



SLOVENSKI STANDARD

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Varnostne zahteve za žičniške naprave za prevoz oseb - Napenjalne naprave

Safety requirements of cableway installations designed to carry persons - Tensioning devices

Sicherheitsanforderungen für Seilbahnen für den Personenverkehr - Spanneinrichtungen

Prescriptions de sécurité pour les installations à câbles transportant des personnes - Dispositifs de mise en tension

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45.100 Oprema za žičnice Cableway equipment

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EUROPEAN STANDARD

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Safety requirements of cableway installations designed to carry persons - Tensioning devices

Prescriptions de sécurité pour les installations à câbles transportant des personnes - Dispositifs de mise en tension

Sicherheitsanforderungen an Seilbahnen für den Personenverkehr - Spanneinrichtungen

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

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.

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COMITÉ EUROPÉEN DE NORMALISATION
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EN 1908:2015 (E)**Foreword**

This document (EN 1908:2015) 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of an identical text or by endorsement, at the latest by January 2016, and any conflicting national standards shall be withdrawn at the latest by January 2016.

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 responsible for identifying any or all such patent rights.

This document supersedes EN 1908:2004.

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 EU Directive 2000/9/EG.

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

The main changes with respect to EN 1908:2004 are listed below:

- Clause 1 has been supplemented with regard to the safety of workers.
- Terms and definitions have been removed in Clause 3, as the reference to EN 1907 is sufficient.
- 5.2.1.1 c) and 5.2.1.1. d) have been deleted. A reference to EN 12930 has been added.
- The position of the stops in 5.2.3.5 has been stated more precisely.
- 5.3.3.1 has been reviewed in terms of content and structure.
- 8.2.3 has been shortened. Reference has been made to EN 12930 and EN 12929-1 for technical requirements.
- 8.2.4 of EN 1908:2004 has been deleted.
- The Annex ZA has been revised.

This European Standard is part of a series of standards relating to safety requirements on cableway installations designed for passenger transport.

This series of standards consists of the following standards:

- EN 1907, relating to *Terminology*
- EN 12929 (all parts), relating to *General requirements*
- EN 12930, relating to *Calculations*
- EN 12927 (all parts), relating to *Cables*
- EN 1908 relating to *Tensioning devices*

- EN 13223, relating to *Drive systems and other mechanical equipment*
- EN 13796 (all parts), relating to *Carriers*
- EN 13243, relating to *Electrical equipment other than for drive systems*
- EN 13107, relating to *Structures*
- EN 1709, relating to *Pre-commissioning inspection, maintenance, operational inspections and checks*
- EN 1909, relating to *Recovery and evacuation*
- EN 12397, relating to *Operation*
- EN 12408, relating to *Quality assurance*

Together these form a series of standards regarding design, manufacture, erection, maintenance and operation of all installations for cableway installations designed for passenger transport.

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).

In accordance with CEN-CENELEC Internal Regulations, the national standards institutes of the countries listed below are required to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, FYR Macedonia, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, and the United Kingdom.

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EN 1908:2015 (E)**1 Scope**

This European Standard specifies the safety requirements applicable on the tensioning devices for cableway installations designed to carry persons. This document is applicable to the various types of cableway installation and takes into account their environment.

This document applies to the design, manufacture, installation, maintenance and operation of rope tensioning devices and anchorages of cableway installations designed to carry persons.

It also includes requirements relating to accident prevention and to the protection of workers irrespective of the application of national regulations.

National regulations of a construction or regulatory nature or those which serve to protect specific groups of persons remain unaffected.

This European Standard does not apply to cableway installations intended for the transport 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 and operational inspection and checks*

EN 1907, *Safety requirements for cableway installations designed to carry persons — Terminology*

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

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*

EN ISO 4413, *Hydraulic fluid power - General rules and safety requirements for systems and their components* (ISO 4413)

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 1907 and the following apply.

3.1

travel

the distance available for the moving part of a tensioning device to absorb variations in the length and sag of a rope under tension

3.2

fixed tensioning device

tensioning device for ropes whose tension cannot be adjusted during operation

4 General requirements

4.1 Application of this standard

The requirements of this document apply to all cableway installations along with the requirements of standards EN 1709, EN 1909, EN 12397, EN 12408, EN 12927 (all parts), EN 12929 (all parts), EN 12930, EN 13107, EN 13223, EN 13243, and EN 13796 (all parts).

4.2 Safety principles

4.2.1 General

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

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

4.2.2 Hazard scenarios

The following events may lead to hazardous situations which may be avoided or limited by the safety requirements of this document:

- 1) exceeding permissible rope tension forces and rope lengths;
- 2) exceeding permissible pressure limits in a hydraulic tensioning device;
- 3) affecting the free movement of ropes;
- 4) jamming, wedging or incorrect positioning of the moving parts of a tensioning device;
- 5) deterioration or failure of the components of a tensioning device due to wear, corrosion or fatigue;
- 6) failure of components in a tensioning device as a result of incorrect dimensioning;
- 7) hazards which a tensioning device can present for persons in access and work areas;
- 8) foreseeable misconduct of personnel (passengers, operating personnel, third parties).

4.2.3 Safety measures

The following safety measures shall be taken to eliminate the hazard scenarios listed under 4.2.2:

- ensure that rope tensions are maintained within permissible limits;