



BSI Standards Publication

## **Mountaineering equipment - Tape - Safety requirements and test methods**

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EUROPEAN STANDARD

**EN 565**

NORME EUROPÉENNE

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## Mountaineering equipment - Tape - Safety requirements and test methods

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

Bergsteigerausrüstung - Band - Sicherheitstechnische  
Anforderungen und Prüfverfahren

This European Standard was approved by CEN on 21 May 2017.

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## European foreword

This document (EN 565:2017) 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of an identical text or by endorsement, at the latest by February 2018, and conflicting national standards shall be withdrawn at the latest by February 2018.

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 565:2006.

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(s).

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

In relation to EN 565:2006 the following main amendments have been made:

- a) amendment of 5.2 “Conditioning and test conditions”;
- b) amendment of 5.3 “Stability”;
- c) amendment of 6 “Marking”;
- d) actualization of Table A.1 “List of standards on mountaineering equipment”.

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 H (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 tape supplied on drums or in separate lengths, for use in mountaineering, including climbing.

## 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN ISO 2307:2010, *Fibre ropes - Determination of certain physical and mechanical properties (ISO 2307:2010)*

## 3 Terms and definitions

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

### 3.1

#### **tape**

long, narrow, flat textile structure intended to withstand forces, but not intended to absorb energy

## 4 Safety requirements

### 4.1 Stability

When tested in accordance with 5.3, the weft yarn of the tape shall not be released from the tape sample.

### 4.2 Tensile strength

When tested in accordance with 5.4, the tensile strength of tape shall be at least 10 kN. It shall be possible to read the tensile strength from the continuous tape (see 6.2).

### 4.3 Mass per unit length

This mass shall be given as information according to 7 d).

## 5 Test methods

### 5.1 Test samples

**5.1.1** Carry out the test described in 5.3 on one test sample.

**5.1.2** Carry out the tests described in 5.4 on one test sample.

**5.1.3** Carry out the test described in 5.5 on one test sample.

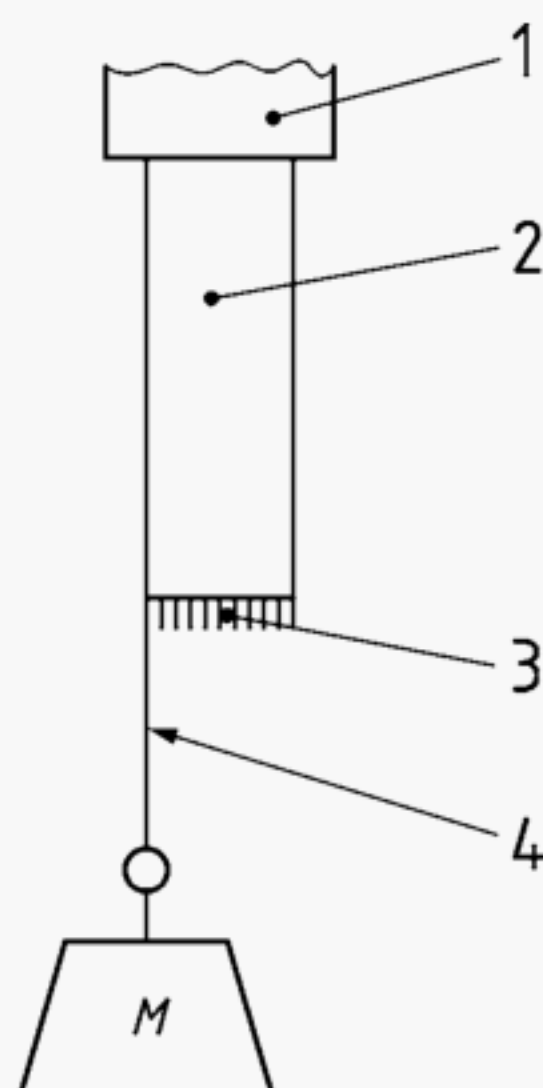
### 5.2 Conditioning and test conditions

Dry the test samples for at least 24 h in an atmosphere of  $(50 \pm 5)^\circ\text{C}$  and less than 20 % relative humidity. Then condition these test samples in an atmosphere of  $(23 \pm 2)^\circ\text{C}$  and  $(50 \pm 2) \%$  relative humidity for at least 72 h. Then start testing these samples at a temperature of  $(23 \pm 5)^\circ\text{C}$  within 10 min.

## 5.3 Stability

### 5.3.1 Preparation

Cut a sample of at least 200 mm length of tape without the influence of heat. Extract the weft yarn on both ends to allow the attachment of a test mass of  $(150 \pm 5)$  g (see Figure 1).



#### Key

- 1 clamp
- 2 tape
- 3 warp yarns
- 4 weft yarn
- $M$   $M = (150 \pm 5)$  g

**Figure 1 — Test method for stability**

### 5.3.2 Test

Fix the test sample in a vertical orientation. Apply, without shock, the mass to the weft yarn of the lower side for at least 1 min. Release the mass and check that the weft yarn has not unravelled and the test mass stays in a stable position. Repeat the test on the weft yarn of the other end of the test sample.

## 5.4 Determination of tensile strength

Carry out the determination of the tensile strength by using a tensile testing machine and fixing devices in accordance with 5.1 of EN ISO 2307:2010.

The minimum length between attachment points shall be 200 mm.

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

$$v = 0,5 \, l \text{ with an accuracy of } \pm 20 \% \quad (1)$$

where

$v$  is the loading speed in millimetres per minute;

$l$  is the length in millimetres between points of attachment.

## 5.5 Determination of mass per unit length

Carry out the test with a minimum length of 1 300 mm between attachment points.

NOTE There is no requirement for any particular type of fixing device.

Load the test sample without shock at a rate not exceeding 1 mm/s by means of a  $(4 \pm 0,05)$  kg test mass.

Retain the maximum load for  $(60 \pm 15)$  s and mark a reference length of  $(1\,000 \pm 1)$  mm, with a distance between the marks and the attachment points of at least 100 mm.

Release the load, then cut the marked part from the test sample and determine its mass to the nearest 0,1 g.

Record the mass per unit length in grams per metre, to at least two significant figures.

There is no specific requirement for mass per unit length, but it can be marked on the drum or packaging of the tape (see Clause 6).

## 6 Marking

**6.1** The drum or production line packaging of tapes shall be marked with at least the following:

- a) number of this European Standard, i.e. EN 565;
- b) name of the manufacturer;
- c) tensile strength which the manufacturer ensures at the time of manufacturing;
- d) if tape is supplied on a drum, it shall be of the same type, specification and batch of manufacture, and if it consists of more than one piece, the number of pieces shall be stated on the drum;
- e) year of manufacture;

NOTE In addition, the mass per unit length can also be marked.

- f) graphical symbol (see Figure 2), which advises the user to read the information supplied by the manufacturer.



**Figure 2 — Operator's manual (according to ISO 7000, Symbol No. 1641)**

**6.2** The tape shall be marked by means of threads to allow the minimum tensile strength to be read directly, as follows:

- a) one coloured thread per 5 kN tensile strength;
- b) colour of the thread(s) shall be uniform and in contrast to the colour of the tape;
- c) marking shall be at least on one side of the tape, in the middle of the tape;
- d) space between coloured threads shall be clearly visible by eye.

## 7 Information supplied by the manufacturer

The tape shall be supplied with an explanatory leaflet, 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 565;
- c) meaning of any marking on the product;
- d) mass per unit length of the tape as specified in 5.5;
- e) tensile strength which the manufacturer ensures at the time of manufacturing;
- f) use of the product;
- g) how to choose other components for use in the system;
- h) how to maintain/service the product, on the effects of chemical reagents and how to disinfect the product without adverse effect;
- i) lifespan of the product or how to assess it and that after a serious fall the tape should be withdrawn from use as soon as possible;
- j) influence of wet and icy conditions;
- k) danger of sharp edges;
- l) influence of storage and aging due to use;
- m) influence of knots on the strength.

## 8 Packaging

If the tape is supplied on a drum and consists of more than one piece, the ends of the pieces shall be clearly visible and not joined together.

## Annex A (informative)

### Standards on mountaineering equipment

**Table A.1 — List of standards on mountaineering equipment**

No	Document	Title
1	EN 892	Mountaineering equipment — Dynamic mountaineering ropes — Safety requirements and test methods
2	EN 12275	Mountaineering equipment — Connectors — Safety requirements and test methods
3	EN 13089	Mountaineering equipment — Ice-tools — Safety requirements and test methods
4	EN 12277	Mountaineering equipment — Harnesses — Safety requirements and test methods
5	EN 12492	Mountaineering equipment — Helmets for mountaineers — Safety requirements and test methods
6	EN 564	Mountaineering equipment — Accessory cord — Safety requirements and test methods
7	EN 565	Mountaineering equipment — Tape — Safety requirements and test methods
8	EN 566	Mountaineering equipment — Slings — Safety requirements and test methods
9	EN 12276	Mountaineering equipment — Frictional anchors — Safety requirements and test methods
10	EN 12270	Mountaineering equipment — Chocks — Safety requirements and test methods
11	EN 567	Mountaineering equipment — Rope clamps — Safety requirements and test methods
12	EN 958	Mountaineering equipment — Energy absorbing systems for use in klettersteig (via ferrata) climbing — Safety requirements and test methods
13	EN 959	Mountaineering equipment — Rock anchors — Safety requirements and test methods
14	EN 568	Mountaineering equipment — Ice anchors — Safety requirements and test methods
15	EN 569	Mountaineering equipment — Pitons — Safety requirements and test methods
16	EN 893	Mountaineering equipment — Crampons — Safety requirements and test methods
17	EN 15151-1	Mountaineering equipment — Braking devices — Part 1: Braking devices with manually assisted locking, safety requirements and test methods
18	EN 15151-2	Mountaineering equipment — Braking devices — Part 2: Manual braking devices, safety requirements and test methods
19	EN 12278	Mountaineering equipment — Pulleys — Safety requirements and test methods

**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 Equipment" 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)/sub-clause(s) of this EN	Remarks/Notes
1.2.1	Absence of inherent risks and other nuisance factors	4.1	
1.3.2	Lightness and strength	4.2	
1.4	Manufacturer’s instructions and information	6, 7	

**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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