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

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

See Eesti standard EVS-EN 12929-2:2015 sisaldab Euroopa standardi EN 12929-2:2015 ingliskeelset teksti.	This Estonian standard EVS-EN 12929-2:2015 consists of the English text of the European standard EN 12929-2:2015.
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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 destinées au transport de personne - Dispositions générales - Partie 2: Prescriptions complémentaires pour les téléphériques bicâbles à va et vient sans frein de chariot

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

This European Standard was approved by CEN on 18 November 2014.

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EUROPEAN COMMITTEE FOR STANDARDIZATION  
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## Foreword

This document (EN 12929-2:2015) has been prepared by Technical Committee CEN/TC 242 "Safety requirements for cableway installations designed to carry persons", 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of an identical text or by endorsement, at the latest by July 2015, and conflicting national standards shall be withdrawn at the latest by July 2015.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

According to the CEN-CENELEC Internal Regulations, the national standards organizations 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, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

This document replaces EN 12929-2:2004.

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 the EU Directive 2000/9/EC.

For the relationship with the EU Directive 2000/9/EC, see informative Annex ZA, which is an integral part of this document.

The following main changes have been made to EN 12929-2:2004:

- In 6.3 the requirement has been removed that stipulates that for the tension safety factor the haul rope loop shall comply with 1,2 times the value of the tension safety factor for haul ropes of bicable reversible aerial ropeways with carrier track brakes in accordance with EN 12930, as the value established from this was only slightly above 4,5. The requirement for the maximum tension safety factor was clarified on the area of the long splicing.
- In 6.4 b) 1), the value for the smallest permissible tension safety factor has been adapted to comply with the state of the art.
- In 6.6 the requirement has been removed that stipulates that the device shall be available for the MRT inspection of the installation, as this is not safety-related.
- The previous Clauses 6.13, 6.14, 6.17, 6.20, 6.22, 6.27, 7.3, 7.7, 7.8, 7.9 and 8.6 have been deleted without replacement, as there was no safety-relevant justifications for supplementary requirements with regard to bicable aerial ropeway with carrier track brakes.
- In 6.13, the alternative has been removed regarding taking into consideration the actually executed transverse sway options.
- In 7.2 the increased requirement on the groove depth of the rollers of the carrier truck has been removed, as the transverse sway movement of the carrier truck was restricted.
- In 7.3 the value for the assumed longitudinal sway has been slightly reduced to the value that is assumed in accordance with EN 12929-1 and the formula adapted.

- In 7.6 the requirement on the equipment for bringing the cableway system to a standstill from the cabin have been redefined.
- In 8.2 the value for the safety has been reduced, as in 8.1 a redundant execution is required and therefore in the event of a system failure a safety of 1,5 is still provided. The terms and definitions have been adapted to EN 13796-1.
- In 8.4, the terms and definitions have been adapted to EN 13796-1.
- In 8.6 the requirements on the gripping force for reducing the diameter of the haul rope has been modified by 20 %, as the former regulation contained disproportionately high requirements for the execution of the grip.
- In Annex A the A-deviation for Germany has been removed.
- In Annex ZA, the relationships with the basic requirements of the Directive 2000/9/EC have been adapted to the new numbering.

EN 12929 with the generic title "Safety requirements for cable way installations designed to carry persons – General requirements" consists of the following parts:

*a) Part 1: Requirements for all installations*

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

This document belongs to the standards programme which was ratified by the CEN/TC242. This programme includes the following standards:

- 1) EN 1907 – *Terminology*
- 2) EN 12929 (all parts) – *General requirements*
- 3) EN 12930 *Calculations*
- 4) EN 12927 (all parts) – *Ropes*
- 5) EN 1908 – *Tensioning devices*
- 6) EN 13223 – *Drive systems and other mechanical equipment*
- 7) EN 13796 (all parts) – *Carriers*
- 8) EN 13243 – *Electrical equipment other than for drive systems*
- 9) EN 13107 – *Civil engineering works*
- 10) EN 1709 – *Precommissioning inspection, maintenance, operational inspection and checks*
- 11) EN 1909 – *Recovery and evacuation*
- 12) EN 12397 – *Operation*
- 13) EN 12408 — *Quality assurance*

Together these form a series of Standards regarding design, manufacture, erection, maintenance and operation of all cableway installations designed to carry persons.

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

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## 1 Scope

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

This Part of the EN 12929 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.

This European Standard does not apply to cableway installations for transportation of goods nor to lifts.

## 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 1709, *Safety requirements for cableway installations designed to carry persons — Precommissioning inspection, maintenance, operational inspection and checks*

EN 1907, *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 control*

EN 12927 (all parts), *Safety requirements for cableway installations designed to carry persons — Ropes*

EN 12929-1, *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*

EN 13796 (all parts), *Safety requirements for cableway installations designed to carry persons — Carriers*