

This document is a preview generated by EVS

Design/construction of Via Ferratas

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

See Eesti standard EVS-EN 16869:2017 sisaldab Euroopa standardi EN 16869:2017 ja selle paranduse AC:2018 ingliskeelset teksti.	This Estonian standard EVS-EN 16869:2017 consists of the English text of the European standard EN 16869:2017 and its corrigendum AC:2018.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 01.11.2017.	Date of Availability of the European standard is 01.11.2017.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile [standardiosakond@evs.ee](mailto:standardiosakond@evs.ee).

ICS 97.220.40

Standardite reprodutseerimise ja levitamise õigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonsesse süsteemi või edastamine ükskõik millises vormis või millisel teel ilma Eesti Standardikeskuse kirjaliku loata on keelatud.

Kui Teil on küsimusi standardite autorikaitse kohta, võtke palun ühendust Eesti Standardikeskusega:  
Koduleht [www.evs.ee](http://www.evs.ee); telefon 605 5050; e-post [info@evs.ee](mailto:info@evs.ee)

The right to reproduce and distribute standards belongs to the Estonian Centre for Standardisation

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without a written permission from the Estonian Centre for Standardisation.

If you have any questions about copyright, please contact Estonian Centre for Standardisation:

Homepage [www.evs.ee](http://www.evs.ee); phone +372 605 5050; e-mail [info@evs.ee](mailto:info@evs.ee)

ICS 97.220.40

English Version

## Design/construction of Via Ferratas

Conception et construction de via ferrata

Aufbau von Klettersteigen (Via Ferratas)

This European Standard was approved by CEN on 26 June 2017.

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. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of 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 United Kingdom.

This document consolidates EN 16869:2017 and the corrigendum EN 16869:2017/AC:2018.



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

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

<b>Contents</b>	<b>Page</b>
European foreword.....	4
<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 Construction requirements.....</b>	<b>6</b>
<b>4.1 Safety system .....</b>	<b>6</b>
<b>4.1.1 General.....</b>	<b>6</b>
<b>4.1.2 Design and manufacture.....</b>	<b>7</b>
<b>4.1.3 Safety line terminations.....</b>	<b>10</b>
<b>4.2 Progression aids.....</b>	<b>10</b>
<b>4.2.1 General.....</b>	<b>10</b>
<b>4.2.2 Footsteps, holds and handrails .....</b>	<b>10</b>
<b>4.2.3 Bridges, ladders and other progression elements.....</b>	<b>11</b>
<b>5 Test methods .....</b>	<b>13</b>
<b>5.1 Design and manufacture.....</b>	<b>13</b>
<b>5.2 Strength Tests.....</b>	<b>13</b>
<b>5.2.1 Apparatus.....</b>	<b>13</b>
<b>5.2.2 Procedure.....</b>	<b>14</b>
<b>5.2.3 Progression aids.....</b>	<b>15</b>
<b>6 Marking.....</b>	<b>16</b>
<b>6.1 Marking at the beginning of the Via Ferrata.....</b>	<b>16</b>
<b>6.2 Marking at the beginning of the relevant sections of the Via Ferrata.....</b>	<b>17</b>
<b>6.3 Marking at the end of the Via Ferrata.....</b>	<b>17</b>
<b>7 Inspection and maintenance requirements .....</b>	<b>17</b>
<b>Annex A (informative) Positioning of the connector at the fall arrest.....</b>	<b>18</b>
<b>Annex B (normative) Requirements on environmental impact, safety, and the ethics and aesthetics of mountain sports .....</b>	<b>22</b>
<b>B.1 General.....</b>	<b>22</b>
<b>B.2 Preparation for Via Ferrata construction .....</b>	<b>22</b>
<b>B.2.1 General.....</b>	<b>22</b>
<b>B.2.2 Preliminary concertation and consensus among stakeholders.....</b>	<b>22</b>
<b>B.3 Mountain Sport Aspects.....</b>	<b>23</b>
<b>B.3.1 General.....</b>	<b>23</b>
<b>B.3.2 Target users .....</b>	<b>23</b>
<b>B.3.3 Mountain danger.....</b>	<b>23</b>
<b>B.3.4 The influence of existing rock climbs .....</b>	<b>23</b>
<b>B.4 Authorizations.....</b>	<b>23</b>
<b>B.5 Legal considerations.....</b>	<b>23</b>

<b>B.5.1 Environmental protection laws</b> .....	<b>23</b>
<b>B.5.2 Liability and duty to structural integrity</b> .....	<b>24</b>
<b>B.6 Environmental considerations</b> .....	<b>24</b>
<b>B.6.1 General</b> .....	<b>24</b>
<b>B.6.2 Land use regulations</b> .....	<b>24</b>
<b>B.6.3 Degree of development and infrastructure</b> .....	<b>24</b>
<b>B.6.4 Level of encroachment</b> .....	<b>24</b>
<b>B.6.5 Quarries</b> .....	<b>24</b>
<b>B.6.6 Visitor levels/impact</b> .....	<b>24</b>
<b>B.6.7 Duration of use</b> .....	<b>24</b>
<b>B.7 Business considerations</b> .....	<b>24</b>
<b>Annex C (informative) Determination of the route (path)</b> .....	<b>25</b>
<b>Bibliography</b> .....	<b>26</b>

## European foreword

This document (EN 16869:2017) 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 May 2018, and conflicting national standards shall be withdrawn at the latest by May 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 includes the corrigendum EN 16869-1:2017/AC:2018 which corrects a phrase in clause 4.1.2.1.

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.

## 1 Scope

This European Standard specifies design, inspection and maintenance requirements applicable to a Via Ferrata.

It is not applicable to ropes courses (covered by EN 15567) or to trails only equipped with progression aids such as foot-steps, ladders, handrails, chains, cables, ropes.

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

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

EN 12277, *Mountaineering equipment - Harnesses - Safety requirements and test methods*

EN 12385-1, *Steel wire ropes — Safety — Part 1: General requirements*

EN 12385-2, *Steel wire ropes — Safety — Part 2: Definitions, designation and classification*

EN 12385-3, *Steel wire ropes — Safety — Part 3: Information for use and maintenance*

EN 13411-1, *Terminations for steel wire ropes — Safety — Part 1: Thimbles for steel wire rope slings*

EN 13411-2, *Terminations for steel wire ropes — Safety — Part 2: Splicing of eyes for wire rope slings*

EN 1990, *Eurocode - Basis of structural design*

EN 1991-1-2, *Eurocode 1: Actions on structures - Part 1-2: General actions - Actions on structures exposed to fire*

EN 1991-1-3, *Eurocode 1 - Actions on structures - Part 1-3: General actions - Snow loads*

EN 1991-1-4, *Eurocode 1: Actions on structures - Part 1-4: General actions - Wind actions*

EN 1993-1-11, *Eurocode 3 - Design of steel structures - Part 1-11: Design of structures with tension components*

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.

### 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

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).