



**SLOVENSKI STANDARD**  
**SIST EN 1095:1998**

**01-maj-1998**

---

**Varnostni pas in varnostna vrv za uporabo na plovilu za rekreacijo - Varnostne zahteve in preskusne metode**

Deck safety harness and safety line for use on recreational craft - Safety requirements and test methods

Sicherheitsgurt und Sicherheitsleine zur Benutzung auf Sportbooten - Sicherheitsanforderungen und Prüfverfahren

Harnais de sécurité de pont et sauvegardes de harnais destinés a la navigation de plaisance - Exigences de sécurité et méthodes d'essai

<https://standards.iteh.ai/catalog/standards/sist/d62daf24-e202-46b5-b5ff-b63d5d65647c/sist-en-1095-1998>

**Ta slovenski standard je istoveten z: EN 1095:1998**

---

**ICS:**

13.340.60	Zaščita pred padci in zdrsi	Protection against falling and slipping
47.080	Čolni	Small craft

**SIST EN 1095:1998**

**en**

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

SIST EN 1095:1998

<https://standards.iteh.ai/catalog/standards/sist/d62daf24-e202-46b5-b5ff-b63d5d65647c/sist-en-1095-1998>

EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

EN 1095

January 1998

ICS 13.340.99; 47.080.00

Descriptors: safety devices, mooring devices, safety harnesses, yachting, definitions, specifications, dimensions, tests, marking, labelling, graphic symbols

English version

Deck safety harness and safety line for use on recreational craft  
- Safety requirements and test methods

Harnais de sécurité de pont et sauvegardes de harnais  
destinés à la navigation de plaisance - Exigences de  
sécurité et méthodes d'essai

Sicherheitsgurt und Sicherheitsleine zur Benutzung auf  
Sportbooten - Sicherheitsanforderungen und Prüfverfahren

This European Standard was approved by CEN on 23 November 1997.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

iTeh STANDARD PREVIEW  
(standards.itech.ai)

SIST EN 1095:1998

<https://standards.itech.ai/catalog/standards/sist/d627a124-c202-46b5-b5ff-b63d5d65647c/sist-en-1095-1998>



EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

## Contents

	Page
Foreword .....	2
Introduction .....	3
1 Scope .....	3
2 Normative references .....	3
3 Definitions .....	4
4 Requirements for safety .....	4
5 Test methods .....	6
6 Marking .....	12
7 Information supplied by the manufacturer .....	12
Annex ZA (informative) Clauses of this European Standard addressing essential requirements or other provisions of EU Directives .....	13

### Foreword

This European Standard has been prepared by Technical Committee CEN/TC 160 "Protection against falls from a height including working belts" the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by July 1998, and conflicting national standards shall be withdrawn at the latest by July 1998.

This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this standard.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

SIST EN 1095:1998

<https://standards.iteh.ai/catalog/standards/sist/d62daf24-e202-46b5-b5ff-b63d5d65647c/sist-en-1095-1998>

## Introduction

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

A deck safety harness and safety line does not provide protection from falls from a height. Neither does this standard cover the requirements of a dinghy "trapeze" harness, a windsurfing harness, nor those of a seat harness for fast motor boats.

This standard is intended to serve as a guide to manufacturers, purchasers and users of such safety equipment in 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 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 retain the wearer on the working deck of the vessel;
- b) to prevent the wearer falling into the water;
- c) to assist in the recovery of the wearer back onto the working deck.

The prevention of the wearer from actually falling into the water is dependent on the attachment point and the length of the safety line. Because a correctly worn deck safety harness and safety line will in normal circumstances prevent the wearer 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.

## 1 Scope

This standard specifies the requirements for performance, sizing, marking and test methods for deck safety harnesses and safety lines.

This European Standard is applicable to harnesses and lines in the following sizes of body weight

- size 1 > 50 kg<sup>1)</sup>
- size 2 > 20 kg ≤ 50 kg<sup>1)</sup>
- size 3 ≤ 20 kg<sup>1)</sup>

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

It is not applicable to dinghy "trapeze" harnesses, windsurfing harnesses, or seat harnesses for fast motor boats.

SIST EN 1095:1998

## 2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of the publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 354

Personal protective equipment against falls from a height – Lanyards

---

<sup>1)</sup> Multisizing possible.

Page 4

EN 1095:1998

EN 364 : 1992

Personal protective equipment against falls from a height – Test methods

EN 394

Lifejackets and personal buoyancy aids – Additional items

EN 892 : 1996

Mountaineering equipment – Dynamic mountaineering ropes – Safety requirements and test methods

prEN 1913-1

Survival suits – Part 1: Constant wear suits, requirements

prEN 1913-2

Survival suits – Part 2: Abandonment suits, requirements

### 3 Definitions

For the purposes of this standard, the following definitions apply:

**3.1 deck safety harness:** A device which provides a strong point of attachment securely fitted to the user.

**3.2 safety line:** A link between the strong point of attachment on the deck safety harness and a strong point of attachment on the vessel.

**3.3 hook:** The means of attachment between the safety line and the strong points on the deck safety harness and the vessel on non-integral safety lines and between the safety line and the strong points on the deck of the vessel on integral safety lines.

**3.4 automatic tensioner:** A 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. 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:** A 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:** A device used to test a separate deck safety harness.

**3.7 integrated deck safety harness and safety line:** A combination that cannot be separated without destruction.

**3.8 assessment panel:** A panel consisting of experienced users who will be used to assess the results of the test.

STANDARD PREVIEW  
(standards.iteh.ai)

### 4 Requirements for safety

SIST EN 1095:1998

#### 4.1 General

<https://standards.iteh.ai/catalog/standards/sist/d62daf24-e202-46b5-b5ff-b63d5d65647c/sist-en-1095-1998>

The original effective maximum length of a safety line, measured between the attachment points, under a load of 10 kg, shall not exceed 2 m including the length of the hooks.

Design of the safety line and its attachments to the wearer shall preclude accidental incorrect attachment resulting in more than 2 m between the strong point on the vessel and the strong point on the wearer.

#### 4.2 Materials and construction

**4.2.1** The yarn and sewing thread used for harness and line materials shall comply with EN 354. Sewing threads shall be of a contrasting shade or colour in order to facilitate visual inspection.

**4.2.2** All machining shall have been carried out on a lockstitching machine and securely finished off by back sewing for at least 13 mm except where sewn by an automatic lockstitching machine, when the first and last stitches shall have been sewn in such a way as not to provide a natural starting point for a break in the stitching. Sewing shall not have been carried out within 2 mm of any edge of the material. However, ends may be oversewn if not heat sealed. Sacrificial elements are not required to comply with this method of stitching.

**4.2.3** All fittings shall be smoothly finished, and known to be suitable for use in a marine environment. No part of a deck safety harness, safety line, or hook shall deflect a typical yacht magnetic compass by more than 1° when tested according to 5.1.

**4.2.4** The flexible elements designed to transfer the shock load to the wearer's rib cage shall have a minimum width of

- size 1 45 mm
- size 2 35 mm
- size 3 25 mm

NOTE: For definition of sizes see clause 1.

### 4.3 General performance

#### 4.3.1 Donning

Donning of a deck safety harness shall be obvious and simple on the briefest of instructions. This shall be tested according to 5.5, except that assistance shall be permitted in the case of a harness intended for size 3.

#### 4.3.2 Attachment point

The attachment point for a safety line to a deck safety harness shall be positioned within 50 mm of the central axis of the body, front or back, above the lowest point of the rib cage.

If a deck safety harness incorporates more than one point to which the safety line can be attached, then it shall either be demonstrated, using the test at 5.2, that attachment to each single point of attachment in turn meets the requirements of this standard, or the harness shall be marked as described in 6 f).

#### 4.3.3 Comfortable wear

A deck safety harness shall be comfortable to wear for men, women and children as appropriate for the sexes and sizes for which it is intended and when correctly adjusted. Unless fitted with an automatic tensioner, correct adjustment shall be to fit the body firmly. This shall be assessed according to 5.5.

It shall be simple to make adjustments to the size fitting of a deck safety harness in accordance with the manufacturer's instructions.

#### 4.3.4 Detachability of safety lines

A safety line shall be detachable from the deck safety harness or from the vessel or from both, when tested according to 5.4, except in the case of a deck safety harness intended for size 3. In the latter case, the safety line shall either be attached in such a way, or the attachment shall be so positioned, that the wearer cannot detach the line from the harness, but the safety line shall be detachable from the deck safety harness or from the vessel or from both, when tested according to 5.5, by an adult.

#### 4.3.5 Hooks

The hook provided on a safety line for attachment to the vessel shall be of a self-closing type, the opening of which shall be large enough to accept and fully close on a cylinder of minimum diameter 12,5 mm. There shall be no tendency for the hook to open by any action, as tested in 5.4, other than deliberate release, except in the case of that attachment bracket fitted to the vessel, exempted by the clear and permanent warning label as described in 5.4 and 6 g).

If intermediate hooks are fitted in a safety line, the test described in 5.2 shall be repeated using each possible combination of points of attachment. Each repetition shall meet the requirements of this standard.

#### 4.3.6 Integral combinations

Any integral combination of safety harness and additional items such as lifejackets and thermal insulation suits shall comply with the relevant EN 394 or prEN 1913-1 or prEN 1913-2 and shall not be rendered inoperative by the dynamic test of the safety harness given in 5.2.

#### 4.4 Inspection requirements for deck safety harness sizes 1 and 2 and safety line

When tested as described in 5.2, the deck safety harness and safety line shall comply with the following:

- a) throughout the test, the dummy shall be restrained securely in the harness clear of the ground;
- b) throughout the test, no component of the deck safety harness or safety line shall become ineffective. Sacrificial shock-absorbers may rupture, but this shall not affect the security of the dummy in the deck safety harness;
- c) after the first drop test only, the slipping of any adjustment device shall not exceed 25 mm;
- d) after the first drop test only, and with the load of the dummy or test mass relieved from the safety line, the detachability of the safety line shall be checked in accordance with 5.5.4.

#### 4.5 Static loading of deck safety harness size 3

When tested according to 5.3, the total slippage in the safety harness adjustment devices shall not exceed 25 mm.

### 5 Test methods

#### 5.1 Test for magnetic properties

Place a direct reading magnetic compass in an undisturbed magnetic area (i.e. an area in which magnetic items and d.c. electrical cables are not continually moved or switched). Check the compass to ensure that it has negligible pivot friction. This can be done by deflecting the compass card  $10^\circ$  by means of a magnet and then removing the deflecting force, when the card should return to within  $0,5^\circ$  of its original position.

Present the metal components (with any hooks closed) individually to the compass on an approximately East to West line, to a position where the nearest point of the component is  $(300 \pm 10)$  mm horizontally from the centre of the compass. Lightly tap the compass to eliminate the effect of friction. Record the angle in degrees of any deflection of the compass from its position before the metal components were brought near the compass.

#### 5.2 Dynamic tests

##### 5.2.1 Principle

Dynamic testing includes two tests. One for testing the strength of the complete harness and one for testing the safety lines. For deck safety harness and safety line which can be separated, each item is tested separately against a reference counterpart, i.e. reference line and dummy for the harness and reference harness and test mass for the safety line.

For integrated deck safety harness and safety line the two tests are combined.

These dynamic tests do not simulate reality on board a craft but represent a strength test under overload conditions in order to ensure sufficient durability of the components tested.

##### 5.2.2 Apparatus

###### 5.2.2.1 Equipment for testing of deck safety harness and safety line

iTeh STANDARD PREVIEW  
(standards.iteh.ai)

SIST EN 1095:1998  
<https://standards.iteh.ai/catalog/standards/sist/d62daf24-e202-46b5-b5ff-b63d5d65647c/sist-en-1095-1998>

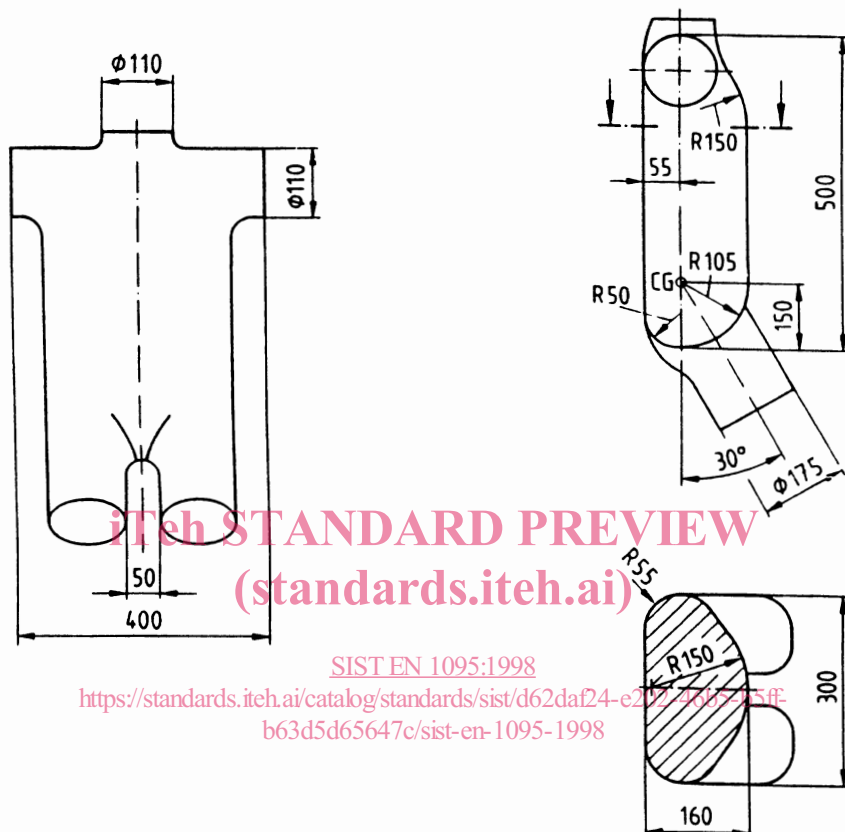


Table 1: Equipment for dynamic testing

Product	Equipment
deck safety harness size 1	dummy (100 ± 1) kg in accordance with 4.2 of EN 364 : 1992; single mountaineering rope as defined in 3.2 of EN 892 : 1996 acting as a reference safety line;
deck safety harness size 2	dummy (50 ± 1) kg in accordance with 4.2 of EN 364:1992, dimensions see figure 1; single mountaineering rope as defined in 3.2 of EN 892 : 1996 acting as a reference safety line;
safety lines	test mass (100 ± 1) kg; single mountaineering rope as defined in 3.2 of EN 892 : 1996 acting as a reference deck safety harness;
integrated deck safety harness and safety lines size 1	dummy (100 ± 1) kg in accordance with 4.2 of EN 364 : 1992
integrated deck safety harness and safety lines size 2	dummy (50 ± 1) kg see figure 1

## 5.2.2.2 Dummy

Dimensions in millimetres



NOTE: radii without dimensions = 30 mm  
Body dimensions  $\approx$  75 % of the original dummy  
 $\approx$  99 %, 10 years, male bodyheight 155 cm

Figure 1: Dummy size 2