



SLOVENSKI STANDARD

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Varnostne zahteve za žičniške naprave za prevoz oseb - Splošne zahteve - 2. del: Dodatne zahteve za dvovrvne nihalne žičnice brez vrvnih zavor

Safety requirements for cableway installations designed to carry persons - General requirements - Part 2: Additional requirements for reversible bicable aerial ropeways without carrier truck brakes

Sicherheitsanforderungen für Seilbahnen für den Personenverkehr - Allgemeine Bestimmungen - Teil 2: Ergänzende Anforderungen für Zweiseil - Pendelbahnen ohne Tragseilbremse

Prescriptions de sécurité pour les installations à câbles transportant des personnes - Dispositions générales - Partie 2: Prescriptions complémentaires pour les téléphériques bicâbles a va et vient sans frein de chariot

Ta slovenski standard je istoveten z: EN 12929-2:2004

ICS:

45.100 Oprema za žičnice Cableway equipment

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ICS 45.100

English version

Safety requirements for cableway installations designed to carry
persons - General requirements - Part 2: Additional
requirements for reversible bicable aerial ropeways without
carrier truck brakes

Prescriptions de sécurité pour les installations à câbles
transportant des personnes - Dispositions générales -
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Personenverkehr - Allgemeine Bestimmungen - Teil 2:
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ohne Tragseilbremse

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.

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Foreword

This document (EN 12929-2:2004) 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.

EN 12929 with the generic title "*Safety requirements for cable way installations designed to carry persons - General requirements*", is in two parts:

— *Part 1: Requirements for all installations*

— *Part 2: Additional requirements for reversible bicable aerial ropeways without carrier truck brakes*

This document forms part of the standards programme approved by the CEN Technical Board on safety requirements for cableway installations designed to carry persons:

- 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.

EN 12929-2:2004 (E)

This series of standards forms a complete set with regard to the design, manufacture, construction, maintenance and operation of all cableway installations for designed to carry persons.

In respect of ski-tows, the drafting of this document 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 the United Kingdom.

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1 Scope

This document specifies additional safety requirements for reversible bicable aerial ropeways without carrier truck brakes. This standard is applicable to the various types of installations and takes into account their environment.

It contains:

- additional requirements relating to the integrity of the haul rope loop;
- additional requirements intended to prevent specific operational incidents;
- requirements concerning the attachment of the carriers to the haul rope.

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 and 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 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 coefficients.*

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

EN 12927-4, *Safety requirements for cableway installations designed to carry persons – Ropes – Part 4: End fixings.*

EN 12927-5, *Safety requirements for passenger transportation by rope – 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.*

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

EN 12929-1:2004, *Safety requirements for cableway installations designed to carry persons – General requirements – Part 1: Requirements for all installations*.

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*.

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*.

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3 Terms and definitions

For the purposes of this document, the terms and definitions given in prEN 1907:2004 and in EN 12929-1:2004 and the following apply.

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4 Symbols and abbreviations

Symbols and abbreviations are defined with the formula in which they are used.

5 General requirements

5.1 Application of the standard

The requirements of this document, together with those of EN 1709, EN 1908, EN 1909, EN 12397, EN 12408, EN 12927 (Parts 1 to 8), EN 12929-1, EN 12930, EN 13107, EN 13223, EN 13243 and prEN 13796 (Parts 1 to 3), apply to reversible bicable aerial ropeways without carrier truck brakes.

5.2 Safety principles

5.2.1 General

The safety principles as set out in EN 12929-1 apply.

In addition, the following hazard scenarios and safety requirements relative to the scope of this document are to be taken into consideration.

5.2.2 Hazard scenarios

The events listed in Tables 1 and 2 in particular may result in a hazardous situation which may be avoided or limited by means of the safety requirements in this document. During the safety study required in accordance with EN 12929-1, it shall be verified whether the list of hazard scenarios is complete.

Table 1 — Events which compromise the integrity of the haul rope loop

Hazard scenario	Other relevant standards
Rupture of haul rope	EN 12930, EN 12927-2
Deropement of haul rope	EN 12929-1
Unacceptable reduction in rope tension	EN 1908
Unacceptable increase in rope tension	EN 1908
Overlapping of haul rope	EN 12929-1
Contact with ropes other than the track rope	
Failure of support system for haul rope loop	EN 13223
Effect of aircraft	EN 12929-1
Wind-up of haul rope	
Damage to haul rope due to atmospheric influences (e.g. lightning, corrosion)	EN 13243

Table 2 — Events during operation which may represent a hazard when there is no carrier truck brake, even though the haul rope loop remains intact

Hazard scenario	Other relevant standards
Failure of attachment of carrier to haul rope	prEN 13796-1
Failure of entry monitoring	EN 13243
Loss of adhesion to drive sheave	EN 12929-1, EN 12930, EN 13223
Derailment of carrier when stationary in extreme operating conditions	prEN 13796-1
Obstacle on line	
Obstacle in station area	EN 13223
Movement of carrier during an evacuation procedure	
Wind-up of haul rope	
Problems during correction of haul rope overlap	

5.2.3 Safety measures

This document contains the measures required to avoid or limit the hazard scenarios listed in 5.2.2.