SLOVENSKI STANDARD
SIST EN 1497:1996

01-december-1996

Reševalna oprema - Reševalni pasovi

Rescue equipment - Rescue harnesses

Rettungsausrüstung - Rettungsgurte

Equipement de sauvetage - Harnais de sauvetage

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Ta slovenski standard je istoveten z: **EN 1497:1996**

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ICS:

13.340.60	Zaščita pred padci in zdrsi	Protection against falling and slipping

SIST EN 1497:1996 **en**

2003-01.Slovenski inštitut za standardizacijo. Razmnoževanje celote ali delov tega standarda ni dovoljeno.

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EUROPEAN STANDARD **EN 1497**

NORME EUROPÉENNE

EUROPÄISCHE NORM April 1996

ICS 13.220.10; 13.340.20

Descriptors: personal protective equipment, accident prevention, protection against fall, rescue equipment, safety harness, specifications, human factors engineering, mechanical strength, tests, instructions, marking

English version

Rescue equipment - Rescue harnesses

Equipement de sauvetage - Harnais de sauvetage

Rettungsausrüstung - Rettungsgurte

This European Standard was approved by CEN on 1996-03-07. 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.

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CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

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

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Contents

Foreword

This European Standard has been prepared by Technical Committee CEN/TC 160 "Protection against falls from 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publication of an identical text or by endorsement, at the latest by October 1996, and conflicting standards shall be withdrawn at the latest by October 1996.

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, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

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1 Scope

This standard specifies requirements, test methods, instructions for use and marking for rescue harnesses. A rescue harness is not a component of personal protective equipment against falls from a height.

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 these 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 362:1992	Personal protective equipment against falls from a height - Connectors
EN 363	Personal protective equipment against falls from a height - Fall arrest systems
EN 364:1992	Personal protective equipment against falls from a height - Test methods
EN 365	Personal protective equipment against falls from a height - General requirements for instructions for use and for marking
prEN 892-1	Mountaineering equipment - Ropes - Part 1: Safety requirements, testing, marking

3 Definitions

For the purposes of this standard the definitions given in EN 363 apply, together with the following.

Rescue harness: component of personal protective equipment for rescue purposes (see figure 1) consisting of elements designed and constructed so that during the rescue process the rescuee is held.

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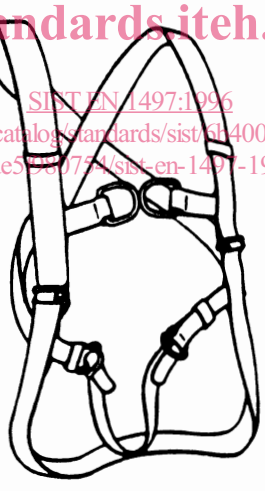

Figure 1: Example of a rescue harness

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4 Requirements

4.1 Ergonomics

The rescue harness shall be designed so that in the conditions of use for which it is intended and in the foreseeable period of wearing, the rescuee is not essentially impaired. The degree of protection provided shall correspond to the risks.

The rescue harness shall not cause any additional risk and it should offer an acceptable degree of comfort. When using the rescue harness the rescuee shall not be endangered or impaired due to a displacement of the straps.

4.2 Materials and construction

4.2.1 Webbings and yarns

Webbings and yarns shall be made of high tenacity filament or multifilament synthetic fibres, suitable for the use intended. The breaking tenacity of the synthetic fibre shall be known to be at least 0,6 N/tex.

Threads used for sewing shall be physically compatible with the webbing and their quality shall be comparable to that of the webbing. They shall, however, be of a contrasting shade in order to facilitate visual inspection.

4.2.2 Construction

The width of the body-supporting parts shall be at least 40 mm. It shall be possible to visually inspect each component of the rescue harness.

The rescue harness shall fit the wearer. Means of adjustment may be provided.

The rescue harness may be incorporated within a garment.

Metal fittings shall comply with the corrosion protection requirements specified in 4.4 of EN 362:1992.

4.2.3 Attachment

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The rescue harness shall have at least one attachment point. The eye of the attachment point shall be designed so that a mandrel of a diameter of at least 25 mm can pass through it.

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4.2.4 Connectors

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Connectors shall conform to EN 362.

4.3 Dynamic strength

Two drop tests shall be carried out according to 5.3.2. The torso dummy shall be held and no body-supporting part of the rescue harness shall break or rupture; the elements of the rescue harness shall not become detached.

If the rescue harness has more than one attachment point, the two tests shall be carried out on each attachment point.

NOTE: Additional rescue harnesses should be supplied for this purpose.

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4.4 Static strength

When tested in accordance with 5.4, with a test force of 15 kN applied for a period of at least 3 min, no body-supporting part shall break or rupture; the elements of the rescue harness shall not become detached.

If the rescue harness has more than one attachment point, the test shall be carried out on each attachment point.

NOTE: Additional rescue harnesses should be supplied for this purpose.

5 Test methods

5.1 Sampling

At least two test samples, each supplied with an unused sample of mountaineering rope (lanyard) according to prEN 892-1 with a nominal diameter of 11 mm and an approximate length of 4000 mm shall be provided for the tests.

5.2 Visual inspection

Check that the specifications of 4.2.1 and 4.2.2 are met.

5.3 Dynamic test

5.3.1 Test apparatus

The test apparatus for the dynamic test shall conform to 4.2, 4.4 and 4.6 of EN 364:1992.

5.3.2 Dynamic test procedure

Fit the rescue harness to the torso dummy in accordance with the instructions for use. Connect one end of the rope to the attachment point of the rescue harness and the other to the anchorage point of the test apparatus.

Prepare the rope so that, under the load of the torso dummy or a test mass of 100 kg, the length of the rope including the eyes to be formed at the two ends, is (2000 $^{+100}_{0}$) mm (see figure 2).

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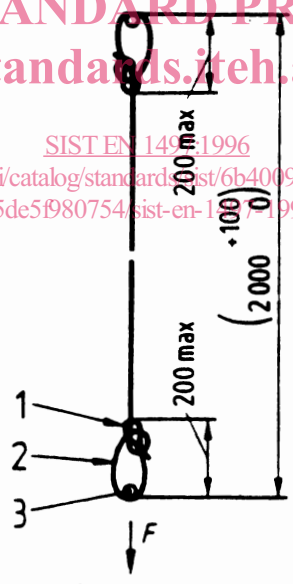
Dimensions in millimetres



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F Force: 1 kN ± 10 N
1 Bowline knot
2 Termination loop
3 Attachment point

Figure 2: Rope for the dynamic test

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Terminate the rope in eyes produced by tying bowline knots (see figure 3) and ensure the length of the termination eyes is a maximum of 200 mm.

Suspend the torso dummy by means of the rescue harness, then raise it by (1000 $^{+50}_{0}$) mm with a maximum distance of 300 mm from the centre line (see figure 4). Hold it with the quick release device.

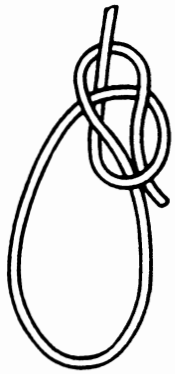
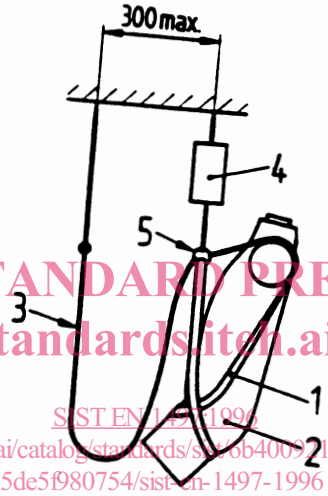


Figure 3: Bowline knot

Dimensions in millimetres



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1 Rescue harness
2 Torso dummy
3 Rope
4 Quick release device
5 Attachment point

Figure 4: Dynamic test

Operate the quick release device so as to drop the harness with the torso dummy without initial velocity.

Check that the requirements of 4.3 are met.

Carry out the second test using the same rope.

Adjustment of the rescue harness is permitted for subsequent tests.

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5.4 Static test

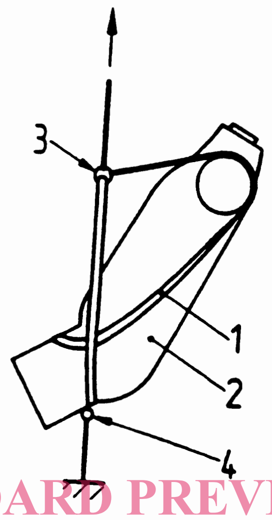
5.4.1 Test apparatus

The test apparatus for the static test shall conform to 4.1 and 4.2 of EN 364:1992.

5.4.2 Static test procedure

Fit the rescue harness to the torso dummy in accordance with the instructions for use.
Install the torso dummy and rescue harness in the test apparatus and apply the specified static test force between the attachment point of the rescue harness and the lower ring of the torso dummy (see figure 5).

For the test, any cradle material which might be present may be cut in non-loadbearing areas in order to be able to apply the test force to the lower ring of the torso dummy.



1 Rescue harness
2 Torso dummy
3 Attachment point
4 Lower ring of the torso dummy

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Figure 5: Static test

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Check that the requirements of 4.4 are met.

Adjustment of the rescue harness is permitted for subsequent tests.