



# SLOVENSKI STANDARD SIST EN 813:2008

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Personal fall protection equipment - Sit harnesses

Persönliche Schutzausrüstung zur Verhinderung von Abstürzen - Sitzgurte

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

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**ICS:**

13.340.60      Zæ ää, !^åÁ, æ&å Á.å!•ã      Protection against falling and slipping

**SIST EN 813:2008**

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN 813**

August 2008

ICS 13.340.60

Supersedes EN 813:1997

English Version

**Personal fall protection equipment - Sit harnesses**

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

Persönliche Absturzschutzausrüstung - Sitzgurte

This European Standard was approved by CEN on 4 July 2008.

CEN members are bound to comply with the CEN/GENELEC 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 CEN Management Centre 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 CEN Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

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## Foreword

This document (EN 813:2008) 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of an identical text or by endorsement, at the latest by February 2009, and conflicting national standards shall be withdrawn at the latest by February 2009.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 813:1997.

This document 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 89/686/EEC.

Annex B provides details of significant technical changes between this European Standard and the previous edition EN 813:1997.

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

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

**EN 813:2008 (E)****1 Scope**

This European Standard specifies requirements, testing, marking and information to be supplied by the manufacturer 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 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.

EN 358, *Personal protective equipment for work positioning and prevention of falls from a height — Belts for work positioning and restraint and work positioning lanyards*

EN 363:2008, *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, *Mountaineering equipment — Dynamic mountaineering ropes — Safety requirements and test methods*

EN ISO 9227, *Corrosion tests in artificial atmospheres — Salt spray tests (ISO 9227:2006)*

**3 Terms and definitions**

For the purposes of this document, the terms and definitions given in EN 363:2008, and the following apply.

**3.1 element**

part of a component

NOTE Webbing, attachment elements and fittings are examples of elements.

**3.2 component**

part of a system at a point of sale by the manufacturer, supplied with packaging, marking and instructions for use

NOTE A sit harness is an example of a component of a system.

**3.3 fastening and adjustment element**

device which enables the sit harness to be fastened and allows adjustment to be made to meet the fitting requirements of the wearer

NOTE A buckle is an example of a fastening and adjustment element.

**3.4 attachment element**

part or parts of the sit harness intended for the load bearing connection to other components

**3.5****attachment point**

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

**3.6****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 Sit harnesses may be fitted with shoulder straps.

NOTE 2 A sit harness may be incorporated into a garment or in a full body harness.

**3.7****load bearing parts**

parts of the sit harness intended to transmit forces

NOTE 1 Attachment elements, leg loops and waist belts are examples of load bearing parts.

NOTE 2 Accessory parts and clothing are examples of non-load bearing parts.

**3.8****back support**

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

**3.9****maximum rated load (for the sit harness)**

maximum mass of a person or persons, including tools and equipment, to be used with the sit harness, as specified by the manufacturer

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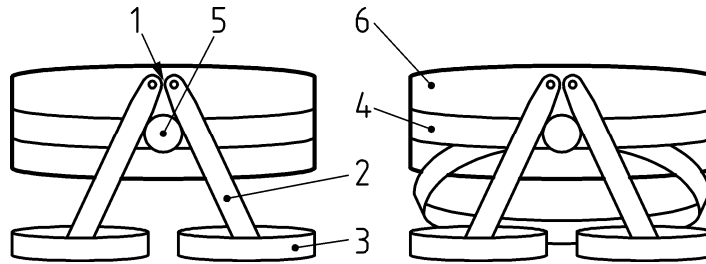
NOTE Maximum rated load is expressed in kilograms.

**4 Requirements****4.1 Ergonomics**

When tested in accordance with 5.3.1, 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.

## EN 813:2008 (E)

**Key**

- 1 attachment point (consisting of two attachment elements)
- 2 straps connecting leg loops to waist belt
- 3 leg loop
- 4 waist belt
- 5 fastening and adjustment element
- 6 back support

**Figure 1 — Examples of sit harnesses and elements**

## 4.2 Design, materials and construction

### 4.2.1 Materials

**4.2.1.1** When checked in accordance with 5.3.2.1, webbing and sewing threads shall be known to be made from virgin filament or multifilament synthetic fibres suitable for their intended use and the breaking tenacity of the synthetic fibres shall be known to be at least 0,6 N/tex.

**NOTE** Polyamide and polyester are typical examples of materials considered suitable for normal use. However, other materials can be more appropriate in certain circumstances.

**4.2.1.2** When checked in accordance with 5.3.2.2, thread used for sewing shall be known to be physically compatible in its mechanical properties with the webbing and the shade of thread shall be such as to contrast with the shade of the webbing to facilitate visual inspection.

### 4.2.2 Attachment points

**4.2.2.1** When checked in accordance with 5.3.2.3, the sit harness shall have at least one attachment point located at the front and to the centre.

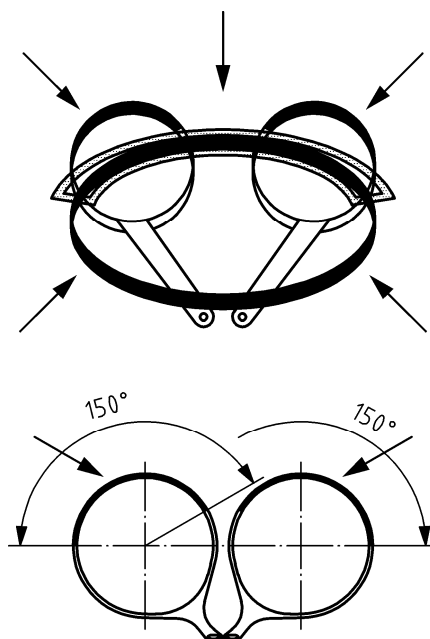
**4.2.2.2** When the sit harness has side or back attachment elements, it shall in addition to this European Standard conform to EN 358.

**4.2.2.3** When checked in accordance with 5.3.2.7, shoulder straps fitted to the sit harness shall not contain attachment points.

### 4.2.3 Load bearing parts

**4.2.3.1** When checked in accordance with 5.3.1.6, it shall be determined which parts of the sit harness are load bearing parts that exert pressure on the body.





**Figure 2 — Example of a sit harness design with typical load bearing parts exerting pressure to the body indicated (by arrows)**

4.2.3.2 When checked in accordance with 5.3.2.5, the width of load bearing parts where they impact on the body shall be a minimum of 43 mm (see Figure 2). Load bearing parts in other areas (typically the inner thighs where they may cause discomfort) may be less than 43 mm wide.

NOTE Typically, 150° of the leg loops are load bearing parts that exert pressure to the legs.

#### 4.2.4 Back support

4.2.4.1 A back support shall be fitted to the waist belt.

4.2.4.2 When checked in accordance with 5.3.2.6, 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 circumferential length (waist size) specified by the manufacturer. The minimum width of the back support shall be 100 mm for a length of 200 mm centred on the spine of the wearer and shall be a minimum of 60 mm elsewhere.

#### 4.2.5 Fastening and adjustment elements

4.2.5.1 When checked in accordance with 5.3.2.8, fastening and adjustment elements shall be so designed and constructed that, when correctly fastened, they can be released only by at least two different, deliberate, manual actions.

4.2.5.2 When checked in accordance with 5.3.2.9, metal and other parts shall be free from sharp edges and burrs that could cause injury.

4.2.5.3 When checked in accordance with 5.5, the slippage of fastening and adjustment elements shall be not more than 20 mm. If fastening and adjustment elements can be fastened or adjusted in more than one manner, each manner of fastening or adjustment shall be tested.

#### 4.2.6 Accessibility

When checked in accordance with 5.3.2.4, the complete sit harness shall be capable of visual inspection, e.g. for signs of wear or chemical attack. This shall also apply when the sit harness is incorporated into a garment.