



SLOVENSKI STANDARD

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Nepremična oprema za vadbo - 6. del: Tekoče preproge, dodatne posebne varnostne zahteve in preskusne metode

Stationary training equipment - Part 6: Treadmills, additional specific safety requirements and test methods

Stationäre Trainingsgeräte - Teil 6: Laufbänder, zusätzliche besondere sicherheitstechnische Anforderungen und Prüfverfahren

Appareils d'entraînement fixes - Partie 6: Tapis de course, méthodes d'essai et exigences de sécurité spécifiques supplémentaires

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97.220.30 Oprema za dvoranske športe Indoor sports equipment

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EUROPEAN STANDARD

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This European Standard was approved by CEN on 30 October 2010 and includes Amendment 1 approved by CEN on 3 February 2014.

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COMITÉ EUROPÉEN DE NORMALISATION
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EN 957-6:2010+A1:2014 (E)**Foreword**

This document (EN 957-6:2010+A1:2014) has been prepared by Technical Committee CEN/TC 136 “Sports, playground and other recreational facilities and equipment”, the secretariat of which is held by DIN.

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of an identical text or by endorsement, at the latest by October 2014, and conflicting national standards shall be withdrawn at the latest by October 2014.

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 includes Amendment 1 approved by CEN on 3 February 2014.

This document supersedes A1 EN 957-6:2010 A1.

The start and finish of the text introduced or altered by amendment is indicated in the text by tags A1 A1.

A1 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 Directive 2001/95/EC and EU Directive 2006/42/EC.

For relationship with EU Directives 2006/42/EC, see informative Annex ZA which is an integral part of this document. A1

This standard EN 957, *Stationary training equipment*, consists of the following parts:

- *Part 1: General safety requirements and test methods;*
- *Part 2: Strength training equipment, additional specific safety requirements and test methods;*
- *Part 4: Strength training benches, additional specific safety requirements and test methods;*
- *Part 5: Stationary exercise bicycles and upper body crank training equipment, additional specific safety requirements and test methods;*
- *Part 6: Treadmills, additional specific safety requirements and test methods;*
- *Part 7: Rowing machines, additional specific safety requirements and test methods;*
- *Part 8: Steppers, stairclimbers and climbers — Additional specific safety requirements and test methods;*
- *Part 9: Elliptical trainers, additional specific safety requirements and test methods;*
- *Part 10: Exercise bicycles with a fixed wheel or without freewheel, additional specific safety requirements and test methods.*

In relation to EN 957-6:2001, the following main amendments have been made:

- a) specifications and definitions amended;
- b) requirements and test methods for the transmission elements and rotating parts amended;
- c) requirements and test methods for safety stop amended;
- d) requirements for the static loading, especially for class S amended;

- e) requirement for the endurance testing of class I added;
- f) requirements and test methods for treadmills with front handlebar and side handrails amended;
- g) requirements for the footrail amended;
- h) requirements for the permanent marking of the running surface added;
- i) requirements and test methods for the acceleration of power driven treadmills added;
- j) requirements and test methods for folding treadmills added;
- k) requirements for the heart rate control mode added;
- l) requirements for the marking of the maximum lateral position added;
- m) requirements for the test report added;
- n) additional instructions for use extended.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Former Yugoslav Republic of Macedonia, 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.

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EN 957-6:2010+A1:2014 (E)**Introduction**

A1 This European Standard amends and supplements EN 957-1. The requirements of this specific standard take precedence over those in EN 957-1.

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

The machinery concerned and the extent to which hazards, hazardous situations and hazardous events are covered are indicated in the scope of this document.

When provisions of this type C standard are different from those which are stated in type A or B standards, the provisions of this type C standard take precedence over the provisions of the other standards, for machines that have been designed and built according to the provisions of this type C standard. **A1**

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1 Scope

A1 This European Standard specifies safety requirements and test methods for treadmills in addition to the general safety requirements and test methods of EN 957-1. It is intended that EN 957-6 is applied together with EN 957-1.

This part of EN 957 deals with significant hazards, hazardous situations and events relevant to stationary training equipment used as intended and under the conditions of misuse foreseeable by the manufacturer (see Clause 4).

EN 957-6 is applicable to power-driven as well as to non-power/manually driven training equipment type treadmills (hereafter referred to as treadmills) with the classes S, H and I and classes A, B and C regarding accuracy.

This document is not applicable to treadmills which are manufactured before the date of its publication as a European Standard. **A1**

2 Normative references

A1 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. **A1**

EN 957-1:2005, *Stationary training equipment — Part 1: General safety requirements and test methods*

EN 60335-1, *Household and similar electrical appliances — Safety — Part 1: General requirements (IEC 60335-1:2001, modified)*

<https://standards.iteh.ai/catalog/standards/sist/6ec678d7-c929-41ae-a98a-755f-2991-1e>

EN 60601-1, *Medical electrical equipment — Part 1: General requirements for basic safety and essential performance (IEC 60601-1:2005)*

A1 EN ISO 11201, *Acoustics — Noise emitted by machinery and equipment — Determination of emission sound pressure levels at a work station and at other specified positions in an essentially free field over a reflecting plane with negligible environmental corrections (ISO 11201)*

EN ISO 11202, *Acoustics — Noise emitted by machinery and equipment — Determination of emission sound pressure levels at a work station and at other specified positions applying approximate environmental corrections (ISO 11202)*

EN ISO 12100, *Safety of machinery — General principles for design — Risk assessment and risk reduction (ISO 12100)* **A1**

EN ISO 12947-1:1998, *Textiles — Determination of the abrasion resistance of fabrics by the Martindale method - Part 1: Martindale abrasion testing apparatus (ISO 12947-1:1998)*

ISO 5904, *Gymnastic equipment — Landing mats and surfaces for floor exercises — Determination of resistance to slipping*

EN 957-6:2010+A1:2014 (E)**3 Terms and definitions**

For the purposes of this document, the terms and definitions given in EN 957-1:2005 and the following apply.

3.1 treadmill
training equipment with a running surface on which walking or running activity takes place, where the feet are free to leave the running surface

3.2 length of the running surface
usable length of the running surface

NOTE 1 See *l* in Figure 2.

NOTE 2 Figure 1 is intended only to give examples and to illustrate the names of the components.

3.3 width of the running surface
usable width of the running surface excluding rear roller guards

NOTE See *b* in Figure 2.

3.4 front handlebar
frontally located bar provided for partially supporting the user's weight with the user's arm(s) and enhancing stability whilst exercising and to assist in emergency dismounts

EXAMPLE At low speed and high inclines. [SIST EN 957-6:2011+A1:2014](https://standards.iteh.ai/catalog/standards/sist/6ec678d7-c929-41ae-a98a-aae1e110ffc7/sist-en-957-6-2011a1-2014)
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3.5 side handrail
rail(s) located at the sides of the running surface provided for partially supporting the A_1 user's weight A_1 with the user's arm(s) and enhancing stability whilst exercising and to assist in emergency dismounts

3.6 foot rail
area beside the running surface intended for the user to stand on when mounting, dismounting or during a pause in the exercise

3.7 emergency dismount
act of the user quickly interrupting the exercise by getting off the running surface

NOTE Emergency dismount can be done e.g. by grabbing the front handlebar or both side handrails and jumping with both feet on the foot rails.

3.8 heart rate control mode
programme that allows the user to train maintaining a pre determined pulse level by adjusting the speed and/or incline automatically according to the actual pulse of the user

3.9 display
device that provides information to the user

3.10**protective cover**

cover provided to protect the user from inadvertent access to hazardous parts

EXAMPLE Moving parts, gear systems or hot surfaces.

3.11**folding treadmill**

treadmill designed with some components that can be moved to allow a more compact non-useable storage position

**4 List of significant hazards**

Table 1 shows the significant hazards, hazardous situations and events, as far as they are dealt with in this European Standard, identified by risk assessment as significant for this type of equipment and which require action to eliminate or reduce the risk.

NOTE For a particular treadmill, a risk assessment should be carried out by the manufacturer to identify any additional significant hazards so that suitable protective measures can be taken. Additional hazards are outside the scope of this standard.

For identification and evaluation of hazards EN ISO 12100 applies.

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Table 1 — List of significant hazards and major sources of these hazards associated with treadmills

*)	Description	Associated activity/situation
1.	Mechanical hazards	
1.1.	Crushing	Inclining
		Folding
1.2.	Shearing	Inclining
		Folding
1.3.	Drawing-in or Trapping	Rear roller
		Drive system
1.4.	Falling	Sudden starts/stops
		Excessive speed variation
		Support failure
1.5.	Abrasion	Contact with moving running surface
1.6.	Slippery surfaces	Slipping and Falling
1.7.	Stored energy	Folded treadmills falling down
		Springs or elastomeric devices prior to assembly
2.	Electrical hazards	
2.1.	Electrocution	Contact with live components
3.	Thermal Hazards	
3.1.	Burns	Contact with hot surfaces
4.	Hazards generated by neglecting ergonomic principles in design process	
4.1.	Ineffective ergonomics	Size or location of support surfaces
		Running surface dimensions
4.2.	Human errors, human behaviour	Reasonably foreseeable misuse
5.	Noise Hazards	
5.1.	Disturbing acoustic communication	Moving treadmill motor and belt