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AMENDMENT 2
2017-12

**Small craft — Man-overboard
prevention and recovery**

AMENDMENT 2

*Petits navires — Prévention des chutes d'homme à la mer et
remontée à bord*

AMENDEMENT 2

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Reference number
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This document was prepared by Technical Committee ISO/TC 188, *Small craft*.

This second Amendment cancels and replaces the first Amendment (ISO 15085:2003/Amd. 1:2009) which has been technically revised to meet the essential requirements concerning reboarding of the European Recreational Craft Directive, 2013/53/EU.

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Small craft — Man-overboard prevention and recovery

AMENDMENT 2

Page 1, Clause 2

Replace the normative references “ISO 8666:2002” with “ISO 8666:2016”, and “ISO 12217 (all parts):2002” with “ISO 12217 (all parts):2015”.

Page 19, Clause 16

Replace Clause 16 with the following.

16 Means of reboarding

16.1 General requirement

All craft shall be designed to facilitate reboarding. Means of reboarding shall be accessible to, or deployable by, a person in the water unaided.

This means of reboarding shall be provided by:

- a) a rigid ladder according to 16.2; or
- b) a non-rigid ladder according to 16.3; or
- c) another dedicated device; or
- d) a design of the craft which enables reboarding from the water without a dedicated device.

If the means of reboarding is deployable, any device which activates the deployment shall not be located higher than 500 mm above the waterline. A flexible activation device, e.g. a rope, shall be fixed not higher than 500 mm above the waterline. Its ability to be deployed by a person in the water unaided shall be demonstrated. Deployable devices shall be active even if the engine is stopped or with any primary energy fault.

Items b), c) and d) require testing according to 16.4 as installed.

Where deployable, the means of reboarding shall not require a force greater than 100 N to be activated.

Propeller propulsion systems shall not be used as the means of reboarding.

CAUTION — Attention shall be paid to the location of the means of reboarding relative to possible danger from propeller(s).

The means of reboarding shall either:

- lead directly to the working deck; or
- if leading to a part of the craft outside of the working deck, e.g. swimming platform, lead to the working deck through areas with slip resistant surface(s) according to Clause 7 and fitted with handhold(s) according to Clause 9.

NOTE The handhold(s) can be a part of the reboarding means.

16.2 Requirements for a rigid ladder

Where a rigid ladder is provided as the means of reboarding, it does not need to be tested provided that it meets the following requirements, as installed and when deployed [see [Figure 8 a](#)]:

- a) it shall not swing away from the person in the water under load so as to hinder reboarding;
- b) it shall not be angled beyond vertical, as installed, where the bottom of the ladder would be further from the user than the top portion of the ladder;
- c) its steps or rungs shall have a slip resistant treading depth of at least 25 mm [see key 6 in [Figure 8 a](#)];
- d) its steps or rungs shall have:
 - 1) a maximum spacing of 305 mm [see key 3 in [Figure 8 a](#)];
 - 2) a minimum rung width of 100 mm per foot, and a minimum total width of 200 mm [see key 4 in [Figure 8 a](#)];
 - 3) a horizontal tread clearance from adjacent structure of at least 100 mm [see key 5 in [Figure 8 a](#)].
- e) the bottom step or rung shall be at least 560 mm below the waterline, with the craft at rest in m_{LC} condition as defined in ISO 8666;
- f) it shall allow a hand grip clearance from adjacent structures of at least 32 mm;
- g) it shall have handhold(s) that can be reached either on the ladder or in its vicinity; the first handhold shall be located not more than 500 mm from the upper step or rung;
- h) its highest point or top step/rung shall be located not more than 500 mm below the adjacent area leading to the working deck;
- i) its strength when deployed and secured shall still fulfil its purpose when subject to a vertical force of 1 800 N applied to any point of the step or rung and to its fixing system.

16.3 Requirements for non-rigid ladders

A non-rigid ladder shall, as installed and when deployed [see [Figure 8 b](#)]:

- meet the requirements of c), d1), h) and i) of 16.2;
- have rigid rungs at least 250 mm wide (see key 4 in [Figure 8 b](#));
- be attached by at least two separate points spaced not less than the rung width;
- have the bottom step or rung at least 1 200 mm below the waterline, with the craft at rest in m_{LC} condition as defined in ISO 8666;
- have the submerged steps or rungs with negative buoyancy to help achieve the ladder geometry.

16.4 Reboarding test

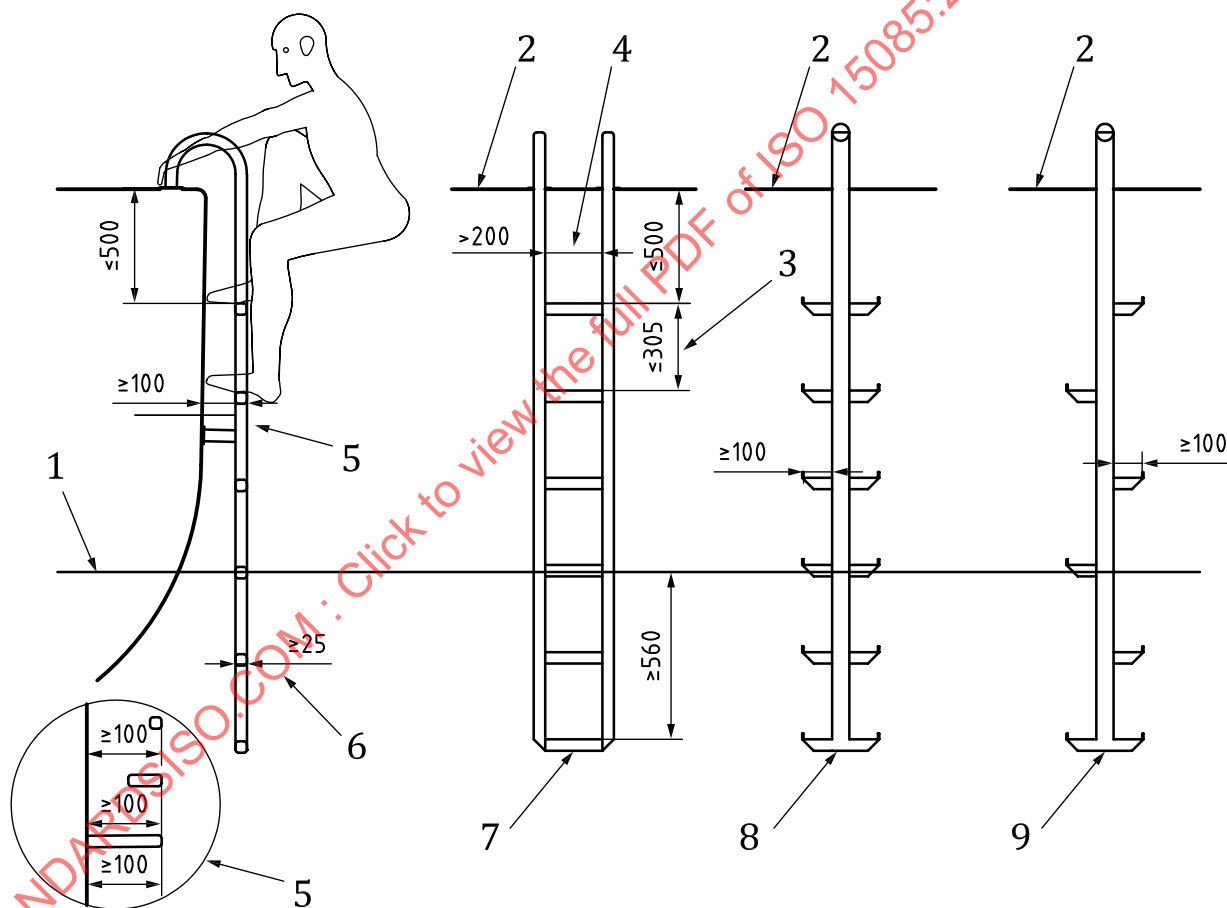
The reboarding test, where required, shall consist of a physical test performed by one person alone in the water, with the craft at rest and floating freely in m_{LC} condition as defined in ISO 8666. The person shall have a mass of at least 82,5 kg wearing a personal flotation device according to [Table 1](#) that is inflated.

Table 1 — Personal flotation device for the reboarding test

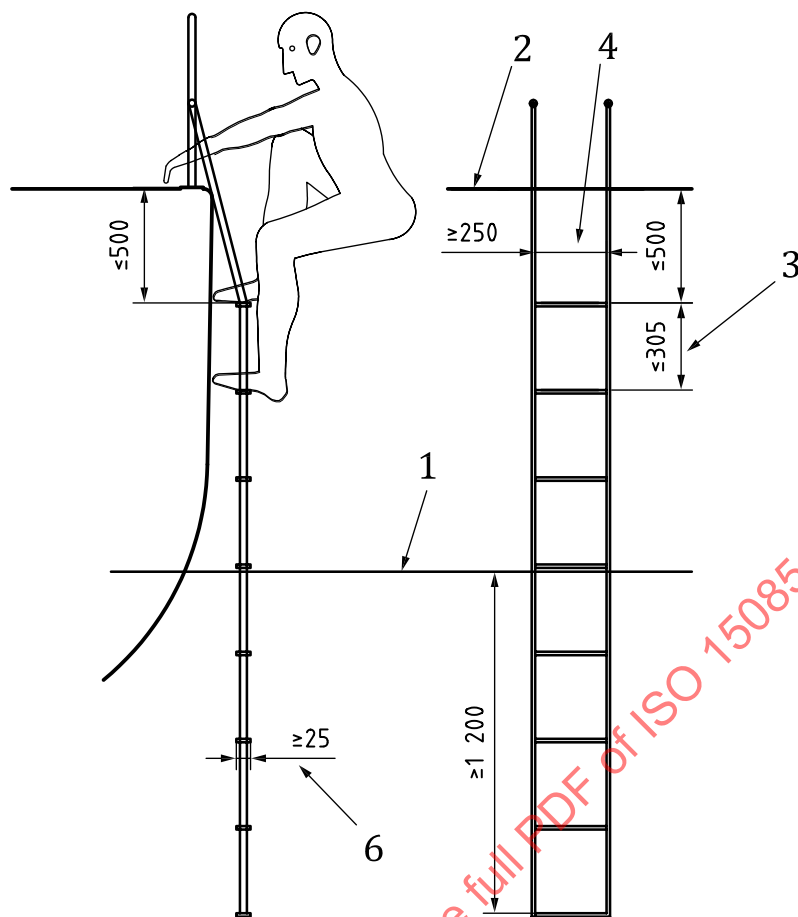
Craft design category	Minimum performance level
A and B	150 N
C	150 N, except 50 N for capsized recoverable craft ^a
D	50 N
^a As defined in ISO 12217-2 and ISO 12217-3.	

During the test, the craft is allowed to swamp, provided that the craft passes the one-person test specified in ISO 12217-3:2015, C.4.2, for non-sailing boats, or the capsize recovering test as described in ISO 12217-3:2015, 7.5, for sailing boats.

After the test, the device shall show no permanent deformation and it shall be re-usable.



a) Rigid ladder



b) Non-rigid ladder

Key

- | | | | |
|---|--|---|--|
| 1 | waterline | 6 | stem/rung treading depth |
| 2 | working deck level | 7 | classic ladder with two side rails |
| 3 | step/rung spacing | 8 | diver's type ladder- centre rail with symmetric steps |
| 4 | step/rung length/span | 9 | diver's type ladder – centre rail with non-symmetric steps |
| 5 | step/rung horizontal clearance with hull | | |

Figure 8 — Dimensional requirements for ladders

Page 20, Clause 17

Replace Clause 17 with the following:

17 Owner's manual

The owner's manual provided with the craft shall indicate the items specified in [Table 7](#), as required in the relevant subclauses of this International Standard.