

Australian Standard[®]

Wheelchairs

**Part 3: Determination of efficiency
of brakes**

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.

The following interests are represented on Committee ME/67:

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Attorney-General's Department

Australian Association of Occupational Therapists

Canberra College of Advanced Education

Commercial Vehicle Industry Association of Australia

Confederation of Australian Industry

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Part 3: Determination of efficiency of brakes

First published as AS 3696.3—1990.

PREFACE

This Standard was prepared by the Standards Australia Committee on Disability Appliances for People with Disabilities. It is identical with and has been reproduced from ISO 7176-3:1988(E) *Wheelchairs—Part 3: Determination of efficiency of brakes*.

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-references to other publications should be replaced by reference to Australian Standards as follows:

<i>Reference to International Standard</i>	<i>Australian Standard</i>
ISO 6440 Wheelchairs—Nomenclature terms and definitions	AS 3693 Wheelchairs—Nomenclature, terms and definitions
7176-6 Wheelchairs—Part 6: Determination of maximum speed, acceleration and retardation of electric wheelchairs	3696.6 Wheelchairs—Part 6: Determination of maximum speed, acceleration and retardation of electric wheelchairs
7930 Wheelchairs—Type classification based on appearance characteristics	3694 Wheelchairs—Type classification based on appearance characteristics

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Wheelchairs—

Part 3: Determination of efficiency of brakes

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 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 obstacle-climbing ability of electric wheelchairs.
- Part 11 : Test dummies.
- Part 13 : Determination of coefficient of friction of test surfaces.
- Part 14: Power and controls.

1 Scope and field of application

This part of ISO 7176 specifies methods for determining the efficiency of the brakes of wheelchairs (manual, electric and any others).

2 References

- ISO 6440, *Wheelchairs — Nomenclature, terms and definitions*.
- ISO 7176-6, *Wheelchairs — Part 6: Determination of maximum speed, acceleration and retardation of electric wheelchairs*.
- ISO 7176-11, *Wheelchairs — Part 11: Test dummies*.¹⁾
- ISO 7176-13, *Wheelchairs — Part 13: Determination of coefficient of friction of test surfaces*.¹⁾
- 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

Performance of a number of brake tests which are intended to simulate conditions representing the normal use of a wheelchair. The tests are designed to determine the efficiency of brakes used on manual and electric wheelchairs.

5 Test plane

The tests shall be carried out on a flat and hard plane. For the parking brake tests (7.1), the slope of the test plane shall be adjustable. The surface of the test plane shall have a coefficient of friction as defined in ISO 7176-13.

6 Test wheelchair

Unless otherwise specified and wherever appropriate, the following conditions shall be fulfilled during testing.

1) At present at the stage of draft.