
**Small craft — Deck safety harness and
safety line — Safety requirements and
test methods**

*Petits navires — Harnais de sécurité de pont et sauvegardes de
harnais — Exigences de sécurité et méthodes d'essai*



PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.



COPYRIGHT PROTECTED DOCUMENT

© ISO 2009

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

Contents

Page

Foreword.....	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions.....	2
4 Requirements for safety.....	3
4.1 General.....	3
4.2 Materials and construction	3
4.3 General performance.....	3
4.4 Inspection requirements for deck safety harness sizes 1 and 2 and safety line	5
4.5 Static loading of deck safety harness size 3	5
5 Test methods.....	5
5.1 Magnetic properties testing.....	5
5.2 Dynamic testing	5
5.3 Static testing of deck safety harnesses of size 3 only.....	12
5.4 Accidental hook opening testing	13
5.5 User's tests.....	14
6 Marking	15
7 Information supplied by the manufacturer	16

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 12401 was prepared by Technical Committee ISO/TC 188, *Small craft*.

This second edition cancels and replaces the first edition (ISO 12401:2004), which has been technically revised.

Introduction

This International Standard has been prepared to meet the needs of persons afloat on recreational craft. Deck safety harnesses and safety lines manufactured according to this International Standard will give reasonable assurance that the wearer will remain attached to the craft.

A deck safety harness and safety line does not provide protection against falls from a height. This International Standard does not cover the requirements of a dinghy “trapeze” harness, a windsurfing harness, or a seat harness for fast motor boats.

This International Standard is intended to serve as a guide to manufacturers, purchasers and users of such safety equipment by ensuring that the equipment provides an effective standard of performance in use.

Equally essential is the need for the designer to encourage the wearing of the equipment by making it comfortable and attractive for continuous wear while afloat, rather than for it to be stowed in a locker for emergency use. The principal reason for the existence of this International Standard is the recognition that comfort and mobility are important factors in determining whether deck safety harnesses are worn.

The primary aims in wearing a deck safety harness are:

- a) to prevent the wearer from falling into the water, and
- b) to assist in recovering the wearer onto the working deck.

Preventing the wearer from actually falling into the water is dependent on the location of the attachment to the craft and the length of the safety line. Because a correctly worn deck safety harness and safety line will, in normal circumstances, prevent the wearer from entering the water, no consideration is given to the towing position after a fall. The importance of ensuring a firm fit cannot be overstressed. Unless the harness is fitted with an automatic tensioner, it remains the responsibility of the wearer to correctly adjust the harness to achieve a firm fit.

Small craft — Deck safety harness and safety line — Safety requirements and test methods

1 Scope

This International Standard specifies the requirements for performance, sizing, marking and test methods for deck safety harnesses and safety lines on recreational craft.

It is applicable to harnesses and lines in the following sizes of body mass:

- a) size 1: $> 50 \text{ kg}$ ¹⁾;
- b) size 2: $> 20 \text{ kg} \leq 50 \text{ kg}$ ¹⁾;
- c) size 3: $\leq 20 \text{ kg}$ ¹⁾;

which are intended to be worn by all persons when in the exposed cockpit or on the working deck of a craft afloat.

It is not applicable to dinghy “trapeze” harnesses, windsurfing harnesses, seat harnesses for fast motor boats, and harnesses intended to protect against falls from a height.

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 139, *Textiles — Standard atmospheres for conditioning and testing*

ISO 9227, *Corrosion tests in artificial atmospheres — Salt spray tests*

ISO 12402-7, *Personal flotation devices — Part 7: Materials and components — Safety requirements and test methods*

ISO 12402-8, *Personal flotation devices — Part 8: Accessories — Safety requirements and test methods*

ISO 12402-9:2006, *Personal flotation devices — Part 9: Test methods*

ISO 15027-1, *Immersion suits — Part 1: Constant wear suits, requirements including safety*

ISO 15027-2, *Immersion suits — Part 2: Abandonment suits, requirements including safety*

EN 892:2004, *Mountaineering equipment — Dynamic mountaineering rope — Safety requirements and test methods*

1) Multisizing permitted.

3 Terms and definitions

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

3.1
deck safety harness
device securely fitted to the user and which provides suitable strong point(s) of attachment for the safety line

3.2
safety line
link between the point of attachment on the deck safety harness and a strong point of attachment on the craft

3.3
hook
self-closing means of attachment between the safety line and the strong points on the deck safety harness and the craft on non-integrated safety lines, and between the safety line and the strong points on the deck of the craft on integrated safety lines

3.4
automatic tensioner
device which allows the harness to be worn looser than desirable for safe operation but which automatically tensions the harness to a safe firm fit when strain is placed on the safety line

NOTE The deliberate movement of such a device when tensioning the harness is not considered to be slippage of an adjustment device.

3.5
reference deck safety harness
device used to test a separate safety line

NOTE This is represented in tests by the attachment link between the test mass and the safety line under test.

3.6
reference safety line
device used to test a separate deck safety harness

3.7
integrated deck safety harness and safety line
combination of deck safety harness and safety line that cannot be separated without destruction

3.8
assessment panel
panel consisting of experienced users, responsible for assessing the results of the test

3.9
holding-down device
crotch and thigh straps, integrated or attached to clothing worn between the legs

3.10
integrated combination of deck safety harness and clothing
combination of deck safety harness and clothing that cannot be separated without destruction nor worn without the holding-down device in its intended position