



TECHNICAL CIRCULAR No. 449 of 09<sup>th</sup> November 2017

To: All Surveyors/Auditors

Applicable to flag: All Flags

**LIFEBUOYS AND LIFE-JACKETS**

Reference: **SOLAS 74**

**LIFEBUOYS AND LIFE-JACKETS**

**Every lifebuoy shall:**



- have an outer diameter of not more than 800 mm and an inner diameter of not less than 400 mm;
- be constructed of inherently buoyant material; it shall not depend upon rushes, cork shavings or granulated cork, any other loose granulated material or any air compartment which depends on inflation for buoyancy;
- be capable of supporting not less than 14.5 kg of iron in fresh water for a period of 24 hours;
- have a mass of not less than 2.5 kg;
- not sustain burning or continue melting after being totally enveloped in a fire for a period of 2 seconds;
- be constructed to withstand a drop into the water from the height at which it is stowed above the waterline in the lightest seagoing condition or 30 m, whichever is the greater, without impairing either its operating capability or that of its attached components;
- if it is intended to operate the quick release arrangement provided for the self-activated smoke signals and self-igniting lights, have a mass sufficient to operate the quick release arrangement;
- be fitted with a grabline not less than 9.5 mm in diameter and not less than 4 times the outside diameter of the body of the buoy in length. The grabline shall be secured at four equidistant points around the circumference of the buoy to form four equal loops.

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### Self-igniting lights shall:



- be such that they cannot be extinguished by water;
- be of white colour and capable of either burning continuously with a luminous intensity of not less than 2 cd in all directions of the upper hemisphere or flashing (discharge flashing) at a rate of not less than 50 flashes and not more than 70 flashes per min with at least the corresponding effective luminous intensity;
- be provided with a source of energy capable of meeting the requirement of previous paragraph for a period of at least 2 hours;
- be capable of withstanding the drop test into the water from the height at which it is stowed above the waterline in the lightest seagoing condition or 30 m, whichever is the greater, without impairing either its operating capability or that of its attached components.

### Self-activating smoke signals shall:



- emit smoke of a highly visible color at a uniform rate for a period of at least 15 min when floating in calm water;
- not ignite explosively or emit any flame during the entire smoke emission time of the signal;
- not be swamped in a seaway;
- continue to emit smoke when fully submerged in water for a period of at least 10 s;
- be capable of withstanding the drop test into the water from the height at which it is stowed above the waterline in the lightest seagoing condition or 30 m, whichever is the greater, without impairing either its operating capability or that of its attached components.

### Buoyant lifelines shall:

- be non-kinking;
- have a diameter of not less than 8 mm; and
- have a breaking strength of not less than 5 kN.

### Life-jackets:

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An adult life-jacket shall be so constructed that:

- shall not sustain burning or continue melting after being totally enveloped in a fire for a period of 2 seconds.
- at least 75% of persons, who are completely unfamiliar with the lifejacket, can correctly don it within a period of one min without assistance, guidance or prior demonstration;
- after demonstration, all persons can correctly don it within a period of one minute without assistance;
- it is clearly capable of being worn in only one way or, as far as is practicable, cannot be donned incorrectly;
- it is comfortable to wear;
- it allows the wearer to jump from a height of at least 4.5 m into the water without injury and without dislodging or damaging the lifejacket.
- shall have buoyancy which is not reduced by more than 5% after 24h submersion in fresh water.
- shall be fitted with a whistle firmly secured by a cord

An adult lifejacket shall have sufficient buoyancy and stability in calm fresh water to:

- .1 lift the mouth of an exhausted or unconscious person not less than 120 mm clear of the water with the body inclined backwards at an angle of not less than 20° from the vertical position;
- .2 turn the body of an unconscious person in the water from any position to one where the mouth is clear of the water in not more than 5 s.
- shall allow the person wearing it to swim a short distance and to board a survival craft.

A child lifejacket shall be constructed and perform the same as an adult lifejacket except as follows:

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- donning assistance is permitted for small children;
- it shall only be required to lift the mouth of an exhausted or unconscious wearer clear of the water a distance appropriate to the size of the intended wearer;
- assistance may be given to board a survival craft, but wearer mobility shall not be significantly reduced.

In addition to the markings with approval information including the Administration which approved it, and any operational restrictions, a child lifejacket shall be marked with:

- the height or weight range for which the lifejacket will meet the testing and evaluation criteria recommended by the Organization in A.689.(17)
- a "child" symbol as shown in the "child's lifejacket" symbol adopted by the Organization in A.760(18).

### **Inflatable lifejackets**



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A lifejacket which depends on inflation for buoyancy shall have not less than two separate compartments and comply with the all requirements for ordinary lifejacket, and shall:

- inflate automatically on immersion, be provided with a device to permit inflation by a single manual motion and be capable of being inflated by mouth;
- in the event of loss of buoyancy in any one compartment be capable of complying with the all requirements for ordinary lifejacket;
- shall have buoyancy which is not reduced by more than 5% after 24h submersion in fresh water after inflation by means of the automatic mechanism.

**Life-jacket light shall:**



- have a luminous intensity of not less than 0.75 cd in all directions of the upper hemisphere;
- have a source of energy capable of providing a luminous intensity of 0.75 cd for a period of at least 8 hours;
- be visible over as great a segment of the upper hemisphere as is practicable when attached to a lifejacket;
- be of white color. If the light referred above is a flashing light it shall, in addition:
- be provided with a manually operated switch; and
- flash at a rate of not less than 50 flashes and not more than 70 flashes per min with an effective luminous intensity of at least 0.75 cd.

**REFERENCES:**

**- SOLAS 74/78 Life-saving appliances**

**ATTACHMENTS: No.**

kindest Regards,  
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