

AS 20957.1:2021



STANDARDS
Australia



Stationary training equipment

Part 1: General safety requirements and test methods (ISO 20957-1:2013, MOD)

currently in preview, click buy full version

AS 20957.1:2021

This Australian Standard ® was prepared by CS-101, Sports and recreational facilities and equipment. It was approved on behalf of the Council of Standards Australia on 08 October 2021.

This Standard was published on 29 October 2021.

The following are represented on Committee CS-101:

- Australian Chamber of Commerce and Industry
- Australian Competition and Consumer Commission
- Australian Industry Group
- Consumers Federation of Australia
- Engineers Australia
- Institute of Public Works Engineering Australasia
- Kidsafe Australia
- Parks and Leisure Australia
- Play Australia
- Scouts Australia
- Sports and Recreation Victoria
- Sydney Children's Hospitals Network
- University of Technology Sydney

This Standard was issued in draft form for comment as DR AS ISO 20957.1: 2021.

Keeping Standards up-to-date

Ensure you have the latest versions of our publications and keep up-to-date about Amendments, Rulings, Withdrawals, and new projects by visiting:

www.standards.org.au

ISBN 978 1 76113 571 2

Stationary training equipment

Part 1: General safety requirements and test methods (ISO 20957-1:2013, MOD)

First published as AS 20957.1:2021.

COPYRIGHT

© ISO 2021 — All rights reserved
© Standards Australia Limited 2021

All rights are reserved. No part of this work may be reproduced or copied in any form or by any means, electronic or mechanical, including photocopying, without the written permission of the publisher, unless otherwise permitted under the Copyright Act 1968 (Cth).

Preface

This Standard was prepared by the Standards Australia Committee CS-101, Sports and recreational facilities and equipment.

The objective of this document is to specify general safety requirements and test methods for stationary training equipment. This document also covers environmental aspects.

It also specifies a classification system.

The document is applicable to all stationary training equipment. This includes equipment for the use in training areas of organizations such as sport associations, educational establishments, hotels, sports halls, clubs, rehabilitation centres and studios where access and control is specifically regulated by the owner, equipment for domestic use and other types of equipment including motor driven equipment.

This Standard is an adoption with national modifications, and has been reproduced from, ISO 20957-1:2013, *Stationary training equipment — Part 1: General safety requirements and test methods*. The modifications are additional requirements and are set out in [Appendix ZZ](#), which has been added at the end of the source text.

[Appendix ZZ](#) lists the variations to ISO 20957-1:2013 for the application of this Standard in Australia.

As this document has been reproduced from an International Standard, the following applies:

- (a) In the source text “this part of ISO 20957” should read “this document”.
- (b) A full point substitutes for a comma when referring to a decimal marker.

Australian or Australian/New Zealand Standards that are identical adoptions of international normative references may be used interchangeably. Refer to the online catalogue for information on specific Standards.

The terms “normative” and “informative” are used in Standards to define the application of the appendices or annexes to which they apply. A “normative” appendix or annex is an integral part of a Standard, whereas an “informative” appendix or annex is only for information and guidance.

Contents

Preface	ii
Foreword	v
Introduction	vi
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 Classification	4
4.1 General	4
4.2 Accuracy classes	4
4.3 Usage classes	4
5 Safety requirements	5
5.1 General	5
5.2 Stability of equipment	5
5.3 External construction	5
5.3.1 Edges and corners	5
5.3.2 Tube ends	5
5.3.3 Squeeze and shear points within the accessible hand and foot area	5
5.3.4 Squeeze and shear points as well as rotating and reciprocating points in the accessible hand and foot area	6
5.3.5 Weights and resistant means	6
5.4 Entrapment of the user	6
5.5 Adjustment components and locking mechanisms	6
5.6 Ropes, belts, chains and attachment components	6
5.6.1 General	6
5.6.2 Ropes and belts	7
5.6.3 Rope and belt guides	7
5.7 Pull-in points	7
5.8 Hand grips	7
5.8.1 Integral hand grips	7
5.8.2 Applied hand grips	7
5.8.3 Rotating hand grips	7
5.9 Endurance test	7
5.10 Isometric test requirements	8
5.11 Heart rate measurement system	8
5.12 Heart rate control mode	8
5.13 Electrical safety	8
5.14 Loading	8
5.14.1 Intrinsic loading	8
5.14.2 Extrinsic loading	8
5.15 Care and maintenance	9
5.16 Assembly instructions	9
5.17 General instructions for use	9
5.18 Marking	10
6 Test methods	11
6.1 Test conditions	11
6.2 Stability test	11
6.2.1 Test in training position	11
6.2.2 Test in folded/storage position	11
6.3 External construction	11
6.3.1 Test of edges and corners	11
6.3.2 Tube ends	11
6.3.3 Testing of squeeze and shear points and rotating and reciprocating points	11

6.3.4	Weights and resistant means	11
6.3.5	Testing of pull-in points	11
6.4	Testing of entrapment	12
6.5	Adjustment components and locking mechanisms	12
6.6	Tensile test for ropes, belts, chains and attachment components	12
6.7	Testing of rope and belt guides	12
6.8	Testing of flywheels	12
6.9	Testing of integral handgrips	13
6.10	Determination of the removing force of applied handgrips	13
6.11	Testing of rotating handgrips	13
6.12	Testing of endurance load	13
6.13	Testing of isometric equipment	13
6.14	Testing of the heart rate measurement system	13
6.15	Testing of the heart rate control mode	13
6.16	Testing of intrinsic loading	14
6.17	Testing of extrinsic loading	14
6.18	Testing of care and maintenance, assembly instructions, general instructions for use and marking	14
6.19	Test report	14
Bibliography	15
Appendix ZZ	(normative) Variations to ISO 20957-1:2013 for Australia	16

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. 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. 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.

ISO 20957-1 was prepared by Technical Committee ISO/TC 82, *Sports and recreational equipment*, and by Technical Committee CEN/TC 136, *Sports, playground and other recreational facilities and equipment*, in collaboration.

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 machine, 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*

Part 3 has been amalgamated with Part 2 after CEN Enquiry.

Introduction

This part of ISO 20957 specifies safety requirements that are applicable to all stationary training equipment. For specific types of equipment these requirements are supplemented or modified by the requirements of specific standards which have been issued as additional parts of this International Standard.

Where a specific part of ISO 20957 exists, this part of ISO 20957 should be used in conjunction.

Currently in preview, click buy full vers.

Australian Standard[®]

Stationary training equipment

Part 1: General safety requirements and test methods (ISO 20957-1:2013, MOD)

1 Scope

This part of ISO 20957 specifies general safety requirements and test methods for stationary training equipment unless modified in the other parts of this International Standard. This part of ISO 20957 also covers environmental aspects.

It also specifies a classification system (see [Clause 4](#)).

This part of ISO 20957 is applicable to all stationary training equipment as defined in [3.1](#). This includes equipment for use in training areas of organizations such as sport associations, educational establishments, hotels, sport halls, clubs, rehabilitation centres and studios (classes S and I) where access and control is specifically regulated by the owner (person who has the legal responsibility), equipment for domestic use (class H) and other types of equipment including non- or driven equipment as defined in [3.1](#).

The requirements of a specific part of ISO 20957 take priority over the corresponding requirements of this general standard.

If the intended use of the stationary training equipment is for children under 14 years other standards are applicable unless such stationary training equipment is intended for educational purposes in schools and other pedagogical contexts for children under the surveillance of a qualified adult instructor.

This part of ISO 20957 does not apply to stationary training equipment intended for outdoor use without supervision e.g. freely accessible.

NOTE 1 If a user has special needs (medical rehabilitation, disability) it is essential that the owner (the person with legal responsibility) conducts a specific risk assessment to determine safe use and if necessary to ensure trained staff are available to supervise the activity.

NOTE 2 In the event that the stationary training equipment is intended for medical purposes, attention is drawn to the requirements of Council Directive of 14 June 1993 on the approximation of the laws of the Member States relating to medical devices 93/42/EEC in addition to the requirements of this part of ISO 20957.

NOTE 3 In the event that the stationary training equipment is intended for children's purposes, attention is drawn to the requirements of Council Directive of 18 June 2009 on the approximation of the laws of the Member States relating to safety of toys 2009/48/EC in addition to the requirements of this part of ISO 20957.

NOTE 4 In the event that the stationary training equipment is designed to be accessible to people with disability, attention is drawn to any relevant national guidelines.

NOTE 5 Concerning flammability, attention is drawn to national regulations.

NOTE 6 In the event that the stationary training equipment contains environmental critical components, attention is drawn to national regulations, e.g. European Directives.

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.

ISO 6508-1, *Metallic materials — Rockwell hardness test — Part 1: Test method*

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