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

Équipement d'entraînement fixe —
Partie 6: Simulateurs de course — Exigences spécifiques de sécurité et
méthodes d'essai supplémentaires

ISO 20957-6:2005

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Foreword

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International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 20957-6 was prepared by CEN (as EN 957-6) and was adopted, under a special “fast-track procedure”, by Technical Committee ISO/TC 83, *Sports and recreational equipment*, in parallel with its approval by the ISO member bodies.

ISO 20957 consists of the following parts, under the general title *Stationary training equipment*:

- *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: Pedal 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*

Contents

Foreword.....3

Introduction3

1 Scope4

2 Normative references4

3 Terms and definitions.....4

4 Classification.....4

5 Safety requirements6

6 Test methods.....10

7 Additional instructions for use.....13

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Foreword

This European Standard has been prepared by Technical Committee CEN/TC 136 "Sports, playground and other recreational equipment", the secretariat of which is held by DIN.

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: Pedal 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.*

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 February 2002, and conflicting national standards shall be withdrawn at the latest by February 2002.

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

Introduction

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

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1 Scope

This European Standard specifies safety requirements for treadmills in addition to the general safety requirements of EN 957-1 and should be read in conjunction with it.

This European Standard is applicable to power driven and manually driven training equipment type treadmills (type 6) (hereafter referred to as treadmills) with the classes S and H and classes A, B and C regarding accuracy.

2 Normative references

This European Standard incorporates, by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references, the latest edition of the publication referred to applies (including amendments).

EN 292, *Safety of machinery — Basic concepts, general principles for design*.

EN 957-1:1996, *Stationary training equipment — Part 1: General safety requirements and test methods*.

EN 60947-5-5, *Low-voltage switchgear and controlgear — Part 5-5: Control circuit devices and switching elements - Electrical emergency stop device with mechanical latching function (IEC 60947-5-5:1997)*

EN 60335-1, *Safety of household and similar electrical appliances — Part 1: General requirements (IEC 60335-1:1983, modified)*.

EN 60601-1, *Medical electrical equipment — Part 1: General requirements for safety (IEC 60601-1:1988)*.

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

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ISO 9838, *Alpine ski-bindings — Test soles for ski-binding tests*.

3 Terms and definitions

For the purposes of this standard, the terms and definitions given EN 957-1:1996 and the following apply.

3.1

treadmill

training equipment with a unidirectional moving surface on which a walking or running activity can take place, where the feet are free to leave the moving surface

3.2

running surface

length of the usable part of the moving surface (see *l* in Figure 1)

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

3.3

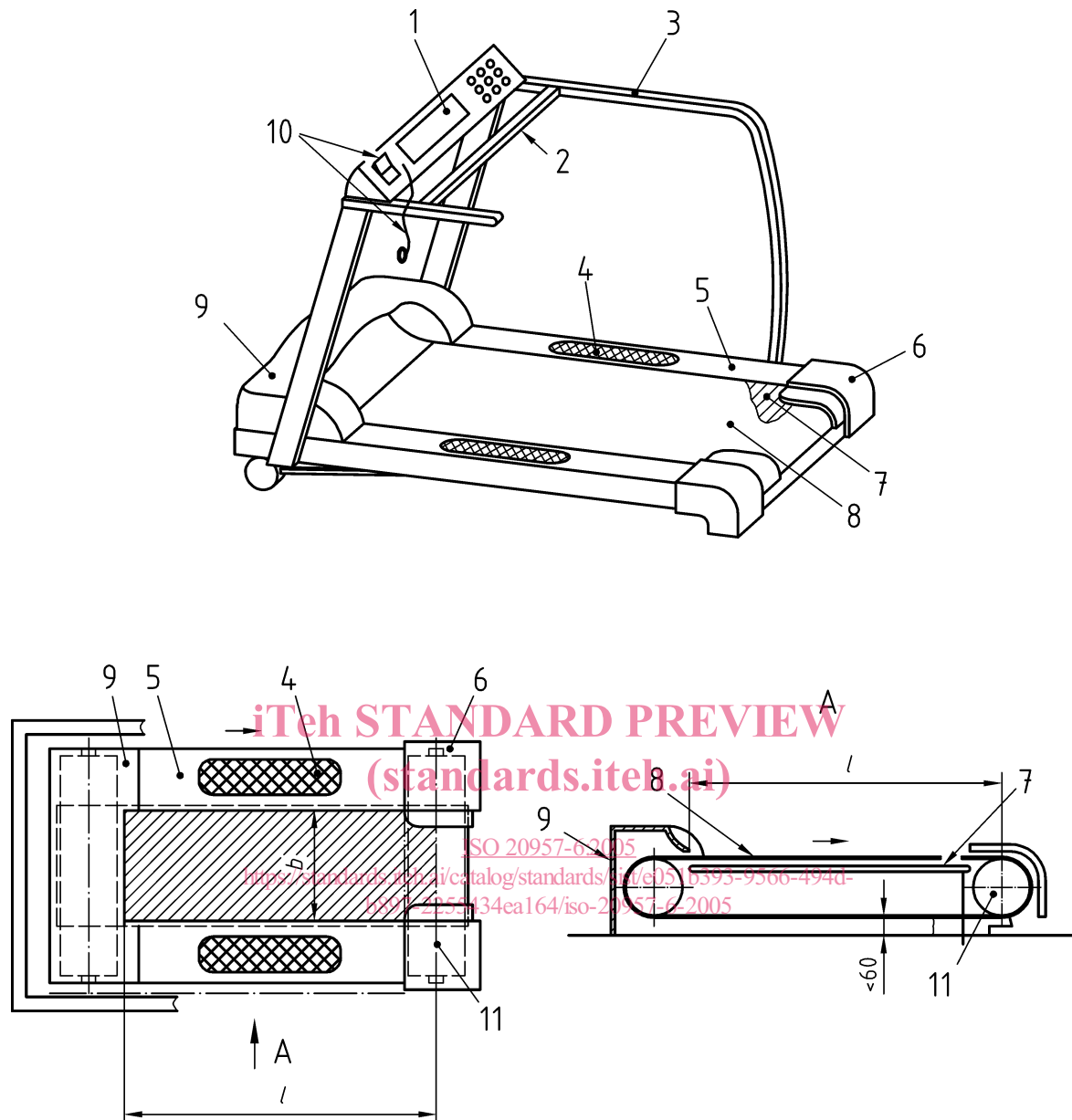
width of the running surface

usable width of the running belt excluding rear roller guards, see *b* in Figure 1)

4 Classification

Clause 4 of EN 957-1:1996 applies.

Dimensions in millimetres

**Key**

- 1 Display
- 2 Front handlebar
- 3 Side handrail
- 4 Non slip surface
- 5 Foot platform
- 6 Rear roller guard (see Figure 2)
- 7 Running deck
- 8 Running surface (belt)
- 9 Front housing
- 10 Emergency stop
- 11 Rear roller (see Figure 2)

l length of running surface (belt)

b width of running surface (belt)

NOTE The numbering system in this Figure 1 is retained in Figure 2 of this European Standard.

Figure 1 — Example of a treadmill

EN 957-6:2001 (E)

5 Safety requirements

5.1 General

Depending on the design of the piece of equipment the following requirements shall apply as appropriate.

5.2 External construction

5.2.1 Squeeze and shear points within the accessible area

Where the elevation can be changed during operation thus causing the distance between any part of the equipment and the floor to become smaller than 60 mm the speed of elevation shall not exceed 1 %/s.

The user shall be able to stop this movement.

5.2.2 Transmission elements and rotating parts

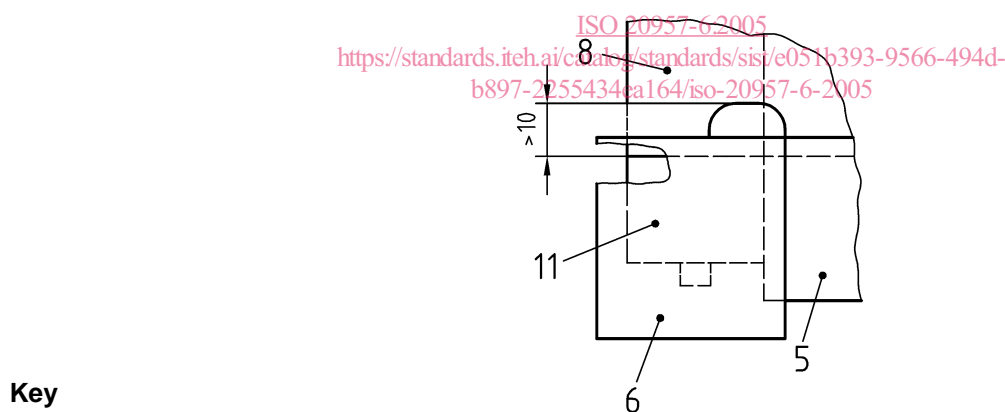
Pull-in points between the running surface, the rear roller and the frame and the rear roller/belt and the floor shall be avoided. This can be achieved e. g. by a rear roller guard (see Figure 2).

When tested in accordance with 6.1 it shall not be possible that the test finger becomes trapped between the rear roller guard and the running surface. There shall be a minimum distance of 10 mm between the edge of the running surface and the rear roller guard during all operating conditions (see Figure 2).

Elements of the motor drive system shall be in accordance with EN 292.

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Dimensions in millimetres



Key

- 5 Foot platform (can also overlap the belt)
- 6 Rear roller guard
- 8 Running surface (belt)
- 11 Rear roller

Figure 2 — Rear roller guard

5.2.3 Temperature rise

When tested in accordance with 6.2, accessible parts of the treadmill shall not have a temperature greater than 65 °C.

5.3 Emergency stop

5.3.1 General

All power driven mills shall be equipped with an emergency/safety stop switch, which should include, either a push-button operated switch, or a pull-cord operated switch.