SLOVENSKI STANDARD
oSIST prEN 17109:2017

01-junij-2017

Vrvni plezalni parki - Individualni varnostni sistem - Varnostne zahteve in preskusne metode

Ropes courses - Individual safety system - Safety requirements and test methods

Bergsteigerausrüstung - Individuelle Sicherheit für Seilgärten - Sicherheitsanforderungen und Prüfverfahren

Parcours acrobatiques en hauteur - Système d'assurage individuel - Exigences de sécurité et méthodes d'essais

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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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English Version

Ropes courses - Individual safety system - Safety requirements and test methods

Parcours acrobatiques en hauteur - Système d'assurage individuel - Exigences de sécurité et méthodes d'essais

Bergsteigerausrüstung - Individuelle Sicherheit für Seilgärten - Sicherheitsanforderungen

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

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European foreword

This document (prEN 17109:2017) 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 document is currently submitted to the CEN Enquiry.

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.

Introduction

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 components of individual safety system for protection against fall from height used in permanent and mobile rope courses as defined in EN 15567-1.

The products considered in this standard are not intended to limit by themselves the deceleration of the fall of the user as defined in EN 15567-1, for that the whole ropes course system will be considered.

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

EN 795, *Personal fall protection equipment - Anchor devices*

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

EN 12278, *Montaineering equipment - Pulleys - Safety requirements and test methods*

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

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

3 Terms and definitions

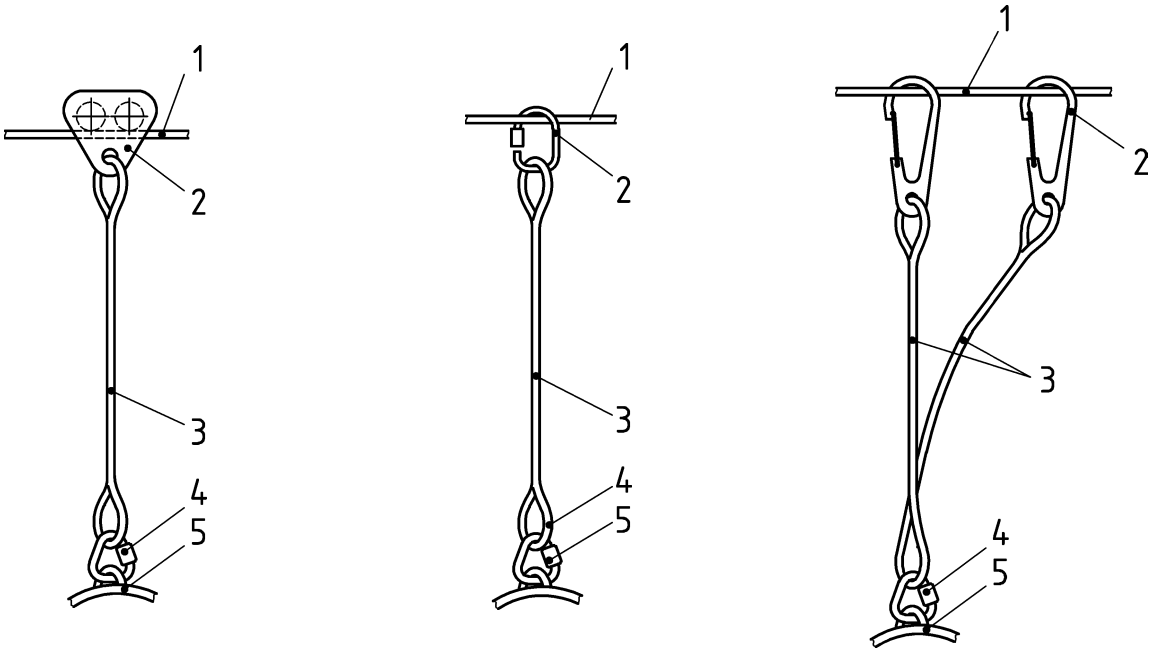
For the purposes of this document, the following terms and definitions apply.

3.1
ropes course
constructed facility consisting of one or more activity systems, support systems and, if needed, an appropriate safety system with restricted access and requiring supervision

[SOURCE: EN 15567-1:2015, 3.1 modified: Note 1 deleted]

3.2
individual safety system
component(s) connecting the harness to the safety line for protection against fall from height consisting of mobile connecting device(s), lanyard(s) and a connecting system to the harness

EXAMPLE See Figure 1.



Key

1 safety line
2 mobile connecting device
3 lanyard
4 connecting system to the harness
5 harness

Figure 1 — Example of individual safety system

3.3
safety line
flexible or rigid, horizontal, vertical or sloping, continuous or discontinuous device used as a protection against falling from a height

[SOURCE: EN 15567-1:2015, 3.13]

3.4
mobile connecting device
MCD
part of the individual safety system which is used to connect it to the safety line and allows the user to move along the safety line

EXAMPLE Shuttles, pulleys, connectors, etc.

3.5
lanyard
part of the individual safety system connecting the mobile connecting device to the connecting system to the harness

3.6
category A mobile connecting device
self-closing device which is not automatically self-locking

[SOURCE: EN 15567-1:2015, 3.16.1, modified: term modified]

EXAMPLE Self-closing or screw gate connector.

3.7
category B mobile connecting device
self-locking device

[SOURCE: EN 15567-1:2015, 3.16.2, modified: term modified]

EXAMPLE Self-locking connector.

3.8
category C mobile connecting device
interlocking device designed to reduce the likelihood of unintentional detaching from the safety system

[SOURCE: EN 15567-1:2015, 3.16.3, modified: term modified]

3.9
category D mobile connecting device
interlocking device designed to prevent unintentional detaching from the safety system

[SOURCE: EN 15567-1:2015, 3.16.4, modified: term modified]

3.10
category E mobile connecting device
device that is permanently attached during operation and can only be opened with a tool

[SOURCE: EN 15567-1:2015, 3.16.5 modified: term modified]

3.11
connecting system to the harness
device which connect the lanyard to the harness

4 Safety requirements

4.1 Design and construction

4.1.1 General

All the connections within reach of the user, between:

— the mobile connecting device (MCD) and the lanyard, the lanyard and the connecting system to the harness;

— the connecting system to the harness and the harness

shall be openable only by a tool. A lark's foot connection is considered as non-openable.

The loop of the lark's foot connection on the side of the MCD should be short enough in order to reduce the risk of disassembly of the lanyard from MCD (see Figure 2).

Figure 2 — Size of the loop of the lark's foot connection

Parts of the individual safety system, which can come in contact with user's body, shall be free from burrs and sharp edges.

Rotating parts of MCD with pulleys shall be unreachable by the fingers except for the parts between the sheaves and the safety line. Any hole through which the sheaves can be reached during use shall be less than 8 mm.

If any sheave axle is secured by nuts or screws, the nuts and/or screws shall be locked and secured by means other than friction.

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.

If the lanyard is made of tape according to EN 565:2006, 4.1, when tested in accordance with 5.1, the weft yarn of the tape shall not be released from the tape sample.

MCD shall be designed to ensure that the loading is in pre-determined direction(s).

For MCD, the functioning of the system claimed in the information supplied by the manufacturer (see Clause 7) and its categories as described in definitions 3.6 to 3.11 shall be checked.

Only for category A: Using two category A MCD is only possible if the change-over of MCD is in a place where the user is in a safe balance (as a platform).

If a manufacturer claims a shock absorbing system on its lanyard, this shock absorbing system shall comply with the relevant requirements of EN 15567-1.

A lanyard complying with the relevant requirements of EN 355 is considered shock absorbing.

4.2 Manual extraction test

When tested according to 5.3, the MCD shall not be removed from the cable.

4.3 Static strength

4.3.1 Function under a test load only for MCD with pulleys

For MCD with pulleys, when tested in accordance with 5.4.2, the MCD shall be able to rotate 10 times in either direction under a force of (2 ± 0,05) kN (see Figure 4).

If the MCD is one-directional, then the requirement is only for the intended direction.

4.3.2 Deformation test for MCD

This test applies to MCD of category E and to other categories if relevant.