AS/NZS 3696.1:2008
ISO 7176-1:1999

AS/NZS 3696.1:2008

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, Mobility Appliances for People with Disabilities. It was approved on behalf of the Council of Standards Australia on 26 February 2008 and on behalf of the Council of Standards New Zealand on 17 March 2008.
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The following are represented on Committee ME-067:

Association of Consultants in Access Australia
Association of Occupational Therapists
Consumers' Federation of Australia
Engineers Australia
Flinders University of South Australia
Furntech
Independent Living Centres Australia
Northern Sydney Area Health Services
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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, Mobility Appliances for People with Disabilities, to supersede AS/NZS 3696.1:1990, *Wheelchairs*, Part 1: *Determination of static stability*.

This Standard is identical with, and has been reproduced from, ISO 7176-1:1999, *Wheelchairs—Part* 1: *Determination of static disability*.

The objective of this revision is to adopt the latest edition of the ISO Standard, which contains substantive changes to the presentation of the test method.

The objective of this Standard is to provide a suitable test for the determination of static stability of 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/New Zealand Standards, as follows:

Reference to International Standard ISO		*Australian/New Zealand Standard* AS/NZS	
6440	Wheelchairs—Nomenclature, terms and definitions	—	
7176	Wheelchairs	3696	Wheelchairs
7176-7	Part 7: Measurement of seating and wheel dimensions	—	
7176-11	Part 11: Test dummies	3696.11	Part 11: Test dummies
7176-15	Part 15: Requirements for information disclosure documentation and labelling	—	
7176-22	Part 22: Set-up procedures	3696.22	Part 22: Set-up procedures
9999	Technical aids for disabled persons	—	

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.

CONTENTS

INTRODUCTION

It is important to know the static-stability characteristics of a wheelchair for prescription and adjustment purposes. Some users need large reserves of stability to ensure their safety while others prefer finely balanced wheelchairs which have better manœuvrability.

This part of ISO 7176 specifies tests in which static stability is measured with wheel locks (parking brakes) 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 user reaching for an object, or instability while rolling. These tests also give information about the ease with which a wheelchair can be tipped about its rear wheels, such as happens when negotiating kerbs or balancing on the rear wheels.

AUSTRALIAN/NEW ZEALAND STANDARD

Wheelchairs
Part 1:
Determination of static stability

1 Scope

This part of ISO 7176 specifies the test methods for determining the static tipping stability of wheelchairs, including scooters. This part of ISO 7176 is applicable to wheelchairs and vehicles that are included in the 12.21 series described in ISO 9999 and are intended to provide indoor and outdoor mobility for people with disabilities whose mass does not exceed the maximum mass of the test dummy given in ISO 7176-11.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of ISO 7176. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of ISO 7176 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 6440, *Wheelchairs — Nomenclature, terms, and definitions.*

ISO 7176-7, *Wheelchairs — Part 7: Measurement of seating and wheel dimensions.*

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 9999, *Technical aids for disabled persons — Classification.*

3 Terms and definitions

For the purposes of this part of ISO 7176, the terms and definitions given in ISO 6440 and the following apply:

3.1
lockable wheels
wheels equipped with parking brakes, or wheels whose rolling motion is locked by the means of propulsion (e.g., by hands, levers, motors)

3.2
tipping angle
angle of the test plane from the horizontal at which the forces become zero under all uphill wheels

NOTE A number of methods are available with which to determine when the forces become zero under the uphill wheels. These include, but are not limited to, the following: the ability to pull pieces of paper from beneath the wheels, visual identification of when the wheels lift from the test plane or the use of force-sensing instrumentation.