

SLOVENSKI STANDARD oSIST prEN 1709:2013

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Varnostne zahteve za žičniške naprave za prevoz oseb - Prevzemni pregled, vzdrževanje, pregledi in kontrole obratovanja

Safety requirements for cableway installations designed to carry persons -Precommissioning inspection, maintenance, operational inspection and checks

Sicherheitsanforderungen für Seilbahnen für den Personenverkehr - Erprobung, Instandhaltung, Betriebskontroller ANDARD PREVIEW

Prescriptions de sécurité pour les installations à câbles transportant des personnes -Examen probatoire, maintenance, contrôles en exploitation

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Safety requirements for cableway installations designed to carry persons - Precommissioning inspection, maintenance, operational inspection and checks

Prescriptions de sécurité pour les installations à câbles transportant des personnes - Examen probatoire, maintenance, contrôles en exploitation Sicherheitsanforderungen für Seilbahnen für den Personenverkehr - Erprobung, Instandhaltung, Betriebskontrollen

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 242.

If this draft becomes a European Standard, 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.

This draft European Standard was established by CEN 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.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

Warning : This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.



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

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Foreword

This document (prEN 1709:2013) has been prepared by the Technical Committee CEN/TC 242 "Safety requirements for passenger transportation by rope", the secretariat of which is held by AFNOR.

This document is currently submitted for CEN enquiry.

This document is intended to replace EN 1709:2004.

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 Directives.

For its relationship with EU Directives, see informative Annex ZA, which is an integral part of this document.

The main changes with respect to the previous edition are listed below:

- a) 4.2.2, h) has been supplemented with regard to a lack of documentation.
- b) The classification of Clause 5 has been changed in order to implement the term "precommissioning inspection" consistently with 3.1.
- c) Clause 5 has been changed in order to clarify the differences between the two categories of documents (documents using which the planned configuration of the installation is established, and documents which the supplier has provided to the controller).
- d) 5.2 has been deleted, as it is already included in the modified 5.1. https://standards.iteh.avcatalog/standards/sist/3f07d0c-5d31-499a-b768-
- e) The order of the list in 5.3 has been changed to conform with Directive 2000/9/EC and with 6.
- f) In the last paragraph of 5.3.3, the independent competent person has been deleted, as this is a matter for the national members (affects only the safety of workers).
- g) In 5.3.3, k) the precommissioning inspection has been deleted because it conflicts with the title and the performance of recovery exercises as determined in national regulations and/or in EN 1909.
- h) The final paragraph of 5.4 has been deleted as it is already covered in EN 12397:2004, 5.1.
- i) In 6.1, the requirements for the documentation of maintenance work have been combined and extended in one place.
- j) 6.1.1 (new 6.1.2) has been changed, as, in accordance with 5.5, suppliers are required to provide instructions for maintenance.
- k) The definition of inspection in 6.3.1 has been supplemented by information concerning the time requirements. This definition is now not the same as the term "inspection" in 10.2 of EN 1907:2004.
- I) The requirements in 6.3.1 for civil engineering works are generally applicable and have been expanded to include all parts of the installation.
- m) In 6.3.2 and 6.3.5, the visual inspection of screws and rivets for tightness has been changed to cover loose and missing elements, and the visual inspection with regard to deformation has been extended to include all components.

- n) In 6.3.3, lit a), c), i), k) and parts of lit m) have been omitted on account of technical developments. The order of the list has been changed to conform with Directive 2000/9/EC.
- o) In 6.3.5, the order of the lists has been changed to conform with Directive 2000/9/EC and a Clause concerning mobile evacuation equipment has been included.
- p) 6.3.5.2 has been supplemented with detailed requirements for timber structures and for the terrain in the vicinity of the civil engineering works.
- q) Most of the requirements for funicular railways originally included in 6.3.6 are generally applicable and have been extended to include all cableway systems. In order to create a comprehensible qualitative difference with respect to the annual inspections in accordance with 6.3.5.2, the multiannual inspection of engineering structures (tunnels, galleries, bridges) and ground anchors, the inspection is to be carried out by competent persons. The changes are to be checked by the "civil engineering works" working group.
- r) The intervals and scope of the inspections in 6.3.7 have been changed.
- s) The requirements relating to the civil engineering works in 6.4 have been omitted, as they repeat similar requirements in this Standard.
- t) 6.5 has been deleted without replacement.
- u) The terms and organisation of Clause 7 have been revised.
- v) Clause 8 has been deleted, as it is already covered in other areas of the Standard.

This document forms part of the standards programme adopted by the CEN Technical Board (CEN/BT) in relation to safety requirements for cableway installations designed to carry persons. 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 Precommissioning inspection, maintenance, 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, erection, maintenance and operation of all installations for cableway installations 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).

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1 Scope

This document defines the safety requirements applicable to the precommissioning inspection, maintenance and operational inspection and checks of cableway installations designed to carry persons. This document is applicable to the various types of cableway installation and takes into account their environment.

It also includes requirements relating to accident prevention and to the protection of workers.

It does not apply to cableway installations intended for the transport of goods nor to inclined lifts.

This document does not deal with acceptance testing prior to opening to the public.

The provisions of Clause 5 apply to the measures to be taken prior to the initial commissioning of the installation, and those of Clauses 6 and 7 concern the measures to be taken during operation.

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 1907:2005, 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

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EN 12397, Safety requirements for cableway installations designed to carry persons ^{b76}Operation 017531b7/b21/osist-pren-1709-2014

EN 12408, Safety requirements for cableway installations designed to carry persons — Quality control

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 12927-4, Safety requirements for cableway installations designed to carry persons — Ropes — Part 4: End fixings

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 cableway installations designed to carry persons — General requirements — Part 1: Requirements for all installations

EN 12929-2, Safety requirements for cableway installations designed to carry persons — General requirements — Part 2: Additional requirements for reversible bi-cable 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 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

EN 13796-2, Safety requirements for cableway installations designed to carry persons — Carriers — Part 2: Slipping resistance tests for grips

EN 13796-3, Safety requirements for cableway installations designed to carry persons — Carriers — Part 3: Fatigue tests

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3 Terms and definitions

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For the purposes of this document, the terms and definitions given in EN 1907, 2005 and the following apply. 017531b7fb21/osist-pren-1709-2014

3.1

precommissioning inspection

all of the measures required to confirm the readiness of the installation for acceptance

3.2

inspection

all of the operations intended to establish and assess the actual condition of an installation and its components

3.3

operational inspection and checks

operations intended for verifying the readiness for operation of the installation before and during operation

3.4

operating test

operation of a defined duration during which the correct working of the installation is tested

3.5

readiness for acceptance

condition of the installation where the functional and technical safety conditions for acceptance have been fulfilled

3.6

readiness for operation

condition of the installation where the functional and technical safety conditions to allow passengers to be transported have been fulfilled

4 General requirements

4.1 Application of this Standard

The requirements of this document apply to all cableway installations along with the requirements of EN 1908, EN 1909, EN 12397, EN 12408, EN 12927-1, EN 12927-2, EN 12927-3, EN 12927-4, EN 12927-5, EN 12927-6, EN 12927-7, EN 12927-8, EN 12929-1, EN 12929-2, EN 12930, EN 13107, EN 13223, EN 13243, EN 13796-1, EN 13796-2 and EN 13796-3.

4.2 Safety principles

4.2.1 General

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

In addition, the scope of this document includes the following hazard scenarios and safety measures.

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:

- a) lack of compliance of the physical construction of the installation with the documents presented;
- b) defective interaction of individual components with each other and with their local environment;
- c) defects as a result of long-term operation, prolonged stoppages or repeated and sustained unfavourable operating conditions;
- d) use of insufficient suitably qualified personnel talog/standards/sist/3ff07d0c-5d31-499a-b768-

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- e) operation with the installation or its components in a defective condition;
- f) lack of measures for maintaining or re-establishing the specified condition of the installation or its components;
- g) hazards stemming from the environment;
- h) absence, unsuitability or non-compliance of a procedure.

4.2.3 Safety measures

4.2.3.1 General

The following safety measures shall be taken prior to acceptance and during operation in order to eliminate the hazard scenarios listed in 4.2.2.

4.2.3.2 General safety

- a) a precommissioning inspection of the installation prior to its acceptance, intended to verify the correct interaction of the components with each other, and of the installation as a whole with its local environment;
- b) maintenance work intended to maintain and re-establish the specified condition of the installation and its components;

c) operational inspection and checks intended to verify the readiness for operation of the installation before and during operation.

4.2.3.3 Safety of workers

All work shall be carried out taking the necessary measures for protecting against risks to the safety and health of workers.

5 Precommissioning inspection

5.1 General

The precommissioning inspection includes:

- a) verifying the conformity of the installation with the technical documentation and other documents;
- b) checking the individual components, their interaction with each other and within their local environment;
- c) performing the operating test;
- d) submitting the required documentation to the controller;
- e) drawing-up a report on the test.

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5.2 Verifying the conformity of the installation with the technical documentation and other documents

The technical documents are specified in this document and in EN 1908, EN 1909, EN 12397, EN 12408, EN 12927-1, EN 12927-2, EN 12927-3, EN 12927-4, EN 12927-5, EN 12927-6, EN 12927-7, EN 12927-8, EN 12929-1, EN 12929-2, EN 12930, EN 13107, EN 13223, EN 13243, EN 13796-1, EN 13796-2 and EN 13796-3.

The conformity of the completed installation with the submitted technical documentation and other documents shall be verified.

5.3 Checking the individual components, their interaction with each other and with their local environment

These checks comprise, in particular:

- a) the external condition of the station and line structures and their foundations;
- b) the adequate clearance of the carriers, tow-hangers and ropes in relation to other components and the local environment in the most unfavourable operating conditions;
- c) the external condition of the ropes, their connections and end fixings;
- d) the functioning of all drive systems including their control and adjustment devices, taking into account all operating modes and the most unfavourable operational loading conditions. in the case of ski-tows, this inspection shall be carried out on an unloaded installation;
- e) the operation of all brakes for the drive systems including the maintenance of adequate friction whilst taking into consideration the most unfavourable operational loading conditions. In the case of ski-tows, this inspection shall be carried out on an unloaded installation;