



SLOVENSKI STANDARD
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Gorniška oprema - Samovarovala za rekreativno uporabo - Varnostne zahteve in preskusne metode

Mountaineering equipment - Autobelay devices for recreational use - Safety requirements and test methods

Persönliche Absturzschutzausrüstung - Selbstsicherungs-Automaten im Freizeitsportbereich - Sicherheitsanforderungen und Prüfverfahren

Equipement d'alpinisme et d'escalade - Auto-assureur automatique pour le loisir

Ta slovenski standard je istoveten z: prEN 18039

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97.220.40	Oprema za športe na prostem in vodne športe	Outdoor and water sports equipment
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Mountaineering equipment - Autobelay devices for recreational use - Safety requirements and test methods

Équipement d'alpinisme et d'escalade - Auto-assureur automatique pour le loisir

Bergsteigerausrüstung - Automatische Selbstsicherungsgeräte für Freizeitnutzung

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 136.

If this draft becomes a European Standard, CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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prEN 18039:2024 (E)**European foreword**

This document (prEN 18039:2024) has been prepared by Technical Committee CEN/TC 136 WG 5 “Mountaineering Equipment”, the secretariat of which is held by DIN.

This document is currently submitted to the CEN Enquiry.

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.

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1 Scope

This document specifies requirements, test methods, marking and information to be supplied for autobelay devices, intended to protect against falls during recreational use in a climbing structure. An autobelay device is a movable personal fall protection system for single person use.

This document does not specify requirements for descender devices or retractable fall arresters that are used for descending/climbing in mountaineering, rescue, rope access, fall arrest or work positioning systems.

NOTE 1 A climbing structure is e.g. a ropes course, a climbing gym.

NOTE 2 An autobelay device which enables the user to belay and descent himself and which conforms to this document is personal protective equipment (PPE).

NOTE 3 For mountaineering standards, see Annex D.

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 362:2004, *Personal protective equipment against falls from a height - Connectors*

EN 364:1992, *Personal protective equipment against falls from a height - Test methods*

EN 1176-1:2017+A1:2023, *Playground equipment and surfacing - Part 1: General 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*

<https://standards.iteh.ai/> EN 12385-1:2002+A1:2008, *Steel wire ropes - Safety - Part 1: General requirements* /osist-pren-18039-2024

EN 13411-1:2002+A1:2008, *Terminations for steel wire ropes - Safety - Part 1: Thimbles for steel wire rope slings*

EN 13411-2:2001+A1:2008, *Terminations for steel wire ropes - Safety - Part 2: Splicing of eyes for wire rope slings*

EN 13411-3:2022, *Terminations for steel wire ropes - Safety - Part 3: Ferrules and ferrule-securing*

EN 15567-1:2015+A1:2020, *Sports and recreational facilities - Ropes courses - Part 1: Construction and safety requirements*

EN 60335-1:2012, *Household and similar electrical appliances - Safety - Part 1: General requirements (IEC 60335-1:2010, modified)*

EN 60335-2-29:2021, *Household and similar electrical appliances - Safety - Part 2-29: Particular requirements for battery chargers (IEC 60335-2-29:2016)*

EN 60335-2-30:2009, *Household and similar electrical appliances - Safety - Part 2-30: Particular requirements for room heaters (IEC 60335-2-30:2009)*

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EN 60335-2-80:2003,¹ *Household and similar electrical appliances - Safety - Part 2-80: Particular requirements for fans*

EN 60529:1991, *Degrees of protection provided by enclosures (IP Code) (IEC 60529:1989)*

EN 61558-2-16:2009,² *Safety of transformers, reactors, power supply units and similar products for supply voltages up to 1 100 V - Part 2-16: Particular requirements and tests for switch mode power supply units and transformers for switch mode power supply units*

EN 62133-1:2017, *Secondary cells and batteries containing alkaline or other non-acid electrolytes - Safety requirements for portable sealed secondary cells, and for batteries made from them, for use in portable applications – Part 1: Nickel systems*

EN 62133-2:2017, *Secondary cells and batteries containing alkaline or other non-acid electrolytes - Safety requirements for portable sealed secondary cells, and for batteries made from them, for use in portable applications – Part 2: Lithium systems*

EN IEC 55014-1:2021, *Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus - Part 1: Emission (CISPR 14-1:2020)*

EN IEC 55014-2:2021, *Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus - Part 2: Immunity - Product family standard (CISPR 14-2:2020)*

EN IEC 61000-6-2:2019, *Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity standard for industrial environments (IEC 61000-6-2:2016)*

EN IEC 61000-6-3:2021, *Electromagnetic compatibility (EMC) - Part 6-3: Generic standards - Emission standard for equipment in residential environments (IEC 61000-6-3:2020)*

EN IEC 62368-1:2020, *Audio/video, information and communication technology equipment - Part 1: Safety requirements (IEC 62368-1:2018)*

EN ISO 9227:2022, *Corrosion tests in artificial atmospheres - Salt spray tests (ISO 9227:2022)*

EN ISO 13849-1:2023, *Safety of machinery - Safety-related parts of control systems - Part 1: General principles for design (ISO 13849-1:2023)*

3 Terms and definitions

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

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

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

¹ Under revision.

² Under revision.

3.1

autobelay device

automatic operated device, usually installed on top of a route and above the user, including a self-retractable safety line, to which the user is connected, allowing climbing up without slack in the retractable safety line and in case of loading the retractable safety line by the user, the device lowers the user automatically speed regulated at a safe speed

Note 1 to entry: The device has a braking system that does not require an intervention for speed regulation by the user once the descent has commenced.

3.1.1

class A autobelay device

autobelay device which has a safety line extension less than or equal to 70 cm, intended only for climbing up and descending without impact

3.1.2

class B autobelay device

autobelay device which has a safety line extension greater than 70 cm, for additional functions

EXAMPLE Freefall devices with a slack in retractable safety line.

3.1.3

autobelay device for speed climbing

autobelay device which is intended for climbing style, where high climbing speed is the target

3.2

route

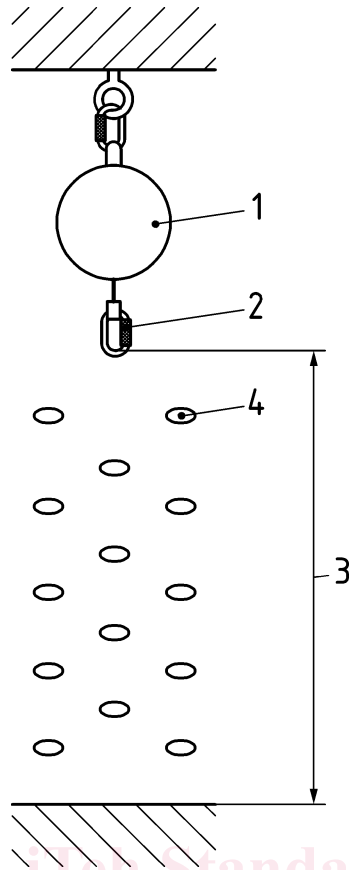
distance between ground floor and height of fully retracted connection element when autobelay device is installed in accordance with the instructions and information

Note 1 to entry: See Figure 1.

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**Key**

- 1 autobelay device
- 2 connection element
- 3 route
- 4 climbing hold

Figure 1 — Route

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3.3**retractable safety line**

self-retractable lanyard of the autobelay device with an attachment point on its outer end termination

Note 1 to entry: See Figure 2.

EXAMPLES Wire rope, textile rope, or webbing.

3.4**safety line extension**

element permanently or temporarily added to the end of *retractable safety line* (3.3) that does not retract into the belay device and provides a new fixation for the connection element and also additional functions

Note 1 to entry: Examples of additional functions are but not limited to elastic webbing assemblies to create freefall, or energy absorbers or line extensions required for specific site applications.

3.5**connection element**

integral element permitting connection between the attachment point and the harness attachment point

Note 1 to entry: See Figure 2.

3.6**attachment point**

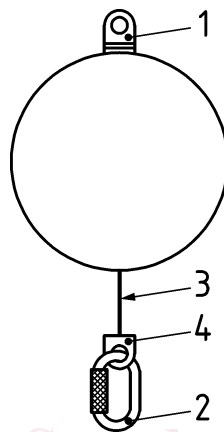
component of the retractable safety line permitting the fixation of the connection element or temporary safety line extension

Note 1 to entry: See Figure 2.

3.7**anchor point**

component of the autobelay device which is used to connect the autobelay device to the load bearing structure

Note 1 to entry: See Figure 2.

**Key**

- 1 anchor point
- 2 connection element
- 3 retractable safety line
- 4 attachment point

Figure 2 — Terminology of autobelay device components

3.8**build-in speed-regulating system**

integral braking system of the descender device used to control the velocity of the descent

3.9**descent energy**

energy measured in joules and expressed as W , which results from the product of the descent load, the gravity, the descent height and the number of descents

Note 1 to entry:

$$\text{Descent energy } W = m \times g \times h \times n$$

where

- W is the descent energy, expressed in joules (J);
- m is the descent mass, expressed in kilograms (kg);
- g is the gravity 9,81 m/s²;
- h is the descent height, expressed in metres (m);
- n is the number of descents.

[SOURCE: EN 341:2011, 3.1.2]