



# SLOVENSKI STANDARD

SIST EN 1709:2005

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

Sicherheitsanforderungen für Seilbahnen für den Personenverkehr - Erprobung,  
Instandhaltung, Betriebskontrollen

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

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Ta slovenski standard je istoveten z: **EN 1709:2004**

## ICS:

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Cableway equipment

**SIST EN 1709:2005**

**en**

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English version

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 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.

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

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## Foreword

This document (EN 1709:2004) 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 Directives.

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

This document forms part of the standards programme approved by the CEN Technical Board on 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 devices.
- 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, production, 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).

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 the safety requirements applicable to the pre-commissioning inspection, maintenance and operational inspections and checks of cableway installations designed to carry persons. This standard is applicable to the various types of installations and takes into account their environment.

It also includes requirements relating to accident prevention and to worker protection.

It does not apply to installations for the transportation of goods by rope or to inclined lifts.

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

The provisions of clause 5 apply to the measures to be taken prior to the initial commissioning and clauses 6 and 7 concern those to be taken during operation.

## 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.

ENV 1090-1, *Execution of steel structures - Part 1: General rules and rules for buildings.*

prEN 1907:2004, *Safety requirements for cableway installations designed to carry person - 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 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 fixing.*

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: Calculation, 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 applicable to all installations.*

EN 12929-2, *Safety requirements for cableway installations designed to carry persons - General provisions - 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.*

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 passenger transportation by rope - Carriers - Part 3: Fatigue testing.*

### 3 Terms and definitions

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For the purposes of this document, the terms and definitions given in prENV 1907:2004 and the following apply.

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**3.1** <https://standards.iteh.ai/catalog/standards/sist/c4293c0b-d301-4a31-a399-4b34278089b3/sist-en-1709-2005>  
**pre-commissioning inspection**

all of the operations required for confirming the readiness of the installation for acceptance

#### 3.2

##### **inspection**

all of the operations intended for ascertaining and assessing the actual condition of an installation and its components

#### 3.3

##### **operational inspection and checks**

operations intended for verifying the good working condition 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 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, prEN 13796-1, prEN 13796-2 and prEN 13796-3.

### 4.2 Safety principles

#### 4.2.1 General

The safety principles 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.

#### 4.2.2 Hazard scenarios

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

- a) physical construction of the installation not in conformity with the documents presented;
- b) defective operation of individual components with each other and in their local environment;
- c) defects arising from long-term operation, prolonged stoppages or repeated and long-term operating conditions;
- d) use of insufficiently qualified and trained personnel;
- e) operation with the installation and its components in a defective condition;
- f) absence of measures for maintaining or re-establishing the specified condition of the installation and its components;
- g) dangers stemming from the environment;
- h) absence or non-compliance with 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 pre-commissioning inspection of the installation prior to its acceptance, intended to verify the correct operation of each component with the others, and of the installation as a whole within its local environment;
- b) maintenance work intended to maintain and re-establish the specified condition of the installation and its components;

- c) daily operational inspection and checks intended to verify the correct operating condition of the installation before and during operation.

#### 4.2.3.3 Safety of workers

All work shall be carried out and all activities conducted taking the necessary measures for preventing danger to the safety and health of the workers.

## 5 Verifications and pre-commissioning inspection

### 5.1 Submission of the documents for the installation (design, implementation) including verification by calculation

The scope and content of the documents to be submitted 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, prEN 13796-1, prEN 13796-2 and prEN 13796-3.

The submitted documents shall have been checked previously.

### 5.2 Submission of verification of the suitability of materials and components

The scope, nature and extent of the verifications to be submitted are specified 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, prEN 13796-1, prEN 13796-2 and prEN 13796-3.

### 5.3 Pre-commissioning inspection SIST EN 1709:2005

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#### 5.3.1 General

The pre-commissioning inspection shall include:

- a) verification of the conformity of the installation with the submitted documents;
- b) check of the individual components, their operation with each other and within their local environment;
- c) the operating test;
- d) the drawing-up of a report on the pre-commissioning inspection.

#### 5.3.2 Verification of conformity of the installation with the submitted documents

The conformity of the completed installation with the submitted documents shall be verified.

#### 5.3.3 Check and operating test of the individual components, their operation with each other and within their local environment

These checks shall be carried out in order to ensure operating safety and shall in particular focus on:

- a) the condition of the ropes, their connections and end fixings;
- b) the rope guides and the correct operation of their supports and tensioning devices, including the tensioning of the rope;