



SLOVENSKI STANDARD

SIST EN 957-5:1998

01-september-1998

Stationary training equipment - Part 5: Pedal crank training equipment, additional specific safety requirements and test methods

Stationäre Trainingsgeräte - Teil 5: Tretkurbel-Trainingsgeräte, zusätzliche besondere sicherheitstechnische Anforderungen und Prüfverfahren

Appareils d'entraînement fixes - (Partie 5) Appareils d'entraînement a pédales, exigences spécifiques de sécurité et méthodes d'essai supplémentaires

ITeH STANDARD PREVIEW

Ta slovenski standard je istoveten z: EN 957-5:1998

<https://standards.iteh.ai/catalog/standards/sist/1b28e299-7627-4fa0-9377-30c98d2930ad/sist-en-957-5-1998>

ICS:

97.220.30

SIST EN 957-5:1998

en

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 957-5:1998

<https://standards.iteh.ai/catalog/standards/sist/1b28e299-7627-4fa0-9377-50c98d2930ad/sist-en-957-5-1998>

ICS 97.220.30

Descriptors: sport equipment, gymnastic equipment, fixed equipment, bicycles, safety, specifications, tests

English version

**Stationary training equipment - Part 5: Pedal crank
training equipment, additional specific safety
requirements and test methods**

Appareils d'entraînement fixes - Partie 5:
Appareils d'entraînement à pédales, exigences
spécifiques de sécurité et méthodes d'essai
supplémentaires

Stationäre Trainingsgeräte - Teil 5:
Tretkurbel-Trainingsgeräte, zusätzliche
besondere sicherheitstechnische Anforderungen
und Prüfverfahren

This European Standard was approved by CEN on 1996-04-19. 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.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

The European Standards exist 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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

Contents

	Page
Foreword	2
Introduction	3
1 Scope	3
2 Normative references	3
3 Definitions	3
4 Classification	6
5 Safety requirements	6
6 Test methods	10
7 Additional instructions for use	15
8 Additional warning label	15
Annex A (informative) Example of determining the moment of inertia J (looking from the driving axis into the system)	16

Foreword

This European Standard has been prepared by the Technical Committee CEN/TC 136 "Sports, playground and other recreational equipment", of which the secretariat 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 November 1996, and conflicting national standards shall be withdrawn at the latest by November 1996.

This standard consists of the following parts:

EN 957-1 General safety requirements and test methods

EN 957-2 Strength training equipment, additional specific safety requirements and test methods

EN 957-4 Strength training benches, additional specific safety requirements and test methods

EN 957-5 Pedal crank training equipment, additional specific safety requirements and test methods

prEN 957-6 Tread mills, additional specific safety requirements and test methods

prEN 957-7 Rowing machines, additional specific safety requirements and test methods

prEN 957-8 Stair climbers and steppers, additional specific safety requirements and test methods

This part of EN 957 should be read in conjunction with EN 957-1.

<https://standards.iteh.ai/catalog/standards/sist/1b28e299-7627-4fa0-9377-50c98d2930ad/sist-en-957-5-1998>

Annex A is given for information only.

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

Introduction

This part of EN 957 concerns the safety of crank training equipment.

It amends and supplements EN 957-1. The requirements of this specific standard take priority over those in the general standard.

1 Scope

This part of EN 957 specifies safety requirements for pedal crank training equipment in addition to the general safety requirements of EN 957-1.

This part of EN 957 is applicable to stationary training equipment type pedal crank training equipment (type 5) as defined in clause 3 within the classes S, H and A, B, C.

Any attachment provided with the pedal crank training equipment for the performance of additional exercises are subject to the requirements of EN 957-1.

This part of EN 957 is not applicable to roller stands as they cannot be made safe in a reasonable way.

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.

EN 71-1

Safety of toys – Part 1: Mechanical and physical properties

EN 292

Safety of machinery – Basic concepts, general principles for design

EN 563

Safety of machinery – Temperatures of touchable surfaces – Ergonomics data to establish temperature limit values for hot surfaces

EN 957-1:1996

Stationary training equipment – Part 1: General safety requirements and test methods

ISO 4210

Cycles – Safety requirements of bicycles

3 Definitions

For the purpose of this standard the definitions of EN 957-1 and the following apply:

pedal crank training equipment (hereinafter referred to as training equipment): Stationary apparatus similar to a bicycle on which work is carried out by pedalling.

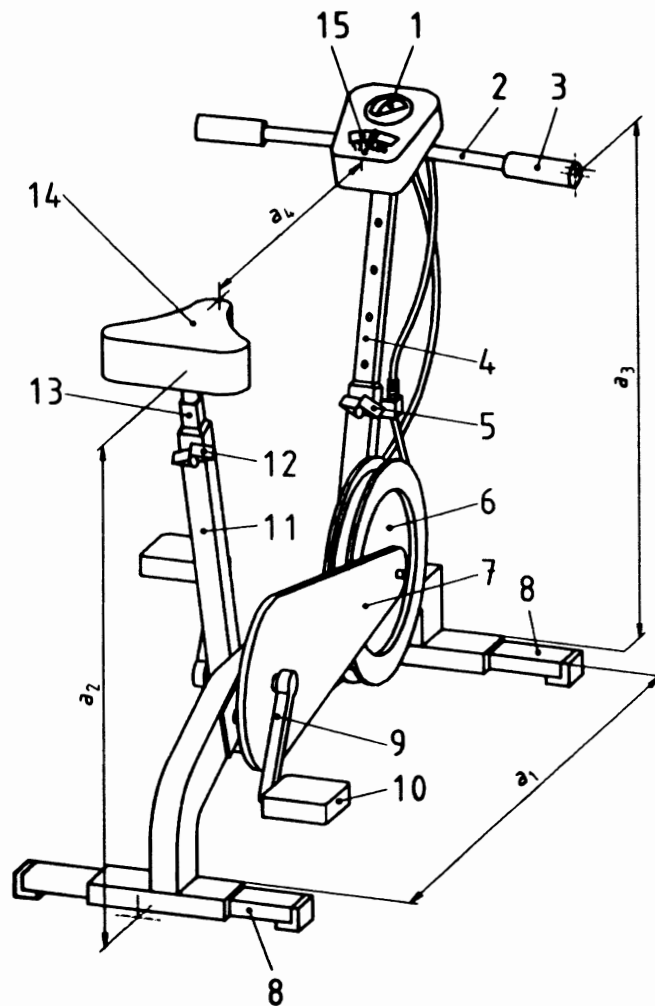
NOTE 1: the work rate P in watts results from the product of the braking moment M in $N \cdot m$ and the angular velocity $\omega = 2\pi \cdot n$.

$$P = M \cdot 2 \cdot \pi \cdot n / 60$$

where:

n is the speed of the pedal, in revolutions per minute.

NOTE 2: Figures 1 to 3 are intended only to give examples and to illustrate the names of the components.



- | | |
|-------------------------------|---------------------------|
| 1 Load adjustment | 9 Crank |
| 2 Handlebar | 10 Pedal |
| 3 Hand grip | 11 Seat tube |
| 4 Handlebar stem | 12 Seat height adjustment |
| 5 Handlebar height adjustment | 13 Seat pillar |
| 6 Flywheel | 14 Seat |
| 7 Housing | 15 Power display |
| 8 Frame | |

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 957-5:1998

<https://standards.iteh.ai/catalog/standards/sist/1b28e299-7627-4fa0-9377->

a_1 to a_4 Reference dimensions for testing in 6.4

Figure 1: Example of pedal crank training equipment

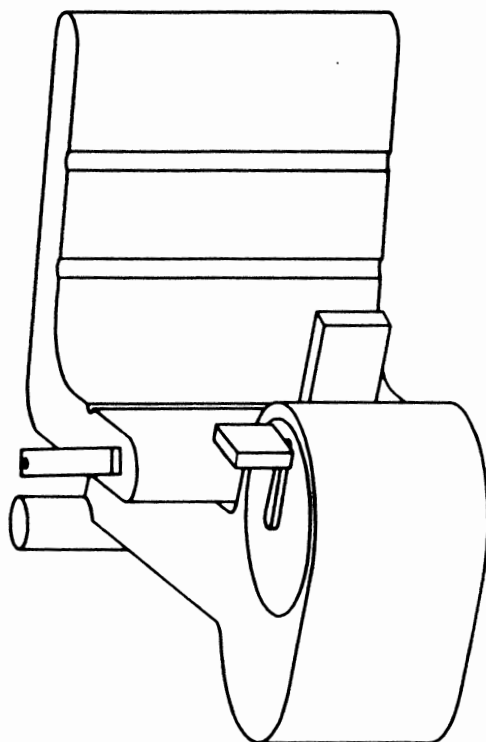


Figure 2: Example of recumbent/semirecumbent training equipment

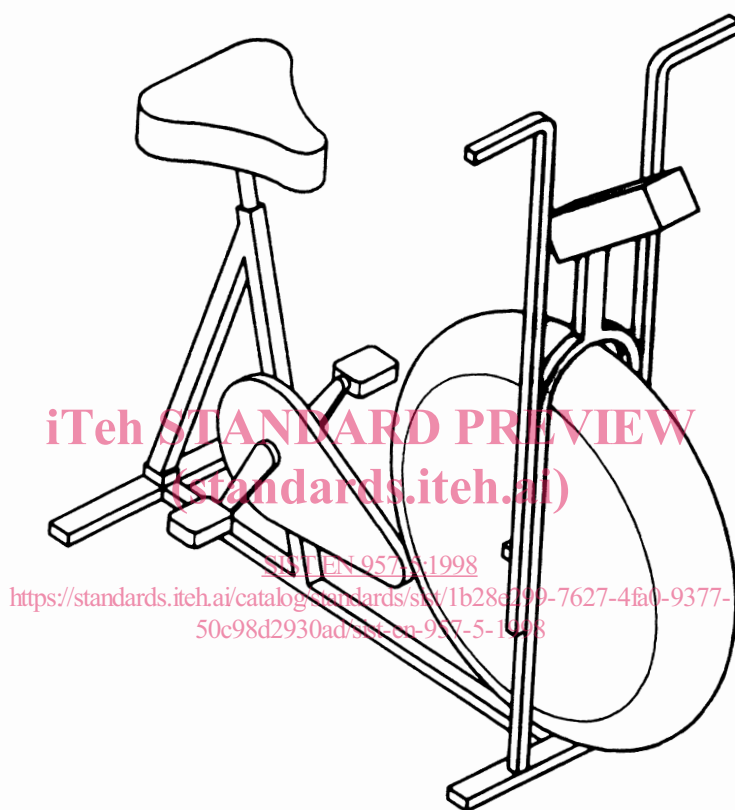


Figure 3: Example of air fan training equipment

4 Classification

Clause 4 of EN 957-1:1996 applies.

5 Safety requirements

5.1 General

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

5.2 External construction

5.2.1 Transmission elements and rotating parts

When tested in accordance with 6.1.1, the training equipment where the cranks have a greater diameter than the housing shall have a distance between the cranks and the stationary parts of the construction of not less than 10 mm.

Transmission elements, fans and flywheels shall be protected, so that, when tested according to 6.3, the test finger cannot be trapped or touch moving parts which have no smooth surface.

This requirement does not apply if the housing has a greater diameter than the crank.

5.2.2 Temperature rise

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

5.3 Intrinsic loading

When tested in accordance with 6.4

with 250 kg for class H, and
with 300 kg for class S,

the reference dimensions a_1 to a_4 (see figure 1) of each piece of training equipment shall withstand the test force without being changed for more than 1/100.

During the test the training equipment shall not tip over.

The clamped seat pillar shall not slip by more than 5 mm into the seat tube during the test.

iteh STANDARD PREVIEW
(standards.iteh.ai)

5.4 Seat pillar – Seat

[SIST EN 957-5:1998](https://standards.iteh.ai/catalog/standards/sist/1b28e299-7627-4fa0-9377-50c98d2930ad/sist-en-957-5-1998)

5.4.1 Insertion depth

<https://standards.iteh.ai/catalog/standards/sist/1b28e299-7627-4fa0-9377-50c98d2930ad/sist-en-957-5-1998>

The seat pillar shall have a permanent mark indicating the minimum insertion depth of 55 mm into the seat tube. The mark may be dispensed with if the minimum insertion depth is given by the design.

With locking systems, there shall be a minimum insertion depth of 55 mm in the highest position.

Test in accordance with 6.1.1 and 6.1.2.

5.4.2 Seat tilting

The height of the seat shall be adjustable (in the case of class A without a tool).

The seat shall be fixed to the seat pillar and, this in turn, in the seat tube, so that the seat does not tilt more than 2° from its original position. The measurement of 2° is between the seat pillar and the seat tube.

Test in accordance with 6.5.

5.5 Handlebar

5.5.1 Handlebar stem

The handlebar stem shall be adjustable (in the case of class A and S without a tool) or different grip positions shall be possible.

If the vertical height is adjusted by means of an insertion system, the minimum required insertion depth of 65 mm shall be permanently marked above the end of the handlebar system.

The marking may be dispensed with if the minimum insertion depth is given by the design.

Test in accordance with 6.6.

5.5.2 Handlebar

When tested in accordance with 6.6, the handlebar shall withstand a torque of:

50 N · m for class H, and

75 N · m for class S,

around its horizontal or vertical axis without moving.

5.6 Pedals

Pedals shall be in accordance with ISO 4210.

5.7 Stability

When tested in accordance with 6.7, the training equipment shall not fall over.

5.8 Additional requirements for class A

5.8.1 Freewheel mechanism

[SIST EN 957-5:1998](https://standards.iteh.ai/catalog/standards/sist/1b28e299-7627-4fa0-9377-f9-0713810d44a1/en-957-5-1998)

[https://standards.iteh.ai/catalog/standards/sist/1b28e299-7627-4fa0-9377-](https://standards.iteh.ai/catalog/standards/sist/1b28e299-7627-4fa0-9377-f9-0713810d44a1/en-957-5-1998)

The training equipment shall have a freewheel mechanism.

Test in accordance with 6.1.4.