



# SLOVENSKI STANDARD SIST-TS CEN/TS 115-4:2015

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Nadomešča:

SIST-TS CEN/TS 115-4:2014

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**Varnost tekočih stopnic in tekočih stez - 4. del: Pojasnila v zvezi s skupino standardov EN 115**

Safety of escalators and moving walks - Part 4: Interpretations related to EN 115 family of standards

Sicherheit von Fahrtreppen und Fahrsteigen - Teil 4: Auslegungen zur Normenreihe EN 115

**(standards.iteh.ai)**

Sécurité des escaliers mécaniques et trottoirs roulants - Partie 4 : Interprétations relatives aux normes de la famille EN 115

<http://standards.sist/16f55ac1-feae-42ac-a6b9-165c5a3a5d47/sist-ts-cen-ts-115-4-2015>

**Ta slovenski standard je istoveten z: CEN/TS 115-4:2015**

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**ICS:**

91.140.90      Dvigala. Tekoče stopnice      Lifts. Escalators

**SIST-TS CEN/TS 115-4:2015**

**en,fr,de**

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TECHNICAL SPECIFICATION  
SPÉCIFICATION TECHNIQUE  
TECHNISCHE SPEZIFIKATION

**CEN/TS 115-4**

September 2015

ICS 91.140.90

Supersedes CEN/TS 115-4:2014

English Version

**Safety of escalators and moving walks - Part 4:  
Interpretations related to EN 115 family of standards**

Sécurité des escaliers mécaniques et trottoirs roulants  
- Partie 4 : Interprétations relatives aux normes de la  
famille EN 115

Sicherheit von Fahrtreppen und Fahrsteigen - Teil 4:  
Auslegungen zur Normenreihe EN 115

This Technical Specification (CEN/TS) was approved by CEN on 3 August 2015 for provisional application.

The period of validity of this CEN/TS 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 CEN/TS can be converted into a European Standard.

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

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

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## European foreword

This document (CEN/TS 115-4:2015) has been prepared by Technical Committee CEN/TC 10 “Lifts, escalators and moving walks”, the secretariat of which is held by AFNOR.

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 CEN/TS 115-4:2014.

EN 115 is divided into the following parts:

- EN 115-1, Safety of escalators and moving walks - Part 1: Construction and installation;
- EN 115-2, Safety of escalators and moving walks - Part 2: Rules for the improvement of safety of existing escalators and moving walks;
- CEN/TR 115-3, Safety of escalators and moving walks - Part 3: Correlation between EN 115:1995 and its amendments and EN 115-1:2008 [Technical Report];
- CEN/TS 115-4, Safety of escalators and moving walks - Part 4: Interpretations related to EN 115 family of standards [Technical specification; this document].

This document is a collection of interpretations related to the EN 115 series. For the time being, this collection of interpretations relates to EN 115-1. According to the progress in working out interpretations, this document will be amended and/or completed.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to announce this Technical Specification: 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, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

## Introduction

Standards reflect the consensus of the best European expertise and are prepared with highest care. Product standards cannot be formulated in such a way that they describe all possible technical solutions and therefore exclude all uncertainties regarding the understanding of the required provisions. On the other hand, technology is in a permanent evolution, the progress of which cannot be incorporated into standards quickly enough.

Interpretations are a practical way to give

- a) answers to questions regarding the understanding of clauses in standards,
- b) feedback to the CEN-Committee responsible for a standard about the practical experiences resulting from the use of the standard,
- c) guidance to further development and improvement of standards following:
  - 1) experience, especially accidents and incidents;
  - 2) progress in technology;
  - 3) state of the art.

## iTeh STANDARD PREVIEW (standards.iteh.ai)

SIST-TS CEN/TS 115-4:2015

<https://standards.iteh.ai/catalog/standards/sist/16f55ac1-feae-42ac-a6b9-165c5a3a5d47/sist-ts-cen-ts-115-4-2015>

## 1 Scope

This Technical Specification is a collection of interpretations related to the EN 115 series. This document collects interpretations to EN 115-1:2008+A1:2010. Interpretations to other standards of the EN 115 series will be added when they are available.

Interpretations aim to improve the understanding of the clause(s) they are referring to and by that facilitating common understanding between manufacturers, lift installers, notified bodies, inspection bodies and national authorities.

Interpretations do not have the same status as the European Standards to which they are related. However, the application of interpretations should give to the interested parties confidence that the relevant European Standard has not been wrongly applied.

## 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 115-1:2008+A1:2010, *Safety of escalators and moving walks — Part 1: Construction and installation*

EN 349, *Safety of machinery — Minimum gaps to avoid crushing of parts of the human body*

EN 1991-1-1, *Eurocode 1: Actions on structures — Part 1-1: General actions — Densities, self-weight, imposed loads for buildings*

EN 13501-1:2007+A1:2009, *Fire classification of construction products and building elements — Part 1: Classification using data from reaction to fire tests*

## 3 Lists of interpretations

### 3.1 General

The following lists show the valid interpretations contained in this document.

### 3.2 Lists of interpretations pertaining to EN 115-1

The interpretations related to EN 115-1 are listed in Tables 1 and 2.

Table 1 shows the list of interpretations in their numerical order.

Table 2 shows the list of interpretations in order of the clauses of EN 115-1:2008+A1:2010.

These interpretations are detailed in Clause 4.

Table 1 — List of interpretations in numerical order

Interpretation number	Related clause/subclause	Date of validity	Keywords
101	5.3.1	2012-03-14	Increased height of the web on step treads side
102	5.5.2.4, 5.5.3.3	2012-03-14	Form of 25 cm <sup>2</sup> area
103	5.5.3.3	2012-03-14	Load on skirting
104	5.12.2.1.3, 5.12.2.2.2	2012-03-14	Automatic restart in two-direction mode
105	A.2.1	2012-03-14	Unrestricted area, fixed stairs, building height
106	5.12.2.5	2012-03-14	Number of inspection control on site
107	A.2.4	2012-03-14	Rigid deflectors
108	I.1	2012-03-14	Barrier to prevent access of shopping trolleys and baggage carts
109	5.4.3.2	2012-03-14	Testing of steps and pallets drive
110	5.2.1.2	2012-03-14	Stiffness of exterior panel
111	5.12.2.2.4.1 Table 6 h)	2012-03-14	Stopping of succeeding escalators
112	5.3.5	2012-03-14	Measurement of step to step gap
113	5.9	2012-03-14	Fire protection of steps and pallets
114	5.6.2.1	2012-03-14	Handrail clearances
115	A.2.5	2012-03-14	Unrestricted area at the exit
116	5.12.2.2.4.1 Table 6 h), A.2.5	2012-03-14	Area of exit
117	A.2.5, I.2	2012-03-14	Additional stop switch at handrail level - Building interfaces to escalator/moving walk
118	5.8.2.1, A.3.5	2012-03-14	Standing area in machinery spaces
119	A.2	2012-03-14	Fixed devices in unrestricted areas
120	Annex I	2012-03-14	Barriers to prevent shopping trolleys access
121	5.4.2.2.2	2014-11-14	Auxiliary braking system
122	5.3.6	2014-11-14	Location detection missing step device
123	5.4.2.1.1.1, 5.4.2.1.1.3, 5.12.1.2.1.1	2014-11-14	Electrical braking with inverter
124	5.4.1.3.2	2014-11-14	Safety factor of driving elements
125	4.9, 5.7.2.1	2014-11-14	- 2 horizontal steps ≤ 6 m vs. 3 horizontal steps > 6 m; - Lower escalator transition curve, exit/entry
126	5.3.3.2.2	2014-11-14	Step riser, inserts
127	5.7.3.2.6	2014-11-14	Comb switch
128	5.12.2.1.1	2014-11-14	Starting with passengers on the step/pallet band
129	5.12.2.1.3	2014-11-14	Automatic initiation of starting
130	5.7.2.1	2014-11-14	Landing, vertical difference, consecutive steps



Interpretation number	Related clause/subclause	Date of validity	Keywords
131	5.5.3.4 d), Annex K	2014-11-14	Friction coefficient, material
132	A.2.2	2014-11-14	Measure $b_{12}$
133	5.5.3.4	2014-11-14	Skirt deflector
134	3.1.19, 5.4.1.2	2014-11-14	Definition of nominal speed
135	5.4.2.3	2014-11-14	Excessive speed
136	A.2.5	2014-11-14	Unrestricted area
137	A.2.5	2014-11-14	Unrestricted area

Table 2 — Interpretations in clause/subclause order

Related clause/subclause	Interpretation number	Date of validity	Keywords
3.1.19	134	2014-11-14	Definition of nominal speed
4.9	125	2014-11-14	- 2 horizontal steps $\leq$ 6 m vs. 3 horizontal steps $>$ 6 m; - Lower escalator transition curve, exit/entry
5.2.1.2	110	2012-03-14	Stiffness of exterior panel
5.3.1	101	2012-03-14	Increased height of the web on step treads side
5.3.3.2.2	126	2014-11-14	Step riser, inserts
5.3.5	112	2012-03-14	Measurement of step to step gap
5.3.6	122	2014-11-14	Location detection missing step device
5.4.1.2	134	2014-11-14	Definition of nominal speed
5.4.1.3.2	124	2014-11-14	Safety factor of driving elements
5.4.2.1.1.1	123	2014-11-14	Electrical braking with inverter
5.4.2.1.1.3	123	2014-11-14	Electrical braking with inverter
5.4.2.2.2	121	2014-11-14	Auxiliary braking system
5.4.2.3	135	2014-11-14	Excessive speed
5.4.3.2	109	2012-03-14	Testing of steps and pallets drive
5.5.2.4	102	2012-03-14	Form of 25 cm <sup>2</sup> area
5.5.3.3	103	2012-03-14	Load on skirting
5.5.3.3	102	2012-03-14	Form of 25 cm <sup>2</sup> area
5.5.3.4 d)	131	2014-11-14	Friction coefficient, material
5.5.3.4	133	2014-11-14	Skirt deflector
5.6.2.1	114	2012-03-14	Handrail clearances
5.7.2.1	125	2014-11-14	- 2 horizontal steps $\leq$ 6 m vs. 3 horizontal steps $>$ 6 m; - Lower escalator transition curve, exit/entry
5.7.2.1	130	2014-11-14	Landing, vertical difference, consecutive steps

## CEN/TS 115-4:2015 (E)

Related clause/ subclause	Interpretation number	Date of validity	Keywords
5.7.3.2.6	127	2014-11-14	Com switch
5.8.2.1	118	2012-03-14	Standing area in machinery spaces
5.9	113	2012-03-14	Fire protection of steps and pallets
5.12.1.2.1.1	123	2014-11-14	Electrical braking with inverter
5.12.2.1.1	128	2014-11-14	Starting with passengers on the step/pallet band
5.12.2.1.3	104	2012-03-14	Automatic restart in two-direction mode
5.12.2.1.3	129	2014-11-14	Automatic initiation of starting
5.12.2.2.2	104	2012-03-14	Automatic restart in two-direction mode
5.12.2.2.4.1 Table 6 h)	111	2012-03-14	Stopping of succeeding escalators
5.12.2.2.4.1 Table 6 h)	116	2012-03-14	Area of exit
5.12.2.5	106	2012-03-14	Number of inspection control on site
A.2	119	2012-03-14	Fixed devices in unrestricted areas
A.2.1	105	2012-03-14	Unrestricted area, fixed stairs, building height
A.2.2	132	2014-11-14	Measure $b_{12}$
A.2.4	107	2012-03-14	Rigid deflectors
A.2.5	115	2012-03-14	Unrestricted area at the exit
A.2.5	116	2012-03-14	Area of exit
A.2.5	117	2012-03-14	Additional stop switch at handrail level - Building interfaces to escalator/moving walk
A.2.5	136	2014-11-14	Unrestricted area
A.2.5	137	2014-11-14	Unrestricted area
A.3.5	118	2012-03-14	Standing area in machinery spaces
Annex I	120	2012-03-14	Barriers to prevent shopping trolleys access
I.1	108	2012-03-14	Barrier to prevent access of shopping trolleys and baggage carts
I.2	117	2012-03-14	Additional stop switch at handrail level - Building interfaces to escalator/moving walk
Annex K	131	2014-11-14	Friction coefficient, material

## 3.3 Lists of interpretations pertaining to EN 115-2

(kept free)

#### 4 Interpretations related to EN 115-1

CEN	INTERPRETATION Related to		101 Page 1 of 1
EN 115-1	<b>Edition:</b> 2010	<b>Clause(s):</b> 5.3.1	<b>Valid from:</b>
			<b>Date of modification:</b> 2011-03-30
<b>Key-word(s):</b> Increased height of the web on step treads side			<b>Replacing interpretation</b> Nr.: 01
<p><b>QUESTION</b></p> <p>Is it permitted to have an increased height of the web at both sides of the step tread (demarcation lines opposite to the skirt panels)?</p> <p style="text-align: center;"><b>iTeh STANDARD PREVIEW</b> <b>(standards.iteh.ai)</b></p>			
<p><b>INTERPRETATION</b></p> <p style="text-align: center;"><a href="http://standards.iteh.ai/catalog/standards/sist/115-4:2015">SIST-TS CEN/TS 115-4:2015</a></p> <p>Increased height of the rib (web) is permitted as long as the same safety level as for a totally flat step/pallet will be ensured. This shall be proofed in detail by risk analysis.</p>			
Date of approval by CEN/TC 10 members: 2012-03-14			

## CEN/TS 115-4:2015 (E)

<b>CEN</b>	<b>INTERPRETATION Related to</b>		<b>102</b> Page 1 of 1
EN 115-1	<b>Edition:</b> 2010	<b>Clause(s):</b> 5.5.2.4, 5.5.3.3	<b>Valid from:</b>
			<b>Date of modification:</b>
<b>Key-word(s):</b> Form of 25 cm <sup>2</sup> area		<b>Replacing interpretation</b> Nr.: 18	
<p><b>QUESTION</b></p> <p>5.5.2.4 and 5.5.3.3 specify an area of 25 cm<sup>2</sup> on to which the force shall be applied. Which form (square, circle, rectangle) shall this area have?</p> <p style="text-align: center; color: red; font-weight: bold;">iTeh STANDARD PREVIEW</p>			
<p><b>INTERPRETATION</b></p> <p style="text-align: center; color: red; font-weight: bold;">(standards.iteh.ai)</p> <p>With the definition of 25 cm<sup>2</sup>, it was intended to precise the term "lump load" used in former codes. Normally, the equipment for such tests has a circular or square surface so that such formed areas will be the practice in general. This will be considered in the next revision of the standard.</p> <p style="text-align: center; color: red; font-size: small;">SIST-TS CEN/TS 115-4:2015 <a href="https://standards.iteh.ai/catalog/standards/sist/16f55ac1-feae-42ac-a6b9-10c9a5a5d47/sist-ts-cen-ts-115-4-2015">https://standards.iteh.ai/catalog/standards/sist/16f55ac1-feae-42ac-a6b9-10c9a5a5d47/sist-ts-cen-ts-115-4-2015</a></p>			
Date of approval by CEN/TC 10 members: 2012-03-14			

<b>CEN</b>	<b>INTERPRETATION Related to</b>		<b>103</b> Page 1 of 1
EN 115-1	<b>Edition:</b> 2010	<b>Clause(s):</b> 5.5.3.3	<b>Valid from:</b>
			<b>Date of modification:</b>
<b>Key-word(s):</b> Load on skirting			<b>Replacing interpretation Nr.: 20</b>
<b>QUESTION</b>			
<ol style="list-style-type: none"> <li>1. 5.5.3.3 defines the load carrying ability of the skirting and deformation. Does this apply to the whole skirting or only to the area of 25 mm according to 5.5.3.2?</li> <li>2. If the whole skirting has to be dimensioned for the test load, shall then also the comb plate lighting, if installed in the skirting, withstand this load?</li> </ol>			
<b>iTeh STANDARD PREVIEW</b>			
<b>INTERPRETATION</b>			
<p style="text-align: center;">(standards.iteh.ai)</p> <ol style="list-style-type: none"> <li>1. The load and deflection requirements of 5.3.3.3 shall be met up to a height of 25 mm above the line of the step nose or the tread surface of the pallets or belt where the risk of entrapment exists. Above the height of 25 mm, the force requirements of the balustrade of 500 N (see 5.5.2.4) shall be fulfilled.</li> <li>2. The comb plate lighting has to withstand the test load according to 5.5.3.3 if the lighting or part of it is arranged within the area of skirting of 25 mm above the tread surface.</li> </ol> <p>All other requirements of the skirting according to 5.5.3 are still valid. This includes that under the force requirements above the skirting shall remain plain and butt-joined according to 5.5.3.1.</p> <p>At the next revision of EN 115-1:2008+A1:2010, 5.5.3 has to be amended accordingly.</p>			
Date of approval by CEN/TC 10 members: 2012-03-14			

<b>CEN</b>	<b>INTERPRETATION Related to</b>		<b>104</b> Page 1 of 1
EN 115-1	<b>Edition:</b> 2010	<b>Clause(s):</b> 5.12.2.1.3, 5.12.2.2.2	<b>Valid from:</b>
			<b>Date of modification:</b>
<b>Key-word(s):</b> Automatic start in two-direction mode		<b>Replacing interpretation</b> Nr.: 22	
<p><b>QUESTION</b></p> <p>Is it allowed to make an arrangement as follows:</p> <p>The escalator can start automatically in both directions by a user passing a light barrel depending on the direction from which the user is coming. Both directions can be predetermined directions at the same time.</p> <p>When the escalator has stopped after a sufficient time (5.12.2.2.2), the signal lights show “green” light in both landings.</p> <p>However, when a user comes to the end of a running escalator by passing the “red” signal light and stays near to the comb waiting till the escalator has stopped, there is another light barrel installed in the skirting above the comb and when the user passes this light barrel, the escalator stops and can be re-started only with a key.</p>			
<p style="text-align: center;"><b>INTERPRETATION</b> <span style="float: right;">(standards.iteh.ai)</span></p> <p>Operation in “two direction mode” for escalators with automatic start is permitted under the following conditions:</p> <p style="text-align: center;"><a href="http://standards.iteh.ai/catalog/standards/sist/115-4-2015">SIST-TS CEN/TS 115-4:2015</a></p> <p>a) On escalators which can start automatically in either direction (“two direction mode”) by the entering of a user, the “two direction mode” and the momentary capable direction of travel shall be clearly visible to the user and marked distinctly on the escalator (see 7.2.2 plus “two direction mode” sign). They shall start in the direction determined by the user entering first. When the escalator is started by a user from either direction, the indicator opposite from the initiated starting side shall automatically indicate “no entry” (see 7.2.2).</p> <p>b) Measures for control and/or monitoring function shall prevent:</p> <ul style="list-style-type: none"> <li>– failures of the control elements actuating the automatic start at the entries (e.g. no or partly no detection of users);</li> <li>– a restart of the step band when a user has entered the area between the control element and the comb intersection line and the step band is stopped.</li> </ul> <p>c) Control and monitoring function shall be regarded as electric safety devices and shall be applied as safety switches (5.12.1.2.2), fail safe circuits (5.12.1.2.3) or SIL 1 according to PESSRAE (5.12.1.2.6).</p> <p>The application of “two direction mode” is not permitted for moving walks.</p> <p>This will be considered in the next revision of the standard.</p>			
Date of approval by CEN/TC 10 members: 2012-03-14			

<b>CEN</b>	<b>INTERPRETATION Related to</b>		<b>105</b> Page 1 of 1
EN 115-1	<b>Edition:</b> 2010	<b>Clause(s):</b> A.2.1	<b>Valid from:</b>
			<b>Date of modification:</b>
<b>Key-word(s):</b> Unrestricted area, fixed stairs, building height		<b>Replacing interpretation</b> Nr.: 24	
<p><b>QUESTION</b></p> <p>At the landings of the escalator, on the unrestricted area of 2,50 m (2,00 m) depth, is the existence of fixed stairs forbidden?</p> <p>The height on the unrestricted area shall be not less than 2,30 m, if the building's regulation does not impose more?</p> <p style="text-align: center; color: red; font-weight: bold;">iTeh STANDARD PREVIEW</p>			
<p><b>INTERPRETATION</b></p> <p style="text-align: center; color: red; font-weight: bold;">(standards.iteh.ai)</p> <p>The existence of fixed stairs is forbidden in the unrestricted area. The area shall be flat. A maximum inclination of 6° is permissible.</p> <p>In A.2.1, a building height is stated for the unrestricted area which is necessary from the view of machinery safety. National authorities are free to request more.</p> <p>This will be considered in the next revision of the standard.</p>			
Date of approval by CEN/TC 10 members: 2012-03-14			