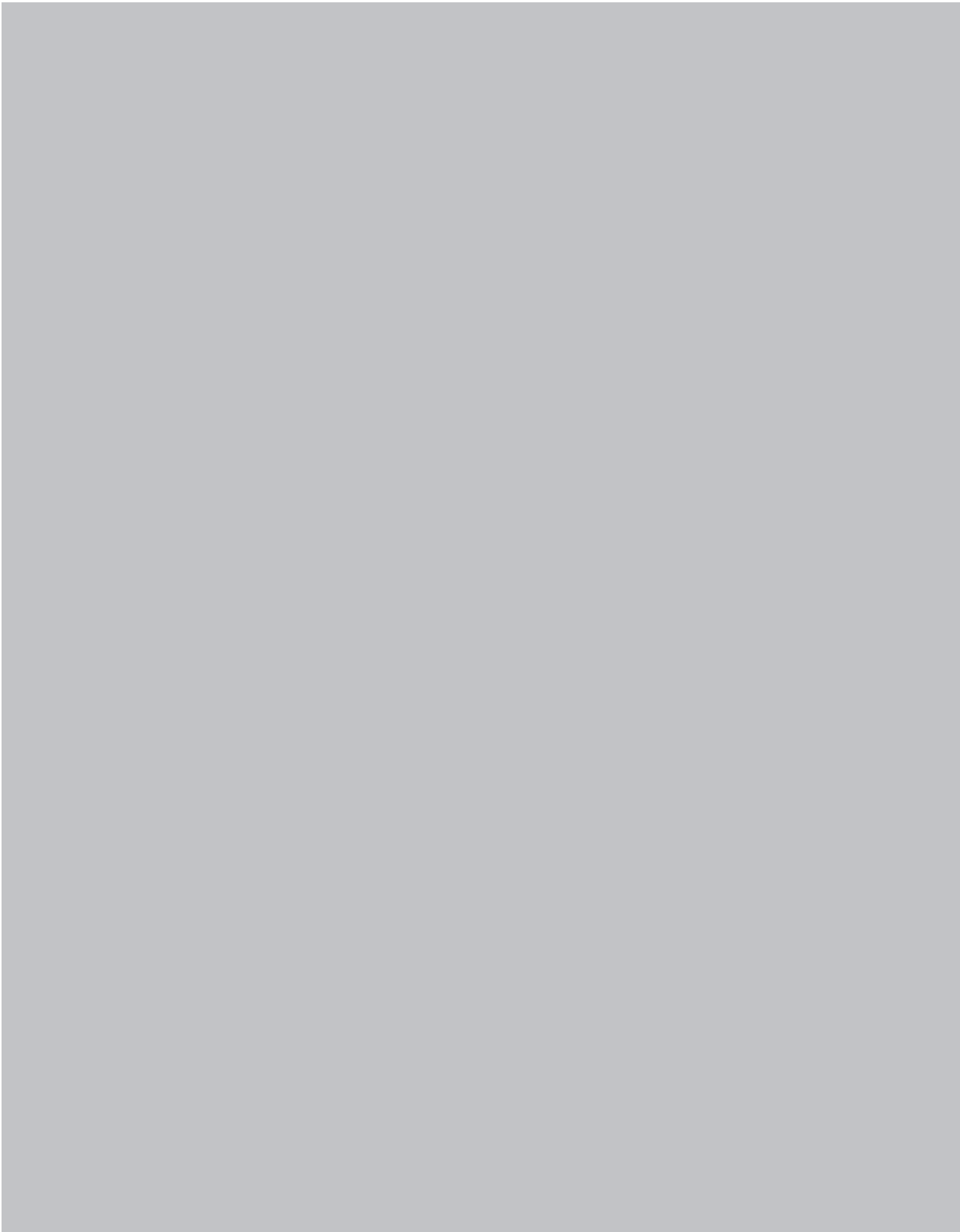
If there's only one escape route from your boat and this becomes blocked by fire, you and other occupants on the boat could suffer personal injuries, burns or suffocation.

This is why it's a very good idea for all boats to have two means of escape from accommodation areas. To give sufficient space for people to fit through, and escape from the fire, it's recommended that all escape routes on your boat have a minimum clear opening of 0.2m² (310in²) and a minimum width of 380mm (15ins). **[6.7]**

Need more help or advice? Refer to Standards 6.1 – 6.7 in the appendix page 10.

For more technical information refer to:

- 🌀 BS EN ISO 9094 – 1 "Fire Protection – Part 1: Craft with a hull length of up to and including 15m".
- 🌀 BS EN ISO 9094 – 2 "Fire Protection – Part 1: 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 (www.hmso.gov.uk/stat)



part six checklist

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- | | | |
|-------|--|--------------------------|
| 6.1 | fire extinguishers of an approved type | <input type="checkbox"/> |
| | fire extinguishers readily accessible | <input type="checkbox"/> |
| | fire extinguishers near fire risk points | <input type="checkbox"/> |
| | fire extinguishers maintained in good condition | <input type="checkbox"/> |
| | fire extinguishers above minimum (individual) fire rating* | <input type="checkbox"/> |
| | fire extinguishers above minimum combined fire rating* | <input type="checkbox"/> |
| | required number of fire extinguishers* | <input type="checkbox"/> |
| | <i>portable fire extinguisher capable of discharge into engine space, without fully opening primary access</i> | <input type="checkbox"/> |
| <hr/> | | |
| 6.2 | <i>fire extinguisher fixed system – remote release device readily accessible from outside risk space</i> | <input type="checkbox"/> |
| <hr/> | | |
| 6.3 | fire blanket required and fitted | <input type="checkbox"/> |
| | fire blanket fitted at least to 'light duty' BS 6575* | <input type="checkbox"/> |
| | fire blanket ready for immediate use | <input type="checkbox"/> |
| | fire blanket kept near to cooking facilities | <input type="checkbox"/> |
| <hr/> | | |
| 6.4 | <i>exposed GRP – fire retardant complies with Class 2 BS 476 Part 7*</i> | <input type="checkbox"/> |
| <hr/> | | |
| 6.5 | <i>thermal Insulation – complies with Type A BS 3837 Part 1*</i> | <input type="checkbox"/> |
| <hr/> | | |
| 6.6 | soft furnishings/fabrics/foam material of suitable fire resistant/non-toxic material* | <input type="checkbox"/> |
| | <i>upholstery fabric test to Standards of BS EN 1021 Parts 1 and 2*</i> | <input type="checkbox"/> |
| <hr/> | | |
| 6.7 | no two means of escape from accommodation areas* | <input type="checkbox"/> |
| | means of escape – opening not of minimum dimensions* | <input type="checkbox"/> |
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Check List items in bold are Mandatory
Check List items in italic are Advisory

*EXEMPTION AVAILABLE

