



# SLOVENSKI STANDARD

## SIST EN 958:2024

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Nadomešča:  
SIST EN 958:2017

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**Gorniška oprema - Sistemi za absorpcijo energije pri zahtevnem varovanem planinstvu (via ferrata) - Varnostne zahteve in preskusne metode**

Mountaineering equipment - Energy absorbing systems for use in klettersteig (via ferrata) climbing - Safety requirements and test methods

Bergsteigerausrüstung - Fangstoßdämpfer für die Verwendung auf Klettersteigen (Via Ferrata) - Sicherheitstechnische Anforderungen und Prüfverfahren

Équipement d'alpinisme et d'escalade - Systèmes absorbeurs d'énergie utilisés en via ferrata - Exigences de sécurité et méthodes d'essai

**Ta slovenski standard je istoveten z: EN 958:2024**

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**ICS:**

97.220.40	Oprema za športe na prostem in vodne športe	Outdoor and water sports equipment
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EUROPEAN STANDARD

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## Mountaineering equipment - Energy absorbing systems for use in klettersteig (via ferrata) climbing - Safety requirements and test methods

Équipement d'alpinisme et d'escalade - Systèmes absorbeurs d'énergie utilisés en via ferrata - Exigences de sécurité et méthodes d'essai

Bergsteigerausrüstung - Fangstoßdämpfer für die Verwendung auf Klettersteigen (Via Ferrata) - Sicherheitstechnische Anforderungen und Prüfverfahren

This European Standard was approved by CEN on 19 May 2024.

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

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## EN 958:2024 (E)

### European foreword

This document (EN 958:2024) 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of an identical text or by endorsement, at the latest by December 2024, and conflicting national standards shall be withdrawn at the latest by December 2024.

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 958:2017.

EN 958:2024 includes the following significant technical changes with respect to EN 958:2017:

- a) in the scope, energy absorbing systems (EAS) according to this document have been limited to users weighing not less than 40 kg (total weight without equipment) and no more than 120 kg (total weight including the equipment) and the use is limited on via ferrata according to EN 16869:2017;
- b) modification of the maximum impact force in 4.2.3 a);
- c) modification of the mass in 4.2.3 b);
- d) modification of the test apparatus and the test method for the dynamic performance;
- e) the manufacturer’s instructions and information take into account the previous modifications, the EAS disinfection and the progression in a rope party is also recommended for children.

This document has been prepared under a standardization request addressed to CEN by the European Commission. The Standing Committee of the EFTA States subsequently approves these requests for its Member States.

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

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

## 1 Scope

This document specifies safety requirements and test methods for energy absorbing systems (EAS) for use on suitable via ferrata (e.g. EN 16869:2017), for users weighing not less than 40 kg (total weight without equipment) and no more than 120 kg (total weight including the equipment).

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

## 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 565:2017, *Mountaineering equipment — Tape — Safety requirements and test methods*

EN 892:2012+A3:2023, *Mountaineering equipment — Dynamic mountaineering ropes — Safety requirements and test methods*

EN 1891:1998, *Personal protective equipment for the prevention of falls from a height — Low stretch kernmantel ropes*

EN 12275:2013, *Mountaineering equipment — Connectors — Safety requirements and test methods*

EN ISO 2307:2019, *Fibre ropes — Determination of certain physical and mechanical properties (ISO 2307:2019)*

ISO 6487:2015<sup>1</sup>, *Road vehicles — Measurement techniques in impact tests — Instrumentation*

ISO 7000:2019, *Graphical symbols for use on equipment — Registered symbols*

## 3 Terms and definitions

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

### 3.1

#### **via ferrata**

route, generally on rocky terrain, consisting of a fixed climbing installation including a safety line where the user is not supervised

[SOURCE: EN 16869:2017, 3.1]

Note 1 to entry: The mere presence of a wire cable/rope on a mountain route does not constitute a via ferrata (e.g. Hörnli Ridge on Matterhorn).

### 3.2

#### **safety line**

flexible or rigid, horizontal, vertical or sloping, continuous or discontinuous installation, used as protection against fall from a height and possible progression aid

[SOURCE: EN 16869:2017, 3.4]

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<sup>1</sup> As impacted by ISO 6487:2015/AMD 1:2017.

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### 3.3 energy absorbing system

#### EAS

device connecting the climber to the safety line, using an energy absorber to limit the impact forces on the climber and the fixed installation

Note 1 to entry: See Figure 1.

### 3.4 energy absorber

part of the EAS which limits the impact force during a climber's fall

Note 1 to entry: See Figure 1.

### 3.5 braking length

increase in the distance between the connection to the safety line and the connection to the harness after the climber's fall

### 3.6 initial arrangement

original configuration of an un-activated energy absorber

### 3.7 arm

part of the EAS between the energy absorber and the connecting device to the safety line of the via ferrata; an arm may be elasticated or non-elasticated

Note 1 to entry: See Figure 1.

### 3.8 elasticated arm

arm with a static elongation of the arm material, as measured in 5.1.4, > 5 %

### 3.9 rest attachment point

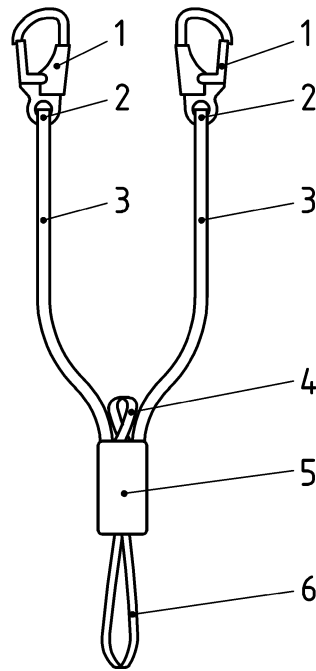
part of the EAS intended to temporarily connect the user via an additional connector to the safety line or to the anchor points of the via ferrata to permit a rest of the climber

Note 1 to entry: See Figure 1.

### 3.10 extension lanyard

fibre rope, part of the test apparatus for the dynamic test of this document fibre rope characterized as described in 5.2.3.3 and used for the purpose of dynamic testing as described in 5.2.4.3



**Key**

- |   |                                    |   |                                       |
|---|------------------------------------|---|---------------------------------------|
| 1 | connecting device (to via ferrata) | 4 | rest attachment point                 |
| 2 | arm extremity                      | 5 | energy absorber                       |
| 3 | arm                                | 6 | harness attachment point (to climber) |

**Figure 1 — Example of an energy absorbing system**

## 4 Safety requirements

### 4.1 Design

#### 4.1.1 Construction

##### 4.1.1.1 General

All load bearing connections shall be designed so that they cannot be altered or disassembled by the user, with the exception of removable connecting devices. EAS shall not have any sharp or rough edges that could cut, abrade, or cause injury to the user.

##### 4.1.1.2 Distance between the two arm extremities

When measured in accordance with 5.1.2, the distance between the two extremities of the arms (without connecting devices) shall be  $\geq 1\,000$  mm, unless there is only a single arm.

##### 4.1.1.3 Overall length of EAS

When measured in accordance with 5.1.3, the length of the energy absorbing system without connecting devices shall be  $\leq 1\,500$  mm.

##### 4.1.1.4 Elastic arm elongation

When measured without connecting devices in accordance with 5.1.4, the elongation shall be  $> 5\%$ .

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### 4.1.2 Connecting device

If the connecting device is a connector according to EN 12275:2013, it shall be a type K connector.

If an EAS is not fitted with a connector of type K according to EN 12275:2013, refer to the information supplied by the manufacturer of the EAS (see Clause 7).

### 4.1.3 Connection to the safety line

There shall be at least two arms intended for attachment to the safety line, unless designed for a continuous system which does not permit disconnection of the EAS from the safety line (except at entry and exit points), where just one arm could be used.

### 4.1.4 Initial arrangement

The initial arrangement of the energy absorber shall be designed in such a way that it can easily be checked by visual examination by the user.

### 4.1.5 Rest attachment point

The rest attachment point shall be designed to activate the energy absorber in the case of a fall in which the user is connected to the anchor only by the rest attachment point.

## 4.2 Operation of the EAS

### 4.2.1 General

Table 1 summarizes the dynamic performance requirements of the EAS, which are described in detail in 4.2.3 to 4.2.4.

**Table 1 — Summary of dynamic test requirements of the EAS**

Symbol	Test 1	Test 2	Test 3	Test 4	Test 5
<i>M</i>	40 kg	80 kg	80 kg	120 kg	120 kg
<i>EAS wet or dry</i>	Dry	Dry	Dry	Dry	Wet
<i>Arm (s)</i>	The two arms connected	The two arms connected	If arms are the same, test only one arm. If not, test each arm.	If arms are the same, test only one arm. If not, test each arm.	Most constraining (configuration with the maximum braking length)
<i>F<sub>max</sub></i>	4 kN	6 kN	6 kN	6 kN	8 kN
<i>L<sub>max</sub></i>	< 2 200 mm	< 2 200 mm	< 2 200 mm	< 2 200 mm	< 2 200 mm

*M*: rigid steel mass.

*F<sub>max</sub>*: max. allowable impact force during dynamic test.

*L<sub>max</sub>*: max. braking length.

Note: Arms are the same if the same length, material, stitching and construction. Manufacturing tolerances are to be taken into account.