



SLOVENSKI STANDARD
SIST EN 12397:2017

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Varnostne zahteve za žičniške naprave za prevoz oseb - Obratovanje

Safety requirements for cableway installations designed to carry persons - Operation

Sicherheitsanforderungen für Seilbahnen für den Personenverkehr - Betrieb

Prescriptions de sécurité pour les installations à câbles transportant des personnes -
Exploitation

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45.100 Oprema za žičnice Cableway equipment

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EUROPEAN STANDARD

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Safety requirements for cableway installations designed to carry persons - Operation

Prescriptions de sécurité pour les installations à câbles transportant des personnes - Exploitation

Sicherheitsanforderungen an Seilbahnen für den Personenverkehr - Betriebe

This European Standard was approved by CEN on 24 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.

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 CEN-CENELEC Management Centre has the same status as the official versions.

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

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EN 12397:2017 (E)**European foreword**

This document (EN 12397:2017) 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of an identical text or by endorsement, at the latest by September 2017, and conflicting national standards shall be withdrawn at the latest by September 2017.

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.

This document supersedes EN 12397:2004.

This document has been prepared under a mandate given to the CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s) 2000/9/EC.

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

The most significant changes compared to the previous edition of EN 12397 are as follows:

- For subclause 4.2.2 Hazard factors: addition of a hazard factor: "insufficient or inappropriate additional measure in the event of a fault indicated by the monitoring or communications equipment."
- For subclause 4.2.4 Occupational safety: reorganisation of the provisions applicable to occupational safety.
- Removal of subclauses 5.4.2 and 5.6 and creation of a specific section which defines the principles of a risk prevention process (risk identification/risk assessment/implementation of preventive measures) and identifies the key risks encountered when operating ski lifts from workstations.
- For subclause 5.2.2 Role of the operations manager: addition of a role relating to the consideration of environmental requirements with regard to operations.
- For subclause 5.2.3 Role of the driver: addition of the option, when drivers are not busy performing driving duties, for them to act as monitors for the loading and unloading of passengers.
- For subclause 5.4 Operational inspections: removal of provisions on maintenance which belong to a different standard.
- For subclause 5.8 Preventing and fighting fire: addition of a section.
- For subclause 6.2.3 Ski and leisure tow systems, luggage, miscellaneous items and animals: removal of detailed rules and definition of a general principle which gives the operations manager scope to make the transport arrangements.
- For subclause 6.3 Passenger behaviour: amendment of the wording on the form. The previous version was intended for passengers; the new wording is aimed at operators.

This document forms part of the standards program adopted by the CEN Technical Committee on safety requirements for cableway installations designed to carry persons. This programme includes the following standards:

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

- 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 12927 (all parts), *Safety requirements for cableway installations designed to carry persons — Ropes*;
- EN 1908, *Safety requirements of cableway installations designed to carry persons — Tensioning devices*;
- EN 13223, *Safety requirements for cableway installations designed to carry persons — Drive systems and other mechanical equipment*;
- EN 13796 (all parts), *Safety requirements for cableway installations designed to carry persons — Carriers*;
- EN 13243, *Safety requirements for cableway installations designed to carry persons — Electrical equipment other than for drive systems*;
- EN 13107, *Safety requirements for cableway installations designed to carry persons — Civil engineering works*;
- EN 1709, *Safety requirements for cableway installations designed to carry persons — Precommissioning inspection, maintenance, operational inspection and checks*;
- 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*.

Together, these standards govern the design, manufacturing, production, maintenance and operation of all cableway installations designed to carry persons.

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With regard to surface lifts, the production of this document drew on the work of the international cableway organisation (Organisation Internationale des Transports à Câbles — OITAF).

According to the CEN/CENELEC Internal Regulations, the national standards organisations of the following countries are bound to announce 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, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

EN 12397:2017 (E)**1 Scope**

This European Standard specifies the safety requirements applicable to the operation of installations for passenger transportation by cable. This standard is applicable to the various types of installations and takes into account their environment.

This European Standard applies to the operation of an installation and to the passenger transport conditions and also contains requirements for passengers.

It is applicable to individual installations or a set of installations.

It does not cover legal provisions for the transport service nor transport obligations.

It includes requirements relating to the prevention of accidents and protection for workers, as well as to fire prevention and fire-fighting, without affecting the application of national requirements relating to construction law or statutory law, or to the protection of specific groups of people.

It does not apply to installations for the 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 and 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 12408, *Safety requirements for cableway installations designed to carry persons — Quality assurance.*

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.*

3 Terms and definitions

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

3.1

operator

operating attendant tasked with examining the condition and performing the maintenance of the installation

4 General requirements

4.1 Application of this standard

The requirements of this European Standard apply to all installations together with those of European Standards EN 1709, EN 1908, EN 1909, 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

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

In addition the following hazard factors and safety requirements relative to the scope of this European Standard are to be taken into consideration.

4.2.2 Hazard factors

The following events may lead to hazardous situations which may be avoided or reduced by the requirements of this European Standard:

- a) inappropriate behaviour of passengers, operating personnel and third parties;
- b) unsuitability of the passengers;
- c) unsuitability or incompetence of the operating personnel;
- d) absence or inadequacy of the operating regulations;
- e) insufficient or inadequate signs, instructions, information or means of communication;
- f) failure to observe signs, instructions or operating regulations;
- g) influence of atmospheric factors (ice, fog, wind, storms, etc.);
- h) insufficient or inappropriate additional measure in the event of a fault indicated by the monitoring or communications equipment.

4.2.3 Safety measures

The safety measures to be taken to prevent or reduce the risks arising from hazard scenarios listed under 4.2.2 are the following:

- a) use of qualified and trained operating personnel;
- b) preparation of suitable operating instructions and requirements:
 - 1) under normal conditions
 - 2) under exceptional circumstances;
- c) definition and display of passenger access and transportation measures.

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4.2.4 Safety of workers

In order to ensure the safety and protect the wellbeing of workers, risks shall be identified and evaluated, and corresponding preventive actions implemented for all operations and activities connected with the operation.

The table below identifies the main risks encountered during the operation of mechanical lifts and correlates them with the different workplaces. This table, which should be used as an example, does not provide an exhaustive listing of the risks and workplaces. It will therefore be necessary to perform a specific analysis of each installation.

Table 1 — Main risks encountered for operating personnel

Risks identified	Workplaces					
	Control station	Loading and unloading areas	Stations	Pylons	Vehicles	Access to workplaces
Slips, trips and falls on the same level	x	x	x	x	x	x
Movement on skis or snowboards						x
Fall from height			x	x	x	
Movement and working with vehicles and motorised devices						x
Ergonomics		x	x	x	x	
Moving parts and bodies		x	x	x	x	
Electrical power	x		x			
Residual energy			x	x		
Working environment		x		x	x	x
Exposure to noise	x	x	x			
Chemical products			x	x		
Fire	x		x			
Falling objects		x	x	x		
Customer or third-party injury		x				

5 Operating arrangements

5.1 Preliminary notes

The following text details the measures that should be taken during operation to ensure order and safe transportation.

These measures shall be prepared by the operator in a document called Operating requirements drawn up by the operator and approved, if necessary, by the competent authority in accordance with local regulatory provisions. They shall cover at least the following points:

- name and technical data of the installation;
- operating personnel and tasks;
- operating provisions under normal conditions;
- operating provisions under exceptional circumstances;
- maintenance and operational checks;
- incidents and accidents;
- evacuation and recovery.

In addition, the requirements for workers' protection shall be taken into account. In order to be practicable, this document shall be adapted to the installation and the operation concerned. It shall be written in a language that is comprehensible to the operating personnel and shall be brought to their knowledge.

5.2 Operating personnel and tasks

5.2.1 General

The operating requirements of each installation shall specify the tasks to be carried out and the corresponding minimum number of operating personnel required.

The following operating personnel shall be provided:

- head of operation and his deputies;
- operator;
- other operating personnel (conductor, station attendant, etc.).

Under special conditions specified in the operating requirements, it is permissible to dispense with the continuous presence of certain personnel.

5.2.2 Tasks of the head of operation

The following tasks shall be carried out by the head of operation or the deputy.

During operation, the head of operation or the deputy shall be present in the area of the installations for which they are responsible. They shall be contactable at all times.

The head of operation is responsible for: