INTERNATIONAL STANDARD

ISO 20957-10

Second edition
2017-10

Stationary training equipment —

Part 10: Exercise bicycles with a fixed wheel or without freewheel — Additional specific safety requirements and test methods

Équipement d'entraînement fixe —

Partie 10: Bicyclettes d'exercice avec une roue fixe ou sans roue libre — Exigences spécifiques de sécurité et méthodes d'essai supplémentaires

Reference number
ISO 20957-10:2017(E)

© ISO 2017



COPYRIGHT PROTECTED DOCUMENT

© ISO 2017, Published in Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

Contents

Page

Foreword ... **iv**

1 Scope ... **1**

2 Normative references ... **1**

3 Terms and definitions ... **1**

4 Classification ... **2**

5 Safety requirements ... **3**
5.1 External construction ... 3
5.1.1 Transmission elements, rotating parts, squeeze and shear points ... 3
5.1.2 Temperature of accessible surfaces ... 4
5.2 Intrinsic loading ... 4
5.2.1 Seat pillar ... 4
5.2.2 Handlebar ... 4
5.2.3 Pedal ... 4
5.3 Seat pillar adjustment ... 4
5.3.1 General ... 4
5.3.2 Insertion depth ... 5
5.4 Handlebar ... 5
5.4.1 Handlebar stem adjustment ... 5
5.4.2 Insertion depth ... 5
5.5 Pedals ... 5
5.6 Stability ... 5
5.7 Locking system ... 5
5.8 Emergency braking system ... 6
5.8.1 Effectiveness ... 6
5.8.2 Actuator integrity ... 6
5.8.3 Visibility ... 6
5.9 Endurance for the pedal crank assembly ... 6
5.10 Foot clearance ... 6
5.11 Power display ... 6
5.12 Additional instructions for use ... 7
5.13 Additional marking ... 7

6 Test methods ... **8**
6.1 General ... 8
6.1.1 Dimensional check ... 8
6.1.2 Visual examination ... 8
6.1.3 Performance test ... 8
6.2 Testing of transmission elements, rotating parts, squeeze and shear points ... 8
6.3 Testing of temperature of accessible surfaces ... 8
6.4 Testing of intrinsic loading ... 8
6.5 Testing of handlebars ... 8
6.6 Testing of stability ... 8
6.7 Testing of the emergency braking system ... 9
6.7.1 Testing of effectiveness ... 9
6.7.2 Testing of actuator integrity ... 9
6.8 Testing of the pedal crank assembly ... 9
6.9 Testing of the power display ... 10
6.10 Testing of locking system ... 11

7 Test report ... **11**

Bibliography ... **12**

© ISO 2017 – All rights reserved

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

ISO 20957-10 was prepared by the European Committee for Standardization (CEN) Technical Committee CEN/TC 136, *Sports, playground and other recreational facilities and equipment*, in collaboration with ISO Technical Committee TC 83, *Sports and other recreational facilities and equipment*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 20957-10:2007), which has been technically revised.

The main changes compared to the previous edition are as follows:

— the Scope has been simplified;

— the formulation has been aligned with ISO 20957-1;

— Clause 5 has been specified and restructured;

— Clause 6 has been specified and restructured;

— the Normative references have been updated.

A list of all parts in the ISO 20957 series can be found on the ISO website.

© ISO 2017 – All rights reserved

Stationary training equipment —

Part 10: Exercise bicycles with a fixed wheel or without freewheel — Additional specific safety requirements and test methods

1 Scope

This document specifies safety requirements for exercise bicycles with a fixed wheel or without freewheel that have an inertia of >0,6 kg·m^2. The requirements are in addition to the general safety requirements of ISO 20957-1, with which this document is intended to be read in conjunction.

Any attachment provided with the exercise bicycle with a fixed wheel or without freewheel for the performance of additional exercises is subject to the requirements of ISO 20957-1.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

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

ISO 13732-1:2006, *Ergonomics of the thermal environment — Methods for the assessment of human responses to contact with surfaces — Part 1: Hot surfaces*

ISO 20957-1, *Stationary training equipment — Part 1: General safety requirements and test methods*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 20957-1 and the following apply.

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

— ISO Online browsing platform: available at http://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

3.1
flywheel
rotating mass designed to create inertia

3.2
freewheel
mechanism which is designed to disengage the *flywheel* (3.1) from the pedal mechanism in one direction

3.3
seat pillar
connection between the frame and the seat provided to adjust the height of the seat

3.4
seat tube
part of the frame where the *seat pillar* (3.3) is inserted

© ISO 2017 – All rights reserved

3.5
handlebar stem
connection between the frame and the handlebar provided to adjust the height of the handlebar

3.6
emergency brake
mechanism designed to stop the movement of the pedals in case of emergency

3.7
locking system
mechanism designed to immobilize any rotating part of the training equipment

3.8
housing
cover used to encase potentially hazardous elements

3.9
transmission guard
component used to prevent access to potentially hazardous transmission elements

4 Classification

The usage classes according to ISO 20957-1 apply. Figure 1 shows an example of a training equipment with a fixed wheel or without freewheel.

© ISO 2017 – All rights reserved