



SLOVENSKI STANDARD
SIST ENV 1907:2000
01-april-2000

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Safety requirements for passenger transportation by rope - Terminology

Sicherheitsanforderungen für Seilbahnen und Schleppaufzüge des Personenverkehrs -
Begriffsbestimmungen

Prescriptions de sécurité des installations de transport à câbles destinées aux personnes
- Terminologie

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Ta slovenski standard je istoveten z: **ENV 1907:1999**
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ICS:

- | | | |
|-----------|-------------------------------|---------------------------------------|
| 01.040.45 | Železniška tehnika (Slovarji) | Railway engineering
(Vocabularies) |
| 45.100 | U] { } ^ | Cableway equipment |

SIST ENV 1907:2000 **en**

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EUROPEAN PRESTANDARD
PRÉNORME EUROPÉENNE
EUROPÄISCHE VORNORM

ENV 1907

January 1999

ICS 01.040.45; 45.100

Descriptors: installation, passanger transport, ropeways, t-bar lifts, safety, vocabulary

English version

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Terminology

Prescriptions de sécurité des installations de transport à
câbles destinées aux personnes - Terminologie

Sicherheitsanforderungen für Seilbahnen und
Schleppaufzüge des Personenverkehrs -
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This European Prestandard (ENV) was approved by CEN on 8 January 1999 as a prospective standard for provisional application.

The period of validity of this ENV is limited initially to three years. After two years the members of CEN will be requested to submit their comments, particularly on the question whether the ENV can be converted into a European Standard.

CEN members are required to announce the existence of this ENV in the same way as for an EN and to make the ENV available promptly at national level in an appropriate form. It is permissible to keep conflicting national standards in force (in parallel to the ENV) until the final decision about the possible conversion of the ENV into an EN is reached.

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Foreword

This European Prestandard has been prepared by Technical Committee CEN/TC 242 "Safety requirements for passenger transportation by rope", the secretariat of which is held by AFNOR.

The other CEN/TC 242 Working Groups have participated in the preparation of this European Standard .

This European Standard forms part of the standards programme adopted by the CEN Technical Board (CEN/BT) in relation to safety requirements for passenger transportation by rope.

This programme comprises the following standards :

- 1 : *Safety requirements for passenger transportation by rope - Terminology*
- 2 : *Safety requirements for passenger transportation by rope - General requirements*
- 3 : *Safety requirements for passenger transportation by rope - Calculations*
- 4 : *Safety requirements for passenger transportation by rope - Ropes*
- 5 : *Safety requirements for passenger transportation by rope - Tensioning devices*
- 6 : *Safety requirements for passenger transportation by rope - Mechanical devices*
- 7 : *Safety requirements for passenger transportation by rope - Carriers*
- 8 : *Safety requirements for passenger transportation by rope - Electrical installations*
- 9 : *Safety requirements for passenger transportation by rope - Civil engineering works*
- 10 : *Safety requirements for passenger transportation by rope - Precommissioning inspection, maintenance and operational inspection*
- 11 : *Safety requirements for passenger transportation by rope - Recovery and evacuation*
- 12 : *Safety requirements for passenger transportation by rope - Operation*
- 13 : *Safety requirements for passenger transportation by rope - Quality assurance*

Together these form a series of standards regarding design, manufacture, erection, maintenance and operation of all installations for passenger transportation by rope. In respect of skitows, the drafting of this European Standard has been guided by the works of the International Organisation for Transportation by Rope(OITAF).

Annex B of the Standard has been drawn up taking into account, in certain cases, the terms used in the ANSI standard B77-1 : 1990 "Aerial tramways and lifts - Surface lifts and tows - Safety requirements".

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to announce this European Prestandard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

This European prestandard defines general terms used in the safety requirements for passenger transportation by rope.

This prestandard concerns terms used in the design, manufacture, erection, maintenance and operation of the installations and is restricted to :

- those terms which form part of the vocabulary specific to these installations ; and
- those terms, whether scientific, technical or in every day use, which have a particular meaning in this field or which it appears necessary to define in greater detail.

The terms applies both to a particular installation and to their components.

Terms which are specific to standards which are listed in the foreword are defined in each of these standards.

This European prestandard does not apply to installations for the transportation of goods, nor to inclined lifts.

In the application of this European prestandard, the following definitions are applicable and have been given the reference numbers below.

2 General terms

Terms printed in **bold** type in the definitions are themselves defined in the text.

2.1 cableway (for passenger transport)

installation designed to transport passengers in **carriers**, or to tow them by means of **tow-hangers**, supported by or pulled along by one or more ropes or cables, except for those installations which are known as "elevators" or "lifts"

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2.1.1 component

elementary part, group of parts, subassembly or complete unit incorporated in a **cableway** installation

NOTE Components may be mechanical in nature, or they may equally belong to the fields of civil engineering, electrical, pneumatic or hydraulic equipment, or automation and control.

3 Types of installations

3.1 aerial ropeway

cableway in which the **carriers** are suspended from one or several ropes

NOTE The term aerial ropeway, without further specification is generally applicable no matter how the ropes move or what functions they perform, how they are connected to the carriers and what type the carriers are.

3.1.1 reversible aerial ropeway ; jigback

aerial ropeway whose **carriers** move backwards and forwards between the ropeway **stations**

NOTE These aerial ropeways are usually equipped with two closed carriers or groups of carriers with fixed grips.

3.1.2 uni-directional aerial ropeway

aerial ropeway whose **carriers** always travel in the same direction along their path

NOTE The carriers may be connected to the rope by fixed or detachable grips.

3.1.2.1**continous movement aerial ropeway**

uni-directional aerial ropeway whose **haulage rope(s)** or **carrying-hauling rope(s)** moves at constant speed

3.1.2.2**pulsed movement aerial ropeway**

uni-directional aerial ropeway whose **haulage rope(s)** or **carrying-hauling rope(s)** moves either intermittently or at a speed which varies periodically as a function of the position of the **carriers**

NOTE The carriers or groups of carriers are usually connected to the rope by fixed grips.

3.1.3**monocable aerial ropeway**

aerial ropeway in which the **carriers** are both suspended from and hauled by a single rope or group of ropes

3.1.3.1**double-monocable aerial ropeway**

term in current use for a **monocable aerial ropeway** in which the **carriers** are both suspended from and hauled by two rope loops or a single rope arranged in a double loop

3.1.4**bicable aerial ropeway**

aerial ropeway in which the **carriers** are suspended from and hauled by separate ropes or groups of ropes

3.1.5**gondola lift**

term in current use for a **uni-directional aerial ropeway** with several small closed **carriers**

3.1.6**bucket lift**

uni-directional aerial ropeway in which the **carriers** are **buckets**

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3.1.7**chairlift**

uni-directional aerial ropeway in which the **carriers** are **chairs**

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3.2**funicular railway**

cableway in which the **carriers** are hauled by one or several ropes along a track which may lie on the ground or be supported by fixed structures

NOTE The carriers are generally supported on wheels which may be of different types, with the track designed accordingly.

3.3**ski-tow ; draglift**

cableway in which the passengers , either wearing skis or equipped with suitable special appliances, are towed along a prepared track by means of **tow-hangers** hauled by a rope

NOTE The grips of the tow-hangers may be fixed or detachable.

4 Ropes and end fixings**4.1****static rope ; fixed rope**

rope anchored at least at one of its ends and possibly resting on one or more intermediate supports

4.1.1**carrying rope ; track rope**

static rope arranged to support **carriers** by means of **carrier trucks** which move along the rope

4.1.2

tension rope

rope used for connecting the free end of a **static rope** or the **end sheave** of a rope loop to the counterweight or tensioning device

4.1.3

brake rope

static rope on which the **onboard brake** acts and which has no other function

4.1.4

signal cable

static rope used for the transmission of signals, such as control or video signals, or telephone communication

4.2

moving rope

rope arranged in such a way as to allow large longitudinal movements

NOTE Moving ropes are usually connected to one or more carriers, or are capable of being so connected.

4.2.1

carrying-hauling rope

moving rope arranged to transmit its motion to **carriers** attached to and at the same time supported by it

4.2.2

haulage rope ; haul rope

moving rope arranged to transmit its motion to **carriers** attached to but not supported by it

4.2.2.1

counter rope

in a funicular railway, or a bicable reversible aerial ropeway, **moving rope** attached to the carriers by end fixings, without going through the driving sheave

NOTE "Cable-lest" may also be used in instead of "contre-câble" in French, or "ballast rope" instead of "counter rope" in English, when the drive station is at the upper end.

4.2.3

towing rope ; haul rope

moving rope arranged to transmit its motion to **tow-hangers** attached to it

4.2.4

rope loop

rope closed into a loop by a splice

4.2.5

recovery rope

moving rope whose sole function is to replace the installation **haul ropes** in the event of failure of the latter in order to ensure the return of the **carriers** to the station

4.2.6

evacuation rope

moving rope used only for moving **evacuation carriers**

4.3

end fixing ; termination

component connecting one of the ends of a rope to the **component** on which the rope pulls

NOTE The end fixing may, for example, be the connection between a static rope and either an anchorage, a counterweight or a tensioning device, or it may be the connection between a moving rope and a carrier.

4.3.1

socket end fixing

end fixing formed by a socket within which the end part of the rope is immobilized under the applied tensile load

4.3.2**(haulage) rope fixing drum**

end fixing consisting of a drum, around which a **(haulage) rope** is wrapped to form dead turns

4.3.3**anchor drum**

end fixing consisting of a drum attached to an anchorage, around which a **static rope** is wrapped to form dead turns

4.4**double anchorage**

condition in which both ends of a static rope are anchored

5 Supports and guides for ropes and carriers**5.1****sheave ; wheel**

rotating support which imposes its own radius as the radius of curvature of the rope passing over it

5.1.1**deflection sheave**

sheave whose purpose is to change the direction of a rope

5.1.2**cage (sheave)**

device intended to limit the movement of a **sheave** in the event of failure of the axle

5.2**roller**

rotating support whose radius is smaller than the radius of curvature of the rope at its point of contact

5.3**support sheave/roller**

sheave/roller which normally exerts an upward force on the rope

5.4**compression sheave/roller**

sheave/roller which normally exerts a downward force on the rope

5.5**roller battery**

set of **rollers** and their supporting structure, with the rollers arranged one after the other so as to change the direction of a **moving rope**

5.6**support/compression roller battery**

roller battery comprising both **support** and **compression rollers**

5.7**suspended haul rope support**

on a **bicable aerial ropeway** with twin **carrying ropes**, device comprising a frame attached to the two **carrying ropes** and equipped with one or more **rollers**, intended to provide an intermediate **line support structure** for the **haul ropes (s)**

5.8**derailment**

condition in which a rope, a **carrier truck** or a wheel of a funicular **carriage** has left its normal position

5.8.1**derailment of rope ; deropement**

condition in which a rope has left its normal position on a support

**5.8.2
derailment of carrier truck**
condition in which a **carrier truck** in an **aerial ropeway** has left its normal position on the rope(s)

**5.8.3
derailment of axles**
condition in which the wheels of one or more axles of a **carriage** in a **funicular railway** have left their normal position on the track

**5.9
guide**
device designed to prevent damage resulting from contact between a **carrier** or a **tow-hanger** and any fixed structure

NOTE In certain cases, for example when entering, traversing or leaving a station, contact during operation between carriers or towhangers and guides is normal.

**5.10
anti-derailleur**
device designed to prevent a **derailment**

**5.11
rope re-engagement device**
device designed to replace a **moving rope** onto a rotating support from which it has derailed

**5.12
rope-catcher**
device designed to catch a derailed rope

**5.13
clamp (track rope)**
device enabling a **track rope** to be maintained on a **saddle** without preventing its longitudinal movement

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6 Carriers, tow-hangers and grips

**6.1
carrier**
component designed to carry passengers in an **aerial ropeway** or a **funicular railway**

NOTE In an aerial ropeway a carrier comprises not only a chair or one or more cabins or buckets connected together but also all the components connecting the chair, cabins or buckets to the rope or ropes. In a funicular railway, the carriers consist of carriages which move along a track and which may be connected together to form a train.

**6.1.1
closed carrier**
carrier in which the passengers are protected from bad weather and cannot get out unaided between **stations**

**6.1.1.1
cabin ; gondola**
component in a closed **carrier** designed to accommodate standing or seated passengers

**6.1.1.2
carriage**
carrier in a **funicular railway**

**6.1.2
open carrier**
a **carrier** which meets neither of the conditions for a **closed carrier**

**6.1.2.1
chair**
component of an open **carrier** designed to accommodate one or more seated passengers

6.1.2.1.1**covered chair**

chair provided with a movable hood or cover intended to protect the passengers against bad weather

6.1.2.2**bucket**

component of a **carrier** designed to accommodate one or more standing passengers

6.1.3**group of carriers**

several **carriers** connected to the rope(s) next to each other, but not otherwise connected together

6.1.4**modular carrier**

carrier consisting of several **cabins** or **buckets** connected one to another, each being connected independently to the rope(s)

6.1.5**self-powered carrier**

carrier in an aerial ropeway with an on-board **drive system**

6.1.6**attended carrier ; accompanied carrier**

carrier in which an **attendant** is present

6.1.7**maintenance carrier**

carrier used for maintaining the line and equipped for that purpose

6.1.8**onboard brake**

brake installed on a **carrier** to stop it on the line [SIST ENV 1907:2000](https://standards.iteh.ai/catalog/standards/sist/de7b135-b789-4827-858f-)

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NOTE The two most common types of onboard brakes are the **carrier truck brake** and the **track brake**.

6.1.8.1**carrier truck brake**

onboard brake which acts on the **track rope(s)** of a **bicable aerial ropeway**

6.1.8.2**track brake**

in a **funicular**, **onboard brake** acting on one or more of the rails or on a continuous independent component

6.1.9**carrier truck**

component of a **carrier** in an **aerial ropeway** consisting of a structure containing **rollers** which travel along one or more **carrying ropes** and supporting the rest of the **carrier**

6.1.10**suspension**

component in a **carrier** in an **aerial ropeway** which connects a **cabin**, **chair** or **bucket** to a **grip** or a **carrier truck**

6.1.11**safety bar**

device installed on a **chair**, to prevent passengers in transit from falling out and which is moved out of the way in the **stations** for loading and unloading

6.2**tow-hanger**

component in a **ski-tow** consisting of a **grip** and a **component** designed to tow passengers