



# SLOVENSKI STANDARD

## oSIST prEN 15700:2020

01-marec-2020

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**Naprave za kontinuirni transport - Varnost tračnih transporterjev za zimske športe ali turistične namene**

Safety for conveyor belts for winter sport or tourist use

Sicherheit von Bandförderern für Wintersport- oder Freizeitaktivitäten

Sécurité des tapis roulants pour les activités de sports d'hiver ou de loisirs

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**Ta slovenski standard je istoveten z: prEN 15700**

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**ICS:**

53.040.10      Transporterji

Conveyors

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**en,fr,de**

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

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**prEN 15700**

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English Version

## Safety for conveyor belts for winter sport or leisure use

Sécurité des tapis roulants pour les activités de sports  
d'hiver ou de loisirs

Sicherheit von Bandförderern für Wintersport- oder  
Freizeitaktivitäten

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.

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

**CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels**

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**prEN 15700:2019 (E)**

## **European foreword**

This document (prEN 15700:2019) has been prepared by Technical Committee CEN/TC 242 “Safety requirements for passenger transportation by cable”, the secretariat of which is held by AFNOR.

This document is currently submitted for CEN comment.

It is intended to replace EN 15700:2011.

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 the EU Directive(s).

For the relationship with the EU Directive(s), see informative Annex ZA, which is an integral part of this document.

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## Introduction

This document is a type C standard as stated in EN ISO 12100:2010.

The travelators covered and the range of hazardous phenomena, situations and events covered are indicated in the scope of this document.

When the provisions of this type C standard differ from those stated in type A or B standards, the provisions of this type C standard take precedence over the provisions of the other standards, for travelators that have been designed and built according to the provisions of this type C standard.

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**prEN 15700:2019 (E)****1 Scope**

This European Standard is applicable for travelators, with or without a tunnel, for winter sport or leisure use.

These requirements are applicable to travelators for the transport of persons (either passengers or operators) wearing snow-sliding devices, or pedestrians wearing ski boots or heavy boots who may be holding their snow-sliding devices, for winter sports activities. For other uses, the persons (whether passengers or operators) shall wear suitable (enclosed and solid) footwear for travelators.

NOTE Snow-sliding devices include seated ski equipment for handicapped people.

This document has been prepared on the basis of the automatic operation of these installations with no staff permanently present at the actual installation.

It covers requirements relating to the prevention of accidents and the safety of operators.

This document covers all the significant hazards, hazardous situations and hazardous events specific to travelators for winter sport or leisure activities, when they are used in conformity to the application for which they are intended as well as for inappropriate applications that could be reasonably foreseen by the manufacturer (see Clause 4).

This document does not apply either to moving walkways as specified in EN 115 or to loading bands as specified in EN 1907.

This document does not apply to travelators manufactured prior to the date of its publication as an EN.

**2 Normative references**

<https://standards.iteh.ai/catalog/standards/sist/149449da-47ba-49d7-b8b2-0e7178c8c111>

The following documents referred to in the text constitute indispensable requirements of this document in relation to some or all of their content. For dated references, only the cited edition applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 115-1:2017, *Safety of escalators and moving walks — Part 1: Construction and installation*

EN 619:2002+A1:2010, *Continuous handling equipment and systems — Safety and EMC requirements for equipment for mechanical handling of unit loads*

EN 981:1996+A1:2008, *Safety of machinery — System of auditory and visual danger and information signals*

EN 1907:2017, *Safety requirements for cableway installations designed to carry persons — Terminology*

EN 1990:2002, *Eurocode - Basis of structural design*

EN 1991 (all parts), *Eurocode 1 - Actions on structures*

EN 1992 (all parts), *Eurocode 2 - Design of concrete structures*

EN 1993 (all parts), *Eurocode 3 - Design of steel structures*

EN 1994 (all parts), *Eurocode 4 - Design of composite steel and concrete structures*

EN 1995 (all parts), *Eurocode 5 - Design of timber structures*



- EN 1996 (all parts), *Eurocode 6 - Design of masonry structures*
- EN 1997 (all parts), *Eurocode 7 - Geotechnical design*
- EN 1998 (all parts), *Eurocode 8 - Design of structures for earthquake resistance*
- EN 1999 (all parts), *Eurocode 9 - Design of aluminium structures*
- EN 1993-1-1, *Eurocode 3: Design of steel structures — Part 1-1: General rules and rules for buildings*
- EN ISO 7731:2008, *Ergonomics — Danger signals for public and work areas — Auditory danger signals*
- EN ISO 12100:2010, *Safety of machinery* ☒ *General principles for design* ☒ *Risk assessment and risk reduction*
- EN 13107:2015, *Safety requirements for cableway installations designed to carry persons — Civil engineering works*
- EN 13501-1:2018, *Fire classification of construction products and building elements — Part 1: Classification using test data from reaction to fire tests*
- EN ISO 13849-1:2015, *Safety of machinery — Safety-related parts of control systems — Part 1: General principles for design*
- EN ISO 13850:2015, *Safety of machinery — Emergency stop — Principles for design*
- EN ISO 13857:2008, *Safety of machinery — Safety distances to prevent hazard zones being reached by upper and lower limbs*
- EN ISO 14119:2013, *Safety of machinery — Interlocking devices associated with guards — Principles for design and selection*
- EN ISO 14120:2016, *Safety of machinery — Guards — General requirements for the design and construction of fixed and movable guards*
- EN 60204-1:2018, *Safety of machinery — Electrical equipment of machines — Part 1: General requirements (IEC 60204-1:2016, modified)*
- EN 60947-5-1:2017, *Low-voltage switchgear and controlgear — Part 5-1: Control circuit devices and switching elements — Electromechanical control circuit devices (IEC 60947-5-1:2016)*
- EN 61496-1:2013, *Safety of machinery — Electro-sensitive protection equipment — Part 1: General requirements and tests (IEC 61496-1:2012)*
- EN 61496-2:2013, *Safety of machinery — Electro-sensitive protection equipment — Part 2: Particular requirements for equipment using Active Opto-Electronic Protective Devices (AOPDs) (IEC 61496-2:2013)*
- EN 62061:2005, *Safety of machinery — Operating safety of electrical/electronic/programmable electronic safety-related systems (IEC 62061:2005)*

### 3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN ISO 12100:2010, EN 1907:2017, EN 619:2002+A1:2010 and the following apply.

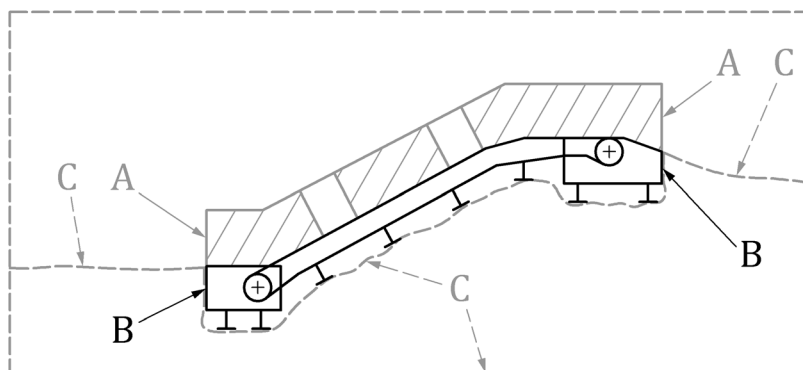
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ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

### 3.1 installation of the travelator

a conveyor belt, with or without a tunnel, used as a permanent or temporary installation within its environment (see Figure 1)

**Key**

A	Tunnel
B	Travelator
C	Environment

(A)+B+C Installation of the travelator

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**Figure 1 — Installation of the travelator**

Note 1 to the Clause: The environment for the installation of the travelators specifically includes the necessary adjustments in the vicinity of the travelator, the topography of the site, the infrastructure (in terms of chocks, and the landscaping and civil engineering work required), natural risks, etc.

**3.2****travelator**

a continuous transport installation for transporting persons standing up, specifically consisting of:

- a conveyor belt with its own driving system (an electric engine, drums or wheels, rollers, etc.);
- a braking system, if required;
- a cleaning brush, if required;
- a load-bearing structure;
- a safety flap;
- an emergency flap;
- an access flap;
- a loading plate;
- an unloading plate;
- lateral walkways, if required;
- lateral guards, if required;

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Note 1 to the Clause: There are no safety flaps, emergency flaps or unloading plates in the case of a travelator with exclusively lateral unloading.

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**3.3****carrier belt**

a continuous or modular conveyor belt

Note 1 to the Clause: Modular belts are generally made of plastic elements.

**3.4****tunnel**

a structure partially or completely covering the travelator

**3.5****standard-speed travelator**

A travelator designed to have an operating speed lower than or equal to 0.7 m/s

**3.6****high-speed travelator**

a travelator designed to have an operating speed higher than 0.7 m/s but not exceeding 1.2 m/s

**3.7****safety flap**

a protective device located at the entry point of the carrier belt (see its position in Figure 3 and Figure 4)

**3.8****emergency flap**

a flap used to give wider access to the safety area 3.10 (see its position in Figure 4)

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## 3.9

**access flap**

A flap used to give access to the driving system and other mechanical features of the travelator for certain operations involving handling, upkeep, adjustment and maintenance (see its position in Figure 4)

## 3.10

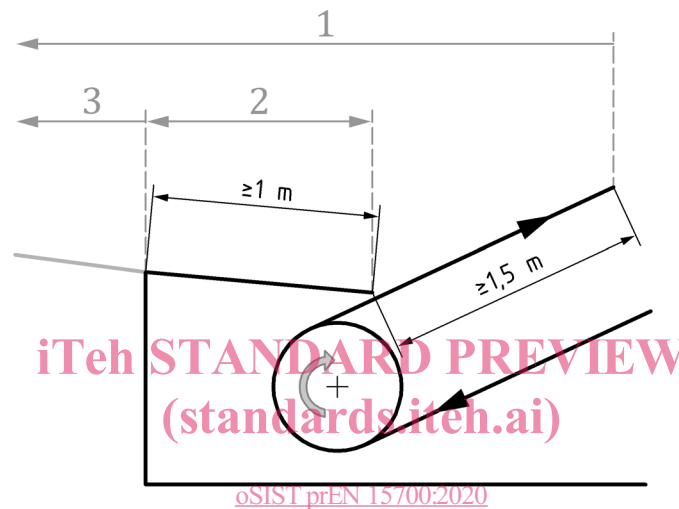
**safety area**

an area totally free of obstacles located under the safety flap to avoid any risk of injury

## 3.11

**loading area**

an area from which persons step onto the travelator, the limits of which are defined in Figure 2



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**Key**

- 1 Loading
- 2 Loading plate
- 3 Loading area

**Figure 2 — Loading area: limits**

## 3.12

**loading plate**

an area of the travelator located before the exit point from the carrier belt provided so that people can step onto it (see Figure 2)

Note 1 to the Clause: The loading plate may contain other features, such as an access flap.

## 3.13

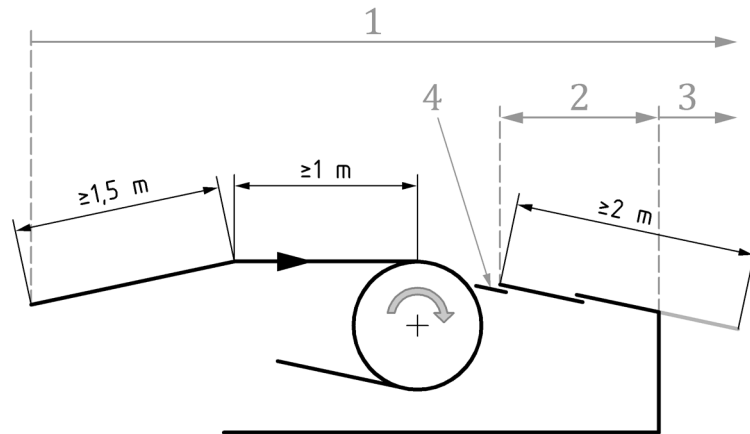
**loading area**

an area outside the travelator from which people can step onto it (see Figure 2)

## 3.14

**unloading area**

an area from which persons can step off the travelator, the limits of which are defined in Figure 3



### Key

- 1 Unloading
- 2 Unloading plate
- 3 Unloading area
- 4 Safety flap

**Figure 3 — Unloading area: limits**

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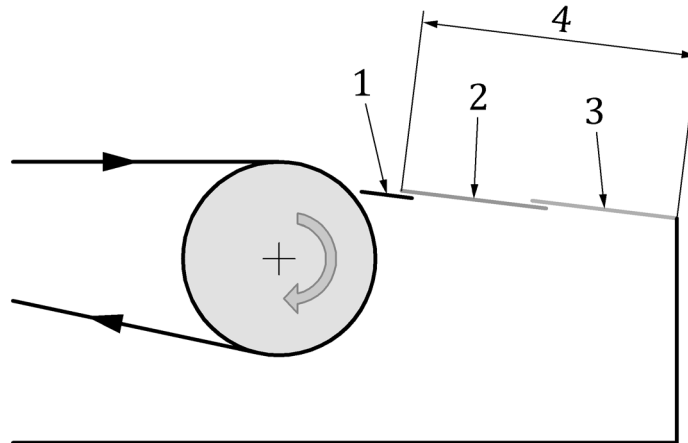
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### 3.15

#### unloading plate

an area of the travelator after the safety flap from which people can step off it (see Figures 3 and 4)

Note 1 to the Clause: The unloading plate includes the emergency flap or the second part of the safety flap in the case of high-speed travelators, and may include other features such as an access flap.

**Key**

- 1 Safety flap (or the 1st part of the safety flap for high-speed travelators)
- 2 Emergency flap (or the 2nd part of the safety flap for high-speed travelators)
- 3 Access flap, or other additional feature
- 4 Unloading plate

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**Figure 4 — Unloading plate**  
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**3.16**  
**unloading area**

an area outside the travelator onto which people can step off it (see Figure 4)

**3.17**

**drum**

continuous belt travelator component used to drive or return the carrier belt

**3.18**

**wheel**

modular belt travelator component used to drive or return the carrier belt

**3.19**

**safety function**

the function of a machine that can cause an immediate increase in risk(s) if it malfunctions

[SOURCE: ISO 12100:2010, 3.30]

#### 4 List of significant risks

This clause lists all the hazards, all the hazardous areas, and all the major hazardous situations and events that are covered by this document, which have been identified as significant for this type of machinery for the purposes of a risk assessment in accordance with the EN ISO 12100:2010 standard, which require action to be taken to eliminate or reduce the risk.

The methods of checking to be used to demonstrate compliance include the following:

- *V* a visual examination to check the required functions of the components;
- *T* tests/checks to determine that the functions provided for perform correctly in accordance with requirements;
- *M* measurements to check that the requirements are met in terms of the specified limits;
- *D* drawings (plans) and/or calculations to check that the design features of the components supplied meet their requirements. Documents and instructions for use are available.

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