

BS EN 566:2017



BSI Standards Publication

Mountaineering equipment — Slings — Safety requirements and test methods

National foreword

This British Standard is the UK implementation of EN 566:2017. It supersedes BS EN 566:2006 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee SW/136/5, Sports, Playground and other Recreational Equipment - Mountaineering Equipment.

A list of organizations represented on this committee can be obtained on request to its secretary.

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EUROPEAN STANDARD

EN 566

NORME EUROPÉENNE

EUROPÄISCHE NORM

March 2017

ICS 97.220.40

Supersedes EN 566:2006

English Version

Mountaineering equipment - Slings - Safety requirements and test methods

Équipement d'alpinisme et d'escalade - Anneaux -
Exigences de sécurité et méthodes d'essai

Bergsteigerausrüstung - Schlingen -
Sicherheitstechnische Anforderungen und
Prüfverfahren

This European Standard was approved by CEN on 16 January 2017.

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European foreword

This document (EN 566:2017) has been prepared by Technical Committee CEN/TC 136 “Sports, playground and other recreational facilities and equipment”, 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of an identical text or by endorsement, at the latest by September 2017, and conflicting national standards shall be withdrawn at the latest by September 2017.

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

This document supersedes EN 566:2006.

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.

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

In relation to EN 566:2006 the following main amendments have been made:

- a) requirements and test method for the stability test modified;
- b) test conditions modified.

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

Introduction

The text of this European standard is based on the former UIAA-Standard J (Union Internationale des Associations d'Alpinisme), which has been developed with international participation.

This European standard is one of a package of standards for mountaineering equipment, see Annex A.

1 Scope

This European standard specifies safety requirements and test methods for slings used for mountaineering including climbing.

2 Terms and definitions

For the purposes of this document, the following term and definition applies.

2.1

sling

tape, accessory cord or rope joined together by stitching or other means of fastening, whose shape and length are not specified to link other items in safety systems

Note 1 to entry: Examples of construction of slings are illustrated in Figure 1.

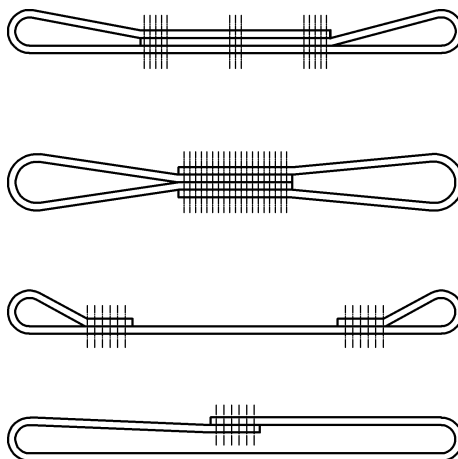


Figure 1 — Examples of construction

3 Safety requirements

3.1 Stability

When a woven tape is used, the weft yarn of the tape shall not unravel when tested in accordance with 4.1.

3.2 Stitching

Where stitching is used to provide safety and strength (e.g. in joints) it shall be possible to inspect it and the stitching shall contrast with the tape in colour or surface appearance.

3.3 Tensile strength

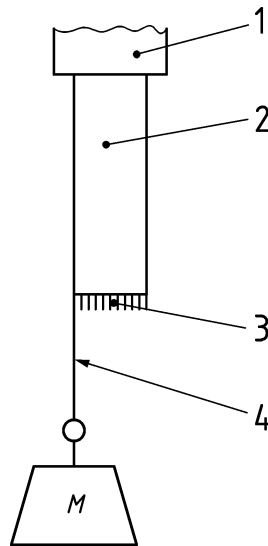
When tested in accordance with 4.3, the tensile strength shall be at least 22 kN.

4 Test methods

4.1 Stability

4.1.1 Preparation

Cut a sample of at least 200 mm in length of the woven tape from the sling without the influence of heat. Extract the weft yarns on both ends of the sample to allow the attachment of a test mass of $150 \text{ g} \pm 5 \text{ g}$ (see Figure 2).



Key

- 1 clamp
- 2 tape
- 3 warp yarns
- 4 weft yarns
- M $M = 150 \text{ g} \pm 5 \text{ g}$

Figure 2 — Test method for stability

4.1.2 Test

Fix the test sample vertically. Apply, without shock, the mass to the weft yarn of the lower end of the test sample for at least 1 min. Release the mass and check whether or not the weft yarn has unravelled. Repeat the test on the weft yarn of the other end of the test sample.

4.2 Stitching

Carry out a visual examination to check that the requirements specified in 3.2 are met.

4.3 Tensile strength

4.3.1 Test sample

One sample of the shortest length of the sling type shall be tested.

The test shall always be carried out on an unused test sample.

4.3.2 Conditioning and test conditions

Dry the test samples for at least 24 h in an atmosphere of (50 ± 5) °C and less than 20 % relative humidity. Then condition these test samples in an atmosphere of (23 ± 2) °C and (50 ± 2) % relative humidity for at least 72 h. Then start testing these samples at a temperature of (23 ± 5) °C within 10 min.

4.3.3 Determination of tensile strength

Attach the test sample between two bars offering a contact radius of $(5 \pm 0,05)$ mm to the sling and with a mean roughness value, R_a , not exceeding $0,8 \mu\text{m}$ and a peak to valley height, R_{max} , not exceeding $6,3 \mu\text{m}$.

Determine the loading speed, v , as a function of the free length of the test sample, using Formula (1):

$$v = (0,5 \pm 0,1) / \text{min} \times l \quad (1)$$

where

v is the loading speed in millimetres per minute;

l is the free length in millimetres of the test sample overall laid out in the flat.

5 Marking

Slings shall be marked with at least the following items:

- a) name of the manufacturer or its authorized representative;
- b) tensile strength which the manufacturer ensures at the time of manufacturing;
- c) number of this European Standard, i.e. EN 566;
- d) year of manufacture.

6 Information supplied by the manufacturer

The sling shall be supplied with an explanatory leaflet, and written in at least the official language(s) of the state of destination containing at least the following items:

- a) name and address of the manufacturer or its authorized representative;
- b) number of this European Standard, i.e. EN 566;
- c) meaning of any marking on the product;
- d) tensile strength which the manufacturer ensures at the time of manufacturing;
- e) use of the product;
- f) how to choose other components for use in the system;
- g) how to maintain/service the product, on the effects of chemical reagents and how to clean the product without adverse effect;
- h) lifespan of the product and how to assess it and that after a serious fall the sling should be withdrawn from use as soon as possible;

- i) influence of wet and icy conditions;
- j) danger of sharp edges;
- k) influence of storage and aging due to use;
- l) influence of knots on the strength.

Annex A
(informative)

Standards on mountaineering equipment

Table A.1 — List of standards on mountaineering equipment

| No | Document | Title |
|----|----------|---|
| 1 | EN 564 | Mountaineering equipment — Accessory cord — Safety requirements and test methods |
| 2 | EN 565 | Mountaineering equipment — Tape — Safety requirements and test methods |
| 3 | EN 566 | Mountaineering equipment — Slings — Safety requirements and test methods |
| 4 | EN 567 | Mountaineering equipment — Rope clamps — Safety requirements and test methods |
| 5 | EN 568 | Mountaineering equipment — Ice anchors — Safety requirements and test methods |
| 6 | EN 569 | Mountaineering equipment — Pitons — Safety requirements and test methods |
| 7 | EN 892 | Mountaineering equipment — Dynamic mountaineering ropes — Safety requirements and test methods |
| 8 | EN 893 | Mountaineering equipment — Crampons — Safety requirements and test methods |
| 9 | EN 958 | Mountaineering equipment — Energy absorbing systems for use in klettersteig (via ferrata) climbing — Safety requirements and test methods |
| 10 | EN 959 | Mountaineering equipment — Rock anchors — Safety requirements and test methods |
| 11 | EN 12270 | Mountaineering equipment — Chocks — Safety requirements and test methods |
| 12 | EN 12275 | Mountaineering equipment — Connectors — Safety requirements and test methods |
| 13 | EN 12276 | Mountaineering equipment — Frictional anchors — Safety requirements and test methods |
| 14 | EN 12277 | Mountaineering equipment — Harnesses — Safety requirements and test methods |
| 15 | EN 12278 | Mountaineering equipment — Pulleys — Safety requirements and test methods |
| 16 | EN 12492 | Mountaineering equipment — Helmets for mountaineers — Safety requirements and test methods |

| No | Document | Title |
|----|-------------|---|
| 17 | EN 13089 | Mountaineering equipment — Ice-tools — Safety requirements and test methods |
| 18 | EN 15151-1 | Mountaineering equipment — Braking devices — Part 1: Braking devices with manually assisted locking, safety requirements and test methods |
| 19 | EN 15151-2 | Mountaineering equipment — Braking devices — Part 2: Manual braking devices, safety requirements and test methods |
| 20 | FprEN 16716 | Mountaineering equipment — Avalanche airbag systems — Safety requirements and test methods |
| 21 | prEN 16869 | Design/construction of Via Ferrata |

Annex ZA (informative)

Relationship between this European Standard and the essential requirements of Directive 89/686/EEC aimed to be covered

This European Standard has been prepared under a Commission's standardization request M/031 "Personal Protective Equipments" to provide one voluntary means of conforming to essential requirements of Directive 89/686/EEC "Personal Protective Equipment".

Once this standard is cited in the Official Journal of the European Union under that Directive, compliance with the normative clauses of this standard given in Table ZA.1 confers, within the limits of the scope of this standard, a presumption of conformity with the corresponding essential requirements of that Directive and associated EFTA regulations.

Table ZA.1 — Correspondence between this European Standard and Article(s) of Directive 89/686/EEC

| Essential Requirements of Directive 89/686/EEC | Clause(s)/subclause(s) of this EN | Remarks/Notes |
|--|-----------------------------------|--|
| 1.2.1 Absence of risks and other factors | 3.1, 3.2 | Only the first paragraph of ER 1.2.1 is applicable, not 1.2.1.1 to 1.2.1.3 |
| 1.3.2 Lightness and design strength | 3.3 | |
| 1.4 Information supplied by the manufacturer | 5, 6 | |

WARNING 1 — Presumption of conformity stays valid only as long as a reference to this European Standard is maintained in the list published in the Official Journal of the European Union. Users of this standard should consult frequently the latest list published in the Official Journal of the European Union.

WARNING 2 — Other Union legislation may be applicable to the product(s) falling within the scope of this standard.

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