AS/NZS ISO 7176.10:2011
ISO 7176-10:2008

AS/NZS ISO 7176.10:2011

Australian/New Zealand Standard™

Wheelchairs

Part 10: Determination of obstacle-climbing ability of electrically powered wheelchairs

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee ME-067, Mobility Appliances For People With Disabilities. It was approved on behalf of the Council of Standards Australia on 6 December 2011 and on behalf of the Council of Standards New Zealand on 1 December 2011.
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The following are represented on Committee ME-067:

Assistive Technology Suppliers Australasia
Association of Consultants in Access Australia
Australian Rehabilitation and Assistive Technology Association
Bus and Coach Association of New Zealand
Consumers Federation of Australia
Department of Family and Communities, SA
Engineers Australia
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We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Please address your comments to the Chief Executive of either Standards Australia or Standards New Zealand at the address shown on the back cover.

This Standard was issued in draft form for comment as DR AS/NZS ISO 7176.10.

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee ME-067, Mobility Appliances For People With Disabilities, to supersede AS 3696.10—1990, *Wheelchairs*—Part 10: *Determination of obstacle-climbing ability of electric wheelchairs*.

The objective of this revision is to adopt ISO 7176-10 to provide the test methods and requirements for defining a key issue for powered wheelchairs such as the ability of such chairs to negotiate obstacles, e.g. gutters, curb-cuts, and thresholds.

This Standard is identical with, and has been reproduced from ISO 7176-10:2008, *Wheelchairs*—Part 10: *Determination of obstacle-climbing ability of electrically powered wheelchairs*.

As this Standard is reproduced from an International Standard, the following applies:

(a) Its number appears on the cover and title page while the International Standard number appears only on the cover.

(b) In the source text 'this part of ISO 7176' should read 'this Australian/New Zealand Standard'.

(c) A full point substitutes for a comma when referring to a decimal marker.

References to International Standards should be replaced by references to Australian or Australian/New Zealand Standards, as follows:

Reference to International Standard		*Australian/New Zealand Standard*	
ISO		AS	
7176	Wheelchairs	3696	Wheelchairs
7176-11	Part 11: Test dummies	3696.11	Part 11: Test dummies
7176-13	Part 13: Determination of coefficient of friction of test surfaces	3696.13	Part 13: Determination of coefficient of friction of test surfaces
		AS/NZS	
		3696	Wheelchairs
7176-22	Part 22: Set-up procedures	3696.22	Part 22: Set-up procedures
		AS/NZS ISO	
		7176	Wheelchairs
7176-26	Part 26: Vocabulary	7176.26	Part 26: Vocabulary

Any international references not listed have not been adapted as Australian or Australian/New Zealand Standards.

INTRODUCTION

The ability of an electrically powered wheelchair to climb and descend obstacles can be an important factor in selecting the most appropriate wheelchair for a person, both in terms of access and safety.

Access may be affected by the ability of the wheelchair to safely negotiate obstacles, such as door thresholds, changes in heights of driving surfaces, and kerbs.

The heights of obstacles a wheelchair is capable of climbing can differ from the heights of those it can descend. However, it is important for wheelchair operators and prescribers to be able to know the height of an obstacle that a wheelchair can both ascend and descend. The obstacle-climbing and -descending performance of a wheelchair can also depend on the technique used to operate the wheelchair. The performance can also be affected by the use of alternative operating modes, such as four-wheel drive.

This part of ISO 7176 specifies a consistent method for determining the obstacle-climbing and -descending ability of electrically powered wheelchairs to provide comparable results.

AUSTRALIAN/NEW ZEALAND STANDARD

Wheelchairs

Part 10:
Determination of obstacle-climbing ability of electrically powered wheelchairs

1 Scope

This part of ISO 7176 specifies test methods for determining the ability of electrically powered wheelchairs, including scooters, intended to carry one person, with a maximum nominal speed not exceeding 15 km/h, to climb and descend obstacles.

2 Normative references

The following referenced documents are indispensable for the application 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 7176-11*, Wheelchairs — Part 11: Test dummies*

ISO 7176-13*, Wheelchairs — Part 13: Determination of coefficient of friction of test surfaces*

ISO 7176-15*, Wheelchairs — Part 15: Requirements for information disclosure, documentation and labelling*

ISO 7176-22*, Wheelchairs — Part 22: Set-up procedures*

ISO 7176-26*, Wheelchairs — Part 26: Vocabulary*

3 Terms and definitions

For the purposes of this part of ISO 7176, the terms and definitions given in ISO 7176-26 apply.

4 Principle

A number of tests are performed to determine the ability of electrically powered wheelchairs to negotiate obstacles such as kerbs and steps.

5 Test equipment

5.1 Test plane, a flat and hard plane such that its whole surface is contained between two imaginary horizontal parallel planes 5 mm apart and horizontal within ± 0,5°, and with a coefficient of friction as specified in ISO 7176-13.

NOTE A test plane capable of accommodating the test obstacle (5.2) and the test wheelchair, placed 0,5 m in front of the obstacle, and facing it, is usually sufficient.