AS/NZS ISO 7176.1:2015
ISO 7176-1:2014

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Australian/New Zealand Standard™

Wheelchairs

Part 1: Determination of static stability

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee ME-067, Assistive Technology Products for Persons with Disability. It was approved on behalf of the Council of Standards Australia on 19 August 2015 and on behalf of the Council of Standards New Zealand on 31 July 2015.
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The following are represented on Committee ME-067:

Assistive Technology Suppliers Australasia
Association of Consultants in Access Australia
Australian Rehabilitation an Assistive Technology Association
Bus and Coach Association of New Zealand
Commercial Vehicle Industry Association of Australia
Department of Family and Communities, SA
Employers Chamber of Commerce Central, NZ
Engineers Australia
Independent Living Centres Australia
Medical Aids Subsidy Scheme (MASS)
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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 7176.1:2014.

Australian/New Zealand Standard™

Wheelchairs

Part 1: Determination of static stability

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee ME-067, Assistive Technology Products for Persons with Disability, to supersede AS/NZS 3696.1:2008, *Wheelchairs*, Part 1: *Determination of static stability*.

The objective of this revision is to update the requirements for static stability of wheelchairs in line with international requirements.

This Standard is identical with, and has been reproduced from ISO 7176-1:2014, *Wheelchairs*, Part 1: *Determination of static stability*.

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

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

(b) 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/NZS ISO
7176 Wheelchairs	7176 Wheelchairs
7176-11 Part 11: Test dummies	7176.11 Part 11: Test dummies
7176-22 Part 22: Set-up procedures	7176.22 Part 22: Set-up procedures
7176-26 Part 26: Vocabulary	7176.26 Part 26: Vocabulary

Only normative references that have been adopted as Australian or Australian/New Zealand Standard have been listed.

The term 'informative' has been used in this Standard to define the application of the annex to which it applies. An 'informative' annex is only for information and guidance.

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INTRODUCTION

It is important to know the static-stability characteristics of a wheelchair for prescription and adjustment purposes. Some occupants need large reserves of stability to ensure their safety while others prefer finely balanced wheelchairs which have better manoeuvrability. Static stability is only one factor affecting dynamic stability, others being the position of the wheelchair operator in the wheelchair, the skill of the wheelchair operator, the manner in which the wheelchair is propelled, and the environment in which the wheelchair is operated.

This part of ISO 7176 specifies tests in which static stability is measured with parking brake(s) applied, as is the case if the wheelchair is standing on a slope. Tests are also made with the wheels unlocked, simulating the situation where the wheelchair is standing on a slope with the wheels against obstacles, the situation on a level surface with the wheels unlocked and the wheelchair occupant reaching for an object, or instability while rolling. Tests are also made that determine the static stability of the wheelchair when it is protected against tipping over by a forward and/or rearward anti-tip device, and the effectiveness of those anti-tip devices if the wheelchair tips in that direction.

AUSTRALIAN/NEW ZEALAND STANDARD

Wheelchairs

Part 1:
Determination of static stability

1 Scope

This part of ISO 7176 specifies test methods for determining the static stability of wheelchairs. It is applicable to manual and electrically powered wheelchairs, including scooters, with a maximum speed not greater than 15 km/h, intended to provide indoor and/or outdoor mobility for one disabled person whose mass is within the range represented by ISO 7176-11.

For active stability-controlled wheelchairs, this part of ISO 7176 applies to the device in a stable, parked state.

This part of ISO 7176 provides a method for the measurement of the tipping angles (either wheelchair tipping angle or anti-tip device tipping angle), but this method is not applicable to wheelchairs with lateral anti-tip devices and does not consider sliding on the ground.

This part of ISO 7176 also includes requirements for test reports and information disclosure.

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 7176-11, *Wheelchairs — Part 11: Test dummies*

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 document, the terms and definitions in ISO 7176-26 and the following apply.

3.1
active stability-controlled wheelchair
wheelchair that actively controls or enhances its stability (by electronic or other means) when static and/or when in motion

3.2
anti-tip device
device which limits the extent of tipping of a wheelchair

Note 1 to entry: Anti-tip devices can operate in forward, rearward, or lateral directions. Some anti-tip devices have a spring suspension. Some running wheels can act as anti-tip devices, but their primary function is to be running wheels. Foot supports can serve as anti-tip devices if the manufacturer designates that they are intended to serve in that capacity. A change in the wheelchair configuration or control characteristics to enhance stability is not considered an anti-tip device.