

Ohutusnõuded inimeste transportimisele köitega. Köied. Osa 4: Otste kinnitused

Safety requirements for passenger transportation by
rope - Ropes - Part 4: End fixing

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 12927-4:2004 sisaldab Euroopa standardi EN 12927-4:2004 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 21.12.2004 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 12927-4:2004 consists of the English text of the European standard EN 12927-4:2004.</p> <p>This document is endorsed on 21.12.2004 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
--	---

<p>Käsitlusala:</p> <p>This part of EN 12927 specifies the safety requirements applicable to end fixings of steel wire ropes for installations for passenger transportation by rope. This standard is applicable to the various types of installations and takes into account their environment.</p>	<p>Scope:</p> <p>This part of EN 12927 specifies the safety requirements applicable to end fixings of steel wire ropes for installations for passenger transportation by rope. This standard is applicable to the various types of installations and takes into account their environment.</p>
---	---

ICS 45.100

Võtmesõnad: pull ro, rope fixture, rope sockets, ropes, safety, safety requirements, selection, sockets (ropes), specification (approval), specifications, steel cords, steel-wire ropes, stress, tensioning ropes, terminal fittings (ropes), testing, transverse force, wire rope

ICS 45.100

English version

Safety requirements for cableway installations designed to carry persons - Ropes - Part 4: End fixings

Prescriptions de sécurité des installations à câbles
transportant des personnes - Câbles - Partie 4: Attaches
d'extrémité

Sicherheitsanforderungen für Seilbahnen und
Schleppaufzüge des Personenverkehrs - Seile - Teil 4:
Seilendbefestigungen

This European Standard was approved by CEN on 23 August 2004.

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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.



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

Management Centre: rue de Stassart, 36 B-1050 Brussels

Contents

Foreword.....	3
1 Scope	5
2 Normative references	5
3 Terms and definitions	7
4 Symbols and abbreviations	7
5 General requirements	7
5.1 Application of this standard	7
5.2 Safety principle	8
6 Safety requirements	8
6.1 General.....	8
6.2 Selection	8
6.3 End fixing design	9
6.4 End fixing execution and conformity.....	9
7 Filled sockets	10
7.1 General.....	10
7.2 Filled sockets design	10
Table 1 – Composition of metal alloys	11
8 Clamp sockets.....	12
8.1 General.....	12
8.2 Design	12
8.3 Manufacture.....	13
8.4 Execution	13
9 Drum (fixing drum and anchor drum).....	13
10 Bolted clamp	14
10.1 Design	14
10.2 Manufacture.....	14
10.3 Execution and maintenance	15
11 Wedge socket.....	15
12 Spliced eye	15
13 Grippped eye	15
14 Ferrule secured eye	15
15 Lever winch	15
Annex A (informative) Bolted clamp - Calculation of slipping force	16
Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 2000/9/EC relating to cableway installations designed to carry persons	17
Table ZA — Correspondence between this European Standard and Directive 2000/9/EC relating to cableway installations designed to carry persons.....	17

Foreword

This document (EN 12927-4:2004) has been prepared by Technical Committee CEN/TC 242 "Safety requirements for passenger transportation by rope", the secretariat of which is held by AFNOR.

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 April 2005, and conflicting national standards shall be withdrawn at the latest by April 2005.

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.

This EN 12927 includes the following parts under the general title "Safety requirements for cableway installations designed to carry persons – Ropes":

- *Part 1: Selection criteria for ropes and their end fixings*
- *Part 2: Safety factors*
- *Part 3: Long splicing of 6 strand hauling, carrying-hauling and towing ropes*
- *Part 4: End fixings*
- *Part 5: Storage, transportation, handling and tensioning*
- *Part 6: Discard criteria*
- *Part 7: Inspection, repair and maintenance*
- *Part 8: Magnetic rope testing (MRT)*

This European Standard forms part of the standards programme adopted by the CEN Technical Board (CEN/BT) on Safety requirements for passenger transportation by rope. This programme comprises the following standards.

- 1) *Safety requirements for cableway installations designed to carry persons - Terminology*
- 2) *Safety requirements for cableway installations designed to carry persons - General requirements*
- 3) *Safety requirements for cableway installations designed to carry persons - Calculations*
- 4) *Safety requirements for cableway installations designed to carry persons - Ropes*
- 5) *Safety requirements for cableway installations designed to carry persons - Tensioning devices*
- 6) *Safety requirements for cableway installations designed to carry persons - Drive systems and other mechanical equipment*
- 7) *Safety requirements for cableway installations designed to carry persons - Carriers*
- 8) *Safety requirements for cableway installations designed to carry persons - Electrical equipment other than for drive systems*
- 9) *Safety requirements for cableway installations designed to carry persons - Civil engineering works*

- 10) *Safety requirements for cableway installations designed to carry persons – Pre-commissioning inspection, maintenance and operational inspection and checks*
- 11) *Safety requirements for cableway installations designed to carry persons – Recovery and evacuation*
- 12) *Safety requirements for cableway installations designed to carry persons - Operation*
- 13) *Safety requirements for cableway installations designed to carry persons - Quality assurance*

Together these form a series of standards regarding design, manufacture, production, maintenance and operation of all installations for passenger transportation by rope.

In respect of ski-tows, the drafting of this European Standard has been guided by the works of the International Organisation for Transportation by Rope (OITAF).

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom

1 Scope

This part of EN 12927 specifies the safety requirements applicable to end fixings of steel wire ropes for installations for passenger transportation by rope. This standard is applicable to the various types of installations and takes into account their environment.

This part of EN 12927 applies to the following types of end fixing when used in installations for passenger transportation by ropes in conformity with EN 12927-1.

- filled socket;
- clamp socket;
- drum;
- bolted clamp;
- wedge socket;
- spliced eye;
- gripped eye;
- ferrule secured eye;
- lever winch.

Taking its scope into account, it does not include requirements relating to the prevention of accidents and the protection for workers.

It does not apply to installations for the transportation of goods, nor to inclined lifts.

2 Normative references

The following referenced documents are indispensable for the application 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 1709, *Safety requirements for cableway installations designed to carry persons – Pre-commissioning inspection, maintenance, operational inspection and checks.*

prEN 1907:2004, *Safety requirements for cableway installations designed to carry persons – Terminology.*

EN 1908, *Safety requirements for cableway installations designed to carry persons - Tensioning devices.*

EN 1909, *Safety requirements for cableway installations designed to carry persons - Recovery and evacuation.*

EN 1559-2, *Founding – Technical conditions of delivery – Part 2: Additional requirements for steel castings.*

EN 10045-1, *Metallic materials – Charpy impact test – Test method.*

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

EN 12397, *Safety requirements for cableway installations designed to carry persons – Operation.*

EN 12408, *Safety requirements for cableway installations designed to carry persons - Quality assurance.*

EN 12927-1, *Safety requirements for cableway installations designed to carry persons - Ropes - Part 1: Selection criteria for ropes and their end fixings.*

EN 12927-2, *Safety requirements for cableway installations designed to carry persons - Ropes - Part 2: Safety factors.*

EN 12927-3, *Safety requirements for cableway installations designed to carry persons - Ropes - Part 3: Long splicing of 6 strand hauling, carrying-hauling and towing ropes.*

EN 12927-5, *Safety requirements for cableway installations designed to carry persons - Ropes - Part 5: Storage, transportation, installation and tensioning.*

EN 12927-6, *Safety requirements for cableway installations designed to carry persons - Ropes - Part 6: Discard criteria.*

EN 12927-7, *Safety requirements for cableway installations designed to carry persons - Ropes – Part 7: Inspection, repair and maintenance.*

EN 12927-8, *Safety requirements for cableway installations designed to carry persons - Ropes - Part 8: Magnetic rope testing (MRT).*

EN 12929-1, *Safety requirements for passenger transportation by rope - General requirements - Part 1: Requirements applicable to all installations.*

EN 12929-2, *Safety requirements for cableway installations designed to carry persons – General requirements – Part 2: Additional requirements for reversible bicable aerial ropeways without carrier truck brakes.*

EN 12930, *Safety requirements for cableway installations designed to carry persons – Calculations.*

EN 13107, *Safety requirements for cableway installations designed to carry persons - Civil engineering works.*

EN 13223, *Safety requirements for cableway installations designed to carry persons - Drive systems and other mechanical equipment.*

EN 13243, *Safety requirements for cableway installations designed to carry persons - Electrical equipment other than for drive systems.*

EN 13411-1:2002, *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 13411-3:2004, *Terminations for steel wire ropes - Safety - Part 3: Ferrules and ferrule-securing.*

EN 13411-4:2002, *Terminations for steel wire ropes – Safety – Part 4: Metal and resin socketing.*

EN 13411-5:2003, *Terminations for steel wire ropes - Safety - Part 5: U-bolt wire rope grips.*

EN 13411-6:2004, *Terminations for steel wire ropes - Safety - Part 6: Asymmetric wedge socket.*

prEN 13411-7, *Terminations for steel wire rope - Safety - Part 7: Symmetric wedge socket.*

prEN 13796-1, *Safety requirements for cableway installations designed to carry persons - Carriers - Part 1: Grips, carrier trucks, on-board brakes, cabins, chairs, carriages, maintenance carriers, tow-hangers.*

prEN 13796-2 *Safety requirements for cableway installations designed to carry persons - Carriers - Part 2: Slipping resistance tests for grips.*

prEN 13796-3, *Safety requirements for cableway installations designed to carry persons - Carriers - Part 3: Fatigue testing.*