
**Ships and marine technology — Launching
appliances for davit-launched liferafts**

*Navires et technologie maritime — Engins de mise à l'eau des radeaux
de sauvetage sous bossoirs*

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 13122 was prepared by Technical Committee ISO/TC 8, *Ships and marine technology*, Subcommittee SC 4, *Outfitting and deck machinery*.

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Introduction

This International Standard forms a code of practical interpretation and amplification of the requirements of the International Convention for the Safety of Life at Sea (SOLAS). It provides an identical basis for design, construction and acceptance of launching appliances for davit-launched liferafts for use by ship-owners, shipbuilders and appropriate organizations.

Automatic release hooks are usually considered as independent equipment for statutory survey and have to obtain type approval and undergo acceptance testing by the authorities or their delegates. There are special requirements for their design, construction and acceptance testing stipulated by the IMO (International Maritime Organization). It is therefore intended that an International Standard specific to the automatic hook be drafted separately.

This International Standard is mainly based on amendments to SOLAS 1974, dating from 1983 to 1996, and related IMO resolutions and protocols, in particular Resolutions MSC.47(66), MSC.48(66), MSC.81(70), MSC.216(82), MSC.218(82) and MSC.226(82). It also refers to IMO circulars MSC/Circ.1205¹ and MSC/Circ.1206².

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- 1) *Guidelines for Developing Operation and Maintenance Manuals for Lifeboat Systems.*
 - 2) *Measures to Prevent Accidents with Lifeboats.*

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Ships and marine technology — Launching appliances for davit-launched liferafts

1 Scope

This International Standard specifies requirements for the performance, design, construction, operation, safety, inspection, maintenance, and testing and acceptance of launching appliances for davit-launched liferafts (hereinafter referred to as “liferafts”) installed on a variety of sea-going ships.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 15516, *Ships and marine technology — Launching appliances for davit-launched lifeboats*

ISO 2944, *Fluid power systems and components — Nominal pressures*

ISO 4413, *Hydraulic fluid power — General rules and safety requirements for systems and their components*

ISO 4414, *Pneumatic fluid power — General rules and safety requirements for systems and their components*

IEC 60092 (all parts), *Electrical installations in ships*

IEC 60529, *Degrees of protection provided by enclosures (IP Code)*

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3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 15516 and the following apply.

3.1

non-loaded liferaft

liferaft fully equipped without persons

3.2

fully loaded liferaft

liferaft fully equipped and loaded with a full complement of persons

NOTE The mass of each person is taken as being 82,5 kg.

3.3

maximum working load

load assigned by the design applied to the release hook of a launching appliance during launching of the maximum weight of the fully loaded liferaft it serves

3.4

recovering load

load assigned by the design applied to the release hook of a launching appliance during recovering of the maximum weight of the non-loaded liferaft it serves

3.5

maximum working load of winch

maximum load assigned by the design held by the falls at the winch drum when the launching appliance is launching or recovering the maximum working load

3.6
hoisting load of winch
load assigned by the design held by the falls at the winch drum when the launching appliance is hoisting the recovering load

3.7
davit
major structure of the launching appliance, generally composed of frame, davit arm and fittings, etc.

3.8
winch
mechanism of the launching appliance used for launching and recovering the liferaft

3.9
turning device
device of the launching appliance used for slewing or swinging the davit arm so as to bring the liferaft from inboard to outboard or vice versa

3.10
automatic release hook
hook used for suspending the liferaft with the function of lowering and automatically releasing the liferaft when waterborne

4 Performance

4.1 A launching appliance shall depend only on manpower, gravity or stored mechanical power that is independent of the ship's power supplies to safely turn out the non-loaded liferaft it serves from inboard to full outboard, ready for embarking and lowering the liferaft with the ship against a trim of up to 10° and list of up to 20° either way.

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4.2 A launching appliance shall not depend on any means other than gravity or stored mechanical power independent of the ship's power supplies to lower the liferaft it serves with the ship against a trim of up to 10° and list of up to 20° either way.

4.3 A launching appliance shall be capable of safely lowering the liferaft in a controlled manner, and the speed at which the liferaft is lowered to the water shall conform to Table 1.

4.4 The loose gears and automatic release hook shall have sufficient total weight to overcome the friction in the davit reeving system, so as to lower freely the non-loaded release hook (referred to hereinafter as "non-loaded hook").

4.5 A launching appliance shall be capable of manually recovering a non-loaded liferaft from the water to the deck with the ship on an approximately even keel.

4.6 Where a launching appliance serves to launch several liferafts, a manually operated means for the rapid recovery of the non-loaded hook shall be provided; it shall be ensured that all the liferafts it serves capable of being lowered are brought to the water within 30 min for a passenger ship or 10 min for a cargo ship.

In order to quickly bring the non-loaded hook to the next liferaft, the launching appliance shall be provided additionally with a recovery pulling line.

Table 1 — Liferaft lowering speed

Condition of liferaft	Limit	Lowering speed S
Fully loaded liferaft	Lower limit	$S = 0,4 + 0,02H$ where S is the lowering speed in metres per second (m/s); H is the height in metres from the davit head to the waterline with the ship at the lightest seagoing condition, without consideration of trim and list given in 4.1, and with the davit arm in the full outboard position. Regardless of the values obtained using this equation, the maximum values shall not exceed 1 m/s, unless otherwise stipulated by the relevant authority.
	Upper limit	1,3 m/s, unless otherwise stipulated by the relevant authority
Non-loaded liferaft	Lower limit	0,1 m/s, unless otherwise stipulated by the relevant authority

5 Design

5.1 A launching appliance shall be constructed using materials that will not be damaged in stowage throughout an air temperature range of $-30\text{ }^{\circ}\text{C}$ to $+65\text{ }^{\circ}\text{C}$.

5.2 All materials exposed to weather shall possess excellent resistance to corrosion and deterioration, or shall be protected by galvanizing or other effective means.

5.3 The major structural components, such as davit arm, frame and sheave block, shall be made from materials such as steel plates, tubes or profiled bar that meet the requirements for seagoing conditions and have satisfactory weldability. Their minimum thickness shall be not less than 6 mm, unless they are of stainless materials with sea-water corrosion resistance.

5.4 Loose gears such as lifting chains, shackles and eye plates shall be made of ductile materials; grey iron castings shall not be used.

5.5 A launching appliance shall be designed to have the minimum safety factors in accordance with Table 2, on the basis of the maximum load applied to those major parts and corresponding to the ultimate strength of their materials.

Table 2 — Minimum safety factors

Launching appliance parts	Minimum safety factor
Loose gears, falls, release hook	6
Davit arm, frame and their fittings	4,5
Winch, turning device	4,5

5.6 A launching appliance shall remain effective under the condition of icing.

5.7 Launching appliances shall be constructed so as to reduce routine maintenance to a minimum. All parts requiring regular maintenance shall be readily accessible and easily maintained by the ship's crew.