

Australian Standard<sup>®</sup>

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**Wheelchairs—**

**Part 1: Determination of static  
stability**

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This Australian Standard was prepared by Committee ME/67, Mobility Appliances for People with Disabilities. It was approved on behalf of the Council of Standards Australia on 11 January 1990 and published on 7 May 1990.

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The following interests are represented on committee ME/67:

ACROD

Attorney-General's Department

Australian Association of Occupational Therapists

Canberra College of Advanced Education

Commercial Vehicle Industry Association of Australia

Confederation of Australian Industry

Crippled Children's Association of South Australia

Department of Health, New South Wales

Department of Health, Queensland

Department of Industrial Relations and Employment, New South Wales

Department of the Premier and Cabinet, South Australia

Department of Veteran Affairs

Disability Advisory Council of Australia

Disabled Peoples' International (Australia)

Electronics Association of South Australia

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Institution of Engineers, Australia

Metal Trades Industry Association of Australia

National Committee Independent Living Centres

Paraplegic and Quadriplegic Association of New South Wales

Paraplegic and Quadriplegic Association of Victoria

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## PREFACE

This Standard was prepared by the Standards Australia Committee on Mobility Appliances for people with Disabilities. It is identical with and has been reproduced from ISO 7176/1—1986(E) *Wheelchairs—Part 1:Determination of static stability*.

This Standard is one of a series of methods of test and measurement for wheelchairs.

For the purposes of this Australian Standard, the ISO text should be modified as follows:

- (a) *Clause 0. Delete.*
- (b) *Clause 1. Delete 'part of ISO 7176' and substitute 'Standard'.*
- (c) *Clause 3. Delete 'part of ISO 7176' and substitute 'Standard'.*
- (d) *Cross-references.* The cross-reference to other publications should be replaced by references to Australian Standards as follows:

<i>Reference to International Standard</i>	<i>Australian Standard</i>
ISO 6440	AS 3693
Wheelchairs—Nomenclature terms and definitions	Wheelchairs—Nomenclature, terms and definitions
7930	3694
Wheelchairs—Type classification based on appearance characteristics	Wheelchairs—Type classification based on appearance characteristics

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# Wheelchairs—

## Part 1: Determination of static stability

### 0 Introduction

ISO 7176 at present consists of the following parts:

Part 1: Determination of static stability.

Part 2: Determination of dynamic stability of electric wheelchairs.

Part 3: Determination of the efficiency of brakes.

Part 4: Determination of energy consumption of electric wheelchairs.

Part 5: Determination of overall dimensions, mass and turning space.

Part 6: Determination of maximum speed, acceleration and retardation of electric wheelchairs.

Part 7: Determination of seating dimensions — Definitions and measuring methods.

Part 8: Static, impact and fatigue strength for manual wheelchairs.

Part 9: Climatic tests for electric wheelchairs.

Part 10: Determination of the obstacle climbing ability of electric wheelchairs.

Part 11 : Test dummies.

Part 12: Determination of tracking characteristics of manual wheelchairs.

Part 13: Determination of the coefficient of friction of test surfaces.

### 1 Scope and field of application

This part of ISO 7176 specifies methods for determining the static stability of wheelchairs.

### 2 References

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

ISO 7176/11, *Wheelchairs — Part 11: Test dummies*.<sup>1)</sup>

ISO 7176/13, *Wheelchairs — Part 13: Determination of the coefficient of friction of test surfaces*.<sup>1)</sup>

ISO 7930, *Wheelchairs — Type classification based on appearance characteristics*.

### 3 Definitions

For the purposes of this part of ISO 7176, the definitions given in ISO 6440 apply.

### 4 Principle

The wheelchair, loaded with a test dummy and with the parking brake(s) engaged, is placed on a test plane in specified orientations. The test plane is tilted and, as appropriate to the particular test method, one or the other of the following criteria is used to establish stability:

- sliding of at least one wheel due to insufficient friction between the wheel and the test plane;
- tipping of the wheelchair.

### 5 Test plane

The tests shall be carried out on a flat and hard plane, the slope of which shall be adjustable. The surface of the plane shall have a coefficient of friction as defined in ISO 7176/13.

### 6 Test wheelchair

**6.1** Unless otherwise specified and wherever appropriate, the conditions specified in 6.2 to 6.7 shall be fulfilled during testing.

**6.2** The wheelchair shall be fully equipped for normal use including armrests and leg supports with footrests, but excluding cushions.

**6.3** If the wheelchair is of the variable wheelbase design, the stability values at both extremes of its stability shall be given. If the wheels can be attached in more than one way, the least favourable shall be used.

1) At present at the stage of draft.