

Mountaineering equipment - Rock anchors - Safety requirements and test methods

## EESTI STANDARDI EESSÕNA

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ICS 97.220.40

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English Version

## Mountaineering equipment - Rock anchors - Safety requirements and test methods

Équipement d'alpinisme et d'escalade - Amarrages pour rocher - Exigences de sécurité et méthodes d'essai

Bergsteigerausrüstung - Bohrhaken - Sicherheitstechnische Anforderungen und Prüfverfahren

This European Standard was approved by CEN on 29 July 2018.

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# Contents

Page

<b>European foreword</b>	<b>3</b>
<b>Introduction</b>	<b>4</b>
<b>1 Scope</b>	<b>5</b>
<b>2 Normative references</b>	<b>5</b>
<b>3 Terms and definitions</b>	<b>5</b>
<b>4 Safety requirements</b>	<b>6</b>
4.1 Material(s)	6
4.2 Design	7
4.3 Load-bearing capacity	9
4.3.1 Axial load-bearing capacity	9
4.3.2 Radial load-bearing capacity	10
4.3.3 Belay rock anchor linking elements	10
<b>5 Test methods</b>	<b>10</b>
5.1 Check of materials	10
5.2 Concrete block	10
5.3 Procedure	10
5.3.1 Examination of design	10
5.3.2 Determination of load-bearing capacity	10
<b>6 Marking</b>	<b>12</b>
<b>7 Information supplied by the manufacturer</b>	<b>12</b>
<b>Annex A (informative) Standards on mountaineering equipment</b>	<b>14</b>
<b>Annex B (informative) Choice of materials for different environmental conditions and the consequences for inspection and maintenance</b>	<b>15</b>
<b>Annex C (informative) Stress corrosion cracking of steel anchors</b>	<b>16</b>
<b>Annex D (informative) General guidance for placing rock anchors</b>	<b>17</b>
<b>Bibliography</b>	<b>18</b>

## European foreword

This document (EN 959:2018) 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of an identical text or by endorsement, at the latest by June 2019, and conflicting national standards shall be withdrawn at the latest by June 2019.

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 959:2007.

Changes made in comparison with EN 959:2007:

- a) definition for “eye” added;
- b) definition for “connector” added;
- c) classes for rock anchors added in 4.1 “materials” and amendments of 4.1;
- d) amendment of 4.2 “Design” and change of the overall thickness of the border of the eye;
- e) amendment of 5.3.2 “Determination of load-bearing capacity”;
- f) amendment of Clause 6 “Marking”;
- g) amendment of Clause 7 “Information supplied by the manufacturer”;
- h) inclusion of informative Annex C “Stress corrosion cracking of steel anchors”;
- i) Annex C “General guidance for placing rock anchors” changed to Annex D;
- j) editorial amendments;
- k) introduction of a new class of rock anchor designed especially for the top of a route for lowering/rappelling.

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, 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 document is based on the former UIAA Standard P (Union Internationale des Associations d'Alpinisme), which has been prepared with international participation.

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

This document is a preview generated by EVS

## 1 Scope

This document specifies safety requirements and test methods for rock anchors for use in mountaineering including climbing.

## 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.

ISO 1920-3, *Testing of concrete - Part 3: Making and curing test specimens*

## 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

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

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

### 3.1

#### **rock anchor**

anchoring device intended for repeated use after installation, that is inserted into a drilled hole in the rock and held in place by gluing, or expansion forces, or positive locking, and with an attachment point for a connector

### 3.2

#### **connector**

openable device, which enables a mountaineer to link himself directly or indirectly to an anchor or to link parts of the equipment together

[SOURCE: EN 12275:2013, definition 3.1]

### 3.3

#### **eye**

attachment point for a connector

### 3.4

#### **body of the rock anchor**

part of the rock anchor that will be installed in the rock

### 3.5

#### **hanger**

attachment point capable of being separated from the body of a rock anchor

### 3.6

#### **installed length**

distance from the rock surface to the furthest point of the body in mechanical contact with the rock or bonded to the rock, after installation