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**Ships and marine technology —  
Methodology for ship launching  
utilizing air bags**

*Navires et technologie maritime — Méthodologie pour le lancement  
de bateau utilisant des coussins gonflables*

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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2. [www.iso.org/directives](http://www.iso.org/directives)

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Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

The committee responsible for this document is ISO/TC 8, *Ships and marine technology*, Subcommittee SC 8, *Ship design*.

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# Ships and marine technology — Methodology for ship launching utilizing air bags

## 1 Scope

This International Standard specifies general guidelines for ship launching utilizing air bags, including the specification of the ship and facilities such as air bags, slipway, towing arrangements, the launching procedure, and safeguards during the ship launching.

This International Standard is applicable to ships meeting the requirements of [4.1](#) and utilizing air bags for launching.

## 2 Normative references

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

ISO 2408, *Steel wire ropes for general purposes — Minimum requirements*

ISO 14409:2011, *Ships and marine technology — Ship launching air bags*

## 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

### 3.1 ship launching

conveying a ship from a site to water so that the ship becomes buoyant

### 3.2 ship shifting

moving a ship from one place to another, such as from the building berth to near the water

### 3.3 slipway

ramp which is used for launching ships, including the part that extends into the water

Note 1 to entry: The shore-side portion, including the berth, is called the main slipway, while the part that extends into the water is called the auxiliary slipway.

### 3.4 transferring from docking blocks

process that encompasses placing the air bags under the ship, filling the air bags to raise the ship off the building blocks, removing the blocks and letting the ship rest on the air bags

### 3.5 ground anchor

structure that is in front of the berth and is constructed in the berth, used for mooring the ship, the hemicycle part above the ground is used to fasten the steel wire ropes and tow the ship

### 3.6 ship length

$L_{OA}$

longitudinal distance, in metres, measured from the forward extreme to the aft-most part of the ship

## 4 Specification for launching ships

4.1 A ship shall have a flat bottom and be suitable for putting down, filling and rolling air bags. The bottom acreage of the ship shall be large enough to provide proper contact with the air bags in order to ensure adequate bearing capacity.

4.2 According to the weight and the length of the ship, the ship to be launched is to be classed as follows:

- a) class I: ships of not more than 1 000 tons in weight or not more than 90 m in length ( $L_{OA}$ );
- b) class II: ships of more than 1 000 tons but less than or equal to 3 000 tons in weight, or more than 90 m but less than or equal to 120 m in length ( $L_{OA}$ );
- c) class III: ships of more than 3 000 tons but less than or equal to 5 000 tons in weight, or more than 120 m but less than or equal to 150 m in length ( $L_{OA}$ );
- d) class IV: ships of more than 5 000 tons in weight, or more than 150 m in length ( $L_{OA}$ ).

4.3 The underwater valves and major equipments are to be installed in position, tested, inspected and approved by shipyard or shipowner.

4.4 All burrs and weld beads on the ship's bottom plates and all appendages shall be ground smooth and inspected.

4.5 In all underwater compartments, all the hot work on the shell plating, blasting and painting and compartment tightness tests shall have been completed and approved by shipowner or classification society. All loose items shall be secured. All mooring equipment and fittings are to be installed.

4.6 The draft marks and the load lines shall be verified and approved by inspection.

4.7 Outer-hull painting shall have been completed as per the approved paint scheme.

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## 5 Requirements for arrangements and equipment

### 5.1 Slipway

5.1.1 Shipyard QC shall clear the area where each air bag is to be laid and inflated.

5.1.2 The gradient and the length of the slipway shall be determined according to the size of the ship and the hydrological condition of the area water.

5.1.3 The bearing capacity of the slipway shall be at least twice as strong as the working pressure of air bags.

5.1.4 For class III and class IV ships, the slipway shall be constructed with reinforced concrete and the height difference between the right and left sides shall be less than 20 mm. For class II ships, the slipway shall be constructed with cement concrete and the height difference between the right and left sides shall be less than 50 mm. For class I ships, the slipway may be an earthen slope and shall be compacted even by rollers. The height difference between the right and left sides shall be less than 80 mm.

5.1.5 The main slipway shall enable the ship to glide automatically when the ship is off the tow. The auxiliary slipway shall be determined according to the ship type, the water level at time of launching, the diameter of the air bags, and the safety requirements.