
Wheelchairs —

Part 3:

Determination of effectiveness of brakes

Fauteuils roulants —

Partie 3: Détermination de l'efficacité des freins



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Contents

Page

Foreword.....	iv
1 Scope.....	1
2 Normative references	1
3 Terms and definitions.....	1
4 Principle.....	2
5 Apparatus.....	2
6 Preparation of the test wheelchair	3
7 Brake performance.....	3
7.1 General.....	3
7.2 Parking brakes	4
7.3 Running brakes, normal operation	4
7.4 Running brakes, operation by reverse command	5
7.5 Running brakes, emergency operation	5
8 Parking brakes fatigue.....	5
9 Test report.....	6
10 Disclosure of results.....	6
Annex A (normative) Method for determining brake lever operating force	8
Annex B (informative) Test method for determining the performance of running brakes on manual wheelchairs	10

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 7176-3 was prepared by Technical Committee ISO/TC 173, *Technical systems and aids for disabled or handicapped persons*, Subcommittee SC 1, *Wheelchairs*.

This second edition cancels and replaces the first edition (ISO 7176-3:1988), which has been technically revised.

ISO 7176 consists of the following parts, under the general title *Wheelchairs*:

- *Part 1: Determination of static stability*
- *Part 2: Determination of dynamic stability of electric wheelchairs*
- *Part 3: Determination of the effectiveness of brakes*
- *Part 4: Energy consumption of electric wheelchairs and scooters for determination of theoretical distance range*
- *Part 5: Determination of overall dimensions, mass and turning space*
- *Part 6: Determination of maximum speed, acceleration and deceleration of electric wheelchairs*
- *Part 7: Measurement of seating and wheel dimensions*
- *Part 8: Requirements and test methods for static, impact and fatigue strengths*
- *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 control systems for electric wheelchairs — Requirements and test methods*

- *Part 15: Requirements for information disclosure, documentation and labelling*
- *Part 16: Resistance to ignition of upholstered parts — Requirements and test methods*
- *Part 19: Wheeled mobility devices for use in motor vehicles*
- *Part 22: Set-up procedures*
- *Part 23: Requirements and test methods for attendant-operated stair-climbing devices*

The following parts are also on the programme of work:

- *Part 20: Determination of the performance of stand-up type wheelchairs*
- *Part 21: Requirements and test methods for electromagnetic compatibility of electrically powered wheelchairs and motorized scooters*
- *Part 24: Requirements and test methods for user-operated stair-climbing devices*

A Technical Report (ISO/TR 18570:2001, *Guidelines for the application of the ISO 7176 series on wheelchairs*) is also available giving a simplified explanation of these parts of ISO 7176.

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Wheelchairs —

Part 3: Determination of effectiveness of brakes

1 Scope

This part of ISO 7176 specifies test methods for the measurement of the effectiveness of brakes of manual wheelchairs and electrically powered wheelchairs, including scooters, intended to carry one person, with a maximum speed not exceeding 15 km/h. It also specifies disclosure requirements for the manufacturer.

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 6440, *Wheelchairs — Nomenclature, terms and definitions*

ISO 7176-6, *Wheelchairs — Part 6: Determination of maximum speed, acceleration and deceleration of electric wheelchairs*

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*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 6440 and the following apply.

3.1

running brake

means to stop or to slow the wheelchair

3.2

control device

means by which the user directs an electrically powered wheelchair to move at the desired speed and/or in the desired direction of travel

3.3

parking brake

means to keep the wheelchair stationary