SLOVENSKI STANDARD
oSIST prEN 813:2021

01-november-2021

Osebna varovalna oprema za zaščito pred padci z višine - Sedežni pasovi

Personal fall protection equipment - Sit harnesses

Persönliche Absturzschutzausrüstung - Sitzgurte

Equipement de protection individuelle pour la prévention contre les chutes de hauteur - Ceintures à cuissardes

Ta slovenski standard je istoveten z: **prEN 813**

ICS:

13.340.60	Zaščita pred padci in zdrsi	Protection against falling and slipping

oSIST prEN 813:2021 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

DRAFT
prEN 813

September 2021

ICS

Will supersede EN 813:2008

English Version

Personal fall protection equipment - Sit harnesses

Equipement de protection individuelle pour la prévention contre les chutes de hauteur - Ceintures à cuissardes

Persönliche Absturzschutzausrüstung - Sitzgurte

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 160.

If this draft becomes a European Standard, 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.

This draft European Standard was established by CEN 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 CEN-CENELEC Management Centre has the same status as the official versions.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Ref. No. prEN 813:2021 E

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European foreword

This document (prEN 813:2021) 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 document is currently submitted to the CEN Enquiry.

This document will supersede EN 813:2008.

Annex C provides details of significant changes between this European Standard and the previous edition EN 813:2008.

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

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

1 Scope

This document specifies requirements, testing, marking and manufacturer's instructions and information for sit harnesses to be used in restraint, work positioning and rope access systems, where a low point of attachment is required. Sit harnesses are not suitable to be used for fall arrest purposes.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

EN 363, *Personal fall protection equipment - Personal fall protection 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, maintenance, periodic examination, repair, marking and packaging*

EN 892:2012+A1:2016, *Mountaineering equipment - Dynamic mountaineering ropes - Safety requirements and test methods*

EN 12277:2015+A1:2018, *Mountaineering equipment - Harnesses - Safety requirements and test methods*

EN ISO 9227:2017, *Corrosion tests in artificial atmospheres - Salt spray tests (ISO 9227:2017)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 363 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at https://www.iso.org/obp
- IEC Electropedia: available at http://www.electropedia.org/

3.1
sit harness
arrangement of straps, fittings, buckles, back supports or other elements in the form of a waist belt with a ventral attachment point and connecting support encircling each leg suitably arranged so that a conscious person can be supported in a sitting position

Note 1 to entry: Sit harnesses may be fitted with shoulder straps.

Note 2 to entry: A sit harness may be incorporated into a garment or in a full body harness.

3.2
attachment point
specific connecting point on the sit harness for the load bearing connection to other components, consisting of one or more attachment elements

3.3
attachment element
load bearing element provided for the connection of other components

3.4
load bearing parts
parts of the sit harness intended to transmit forces

Note 1 to entry: Attachment elements, leg loops and waist belts are examples of load bearing parts.

Note 2 to entry: Accessory parts and clothing are examples of non-load bearing parts.

3.5
back support
part of the sit harness intended to give physical support to the lower back of the wearer

3.6
fastening element
element used to close and open the sit harness

3.7
adjustment element
element used to adjust the sit harness to fit the user

4 Requirements

4.1 Ergonomics

When tested in accordance with 5.1.1, the sit harness shall be shown to:

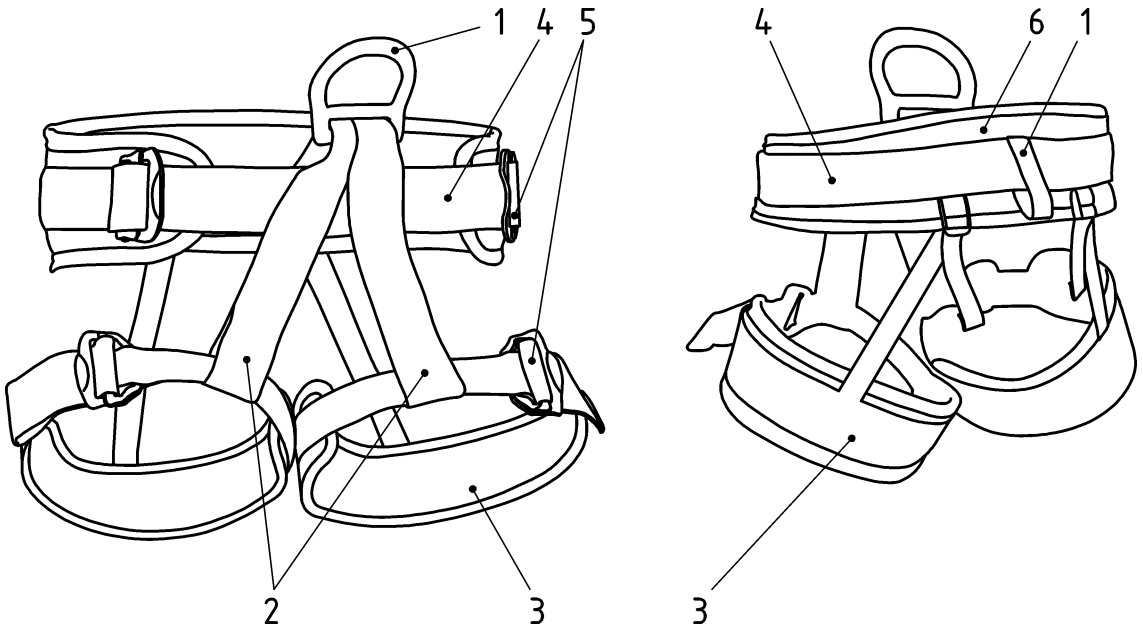
a) be capable of adjustment to enable correct positioning on the user;

b) be able to support the user in an upright sitting position while in suspension;

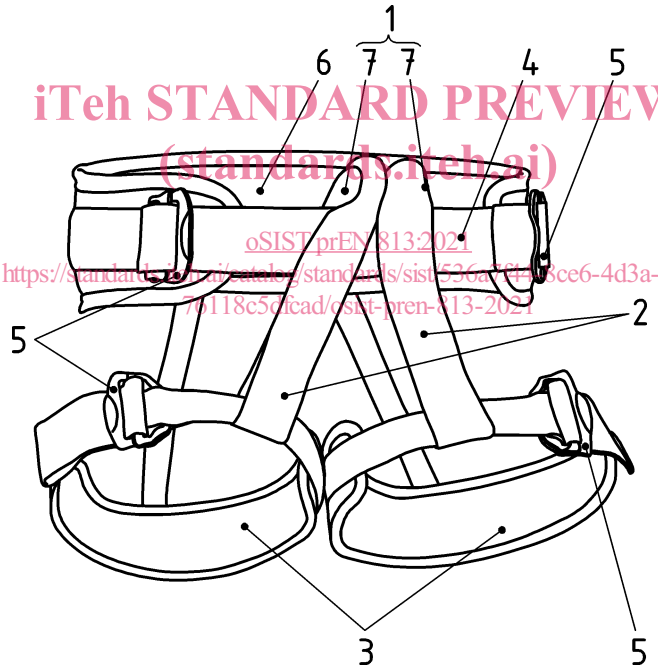
c) allow the person wearing the sit harness to undertake a specified range of movements without undue discomfort;

d) consist of metal fittings with no contact with the groin, the inside of the thighs, the armpits or the small of the back;

e) remain correctly adjusted.



a) front view with attachment point consisting of one attachment element and back view



b) front view with attachment point consisting of two attachment elements

Key

1 attachment point
2 straps connecting leg loops to waist belt
3 leg loop
4 waist belt
5 fastening and/or adjustment element
6 back support
7 attachment element

Figure 1 — Examples of sit harnesses

4.2 Design, materials and construction

4.2.1 Materials

4.2.1.1 When checked in accordance with 5.1.2.1, materials used in sit harnesses that may come into contact with the skin of a user shall not be known to cause irritating or sensitization effects when used as intended.

4.2.1.2 When checked in accordance with 5.1.2.1, webbing and sewing threads shall be known to be made from man-made fibres suitable for their intended use and the breaking tenacity of the man-made fibres shall be known to be at least 0,6 N/tex.

4.2.1.3 When checked in accordance with 5.1.2.1, the shade of the thread used for sewing shall be such as to contrast with the shade of the webbing to facilitate visual inspection.

4.2.1.4 When checked in accordance with 5.1.2.6, metal and other parts shall be free from sharp edges and burrs that could cause injury.

4.2.2 Attachment points

4.2.2.1 When checked in accordance with 5.1.2.1, the sit harness shall have at least one attachment point located at the front and to the centre. (see Figure 2a)). The front attachment point may be movable (see Figure 2b)).

NOTE The front attachment point can consist of two attachment elements (e.g. loops) which are designed to be linked into a single attachment point as described in the manufacturer's instructions and information (see Figure 2c), Figure 2d) and Figure 1b)).

4.2.2.2 When checked in accordance with 5.1.2.1, the sit harness may have additional side or back attachment point(s) according to EN 358.

4.2.2.3 If shoulder straps are fitted to the sit harness, they shall not contain attachment points, when checked in accordance with 5.1.2.5, except if it is incorporated into a full body harness conforming to EN 361.

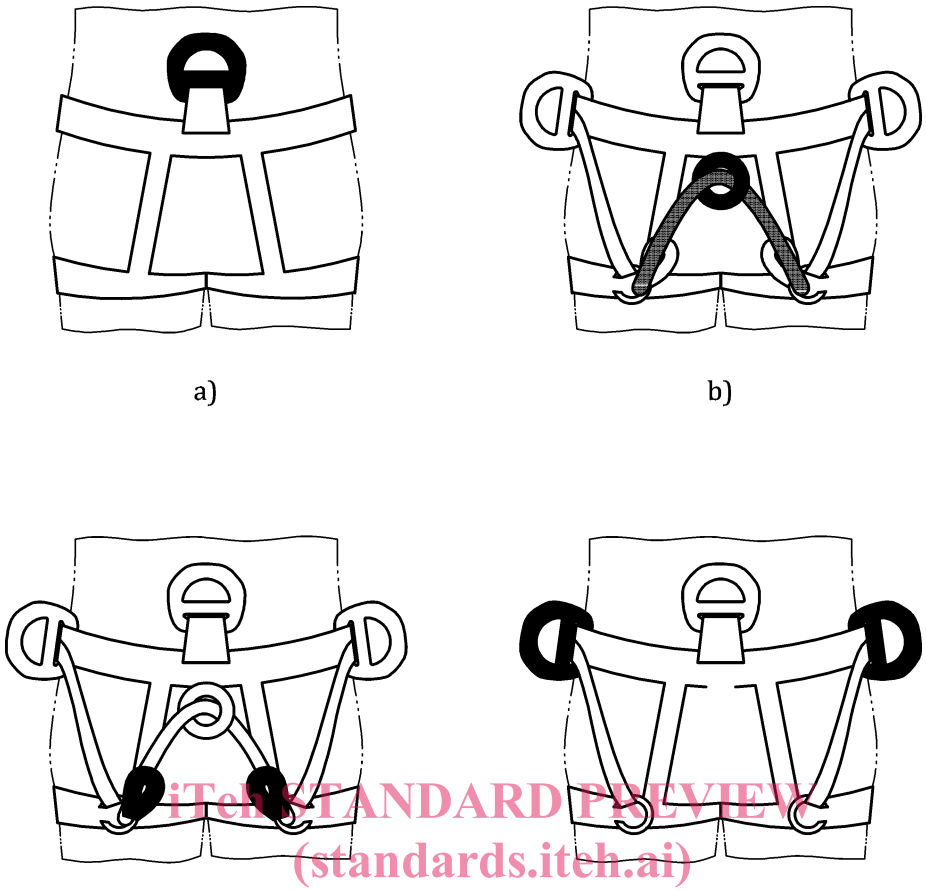


Figure 2 — Examples of attachment points (front view)

4.2.3 Load bearing parts

4.2.3.1 When checked in accordance with 5.1.1.7, it shall be determined where load bearing parts exert pressure on the body.

4.2.3.2 When checked in accordance with 5.1.2.3, the width of the zones identified under 5.1.1.7 shall be a minimum of 43 mm.

4.2.4 Back support

Waist belts shall have a back support. When checked in accordance with 5.1.2.4 the minimum length of the back support shall be 50 mm longer than half the circumference of the waist belt when adjusted to the maximum radial length (waist size) specified by the manufacturer. The back support shall have a minimum width of 100 mm and shall cover a minimum overall surface area of 200 cm^2 symmetrically arranged on the spine of the user and shall have a minimum width of 60 mm elsewhere.

4.2.5 Fastening and adjustment elements

4.2.5.1 When checked in accordance with 5.1.3.2, fastening elements shall be so designed and constructed that, when fastened in accordance with the manufacturer's instructions and information, they can be released only by at least two different deliberate manual actions.

4.2.5.2 When checked in accordance with 5.1.3.3, fastening elements shall be so designed and constructed that, when fastened in accordance with the manufacturer's instructions and information, they cannot unintentionally open.

4.2.5.3 If fastening elements are so designed and constructed that they can be opened by pushing two buttons, e.g. see Figure 3, when fastened in accordance with the manufacturer's information, the buttons have to go back in their original position when checked in accordance with 5.1.3.4. The fastening element shall not release when checked in accordance with 5.1.3.5.

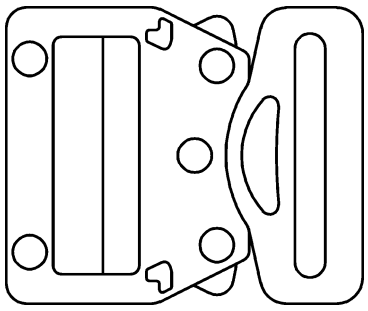


Figure 3 — Example for design of fastening elements with buttons

4.2.5.4 When tested in accordance with 5.3.4 and 5.3.6, adjustments elements shall be so designed and constructed that, when adjusted in accordance with the manufacturer's instructions and information, the movement and slippage of the webbing through the adjustment elements of the sit harness shall be not more than 20 mm. If the manufacturer's instructions and information describe that adjustment elements can be adjusted in more than one manner, each manner of adjustment shall be tested.

4.2.6 Accessibility

When checked in accordance with 5.1.2.2, a visual inspection of the unprotected load bearing parts of the sit harness shall be possible, e.g. inspection of stitching, signs of wear or chemical attack. This shall also apply when the sit harness is incorporated into a garment.

4.3 Dynamic strength

When tested in accordance with 5.2, with a torso dummy having a mass of 100 kg, using each attachment point as described in the manufacturers' instructions and information, the sit harness shall withstand one drop test without releasing the torso dummy after the first impact and no load bearing part of the sit harness shall break, rupture or become detached.

NOTE It is acceptable that the torso dummy slips out of the sit harness after rebound.

4.4 Static strength

When tested in accordance with 5.3.5 and 5.3.6, using each attachment point as described in the manufacturers' instructions and information the sit harness shall withstand a force of 15 kN applied for 3 min and no load bearing part shall break, rupture or become detached.

4.5 Corrosion resistance

After testing in accordance with 5.4, metallic fastening, adjustment and attachment elements of the sit harness shall not show evidence of corrosion of the base metal that would affect their function. White scaling or tarnishing is acceptable if the function is not impaired.