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**Wheelchairs —**  
**Part 22:**  
**Set-up procedures**

*Fauteuils roulants —*

*Partie 22: Procédures de réglage*



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## 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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2. [www.iso.org/directives](http://www.iso.org/directives)

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received. [www.iso.org/patents](http://www.iso.org/patents)

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT), see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/TC 173, *Assistive products for persons with disability*, Subcommittee SC 1, *Wheelchairs*.

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.

This second edition cancels and replaces the first edition (ISO 7176-22:2000), all clauses of which have 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 effectiveness of brakes*
- *Part 4: Energy consumption of electric wheelchairs and scooters for determination of theoretical distance range*
- *Part 5: Determination of dimensions, mass and manoeuvring 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 electrically powered wheelchairs*
- *Part 11: Test dummies*

- *Part 13: Determination of coefficient of friction of test surfaces*
- *Part 14: Power and control systems for electrically powered wheelchairs and scooters — Requirements and test methods*
- *Part 15: Requirements for information disclosure, documentation and labelling*
- *Part 16: Resistance to ignition of postural support devices*
- *Part 19: Wheeled mobility devices for use as seats in motor vehicles*
- *Part 21: Requirements and test methods for electromagnetic compatibility of electrically powered wheelchairs and scooters, and battery chargers*
- *Part 22: Set-up procedures*
- *Part 25: Batteries and chargers for powered wheelchairs*
- *Part 26: Vocabulary*
- *Part 28: Requirements and test methods for stair-climbing devices*

A Technical Report (ISO/TR 13570-1) is also available giving a simplified explanation of these parts of ISO 7176.

## Introduction

Many wheelchairs have adjustable or optional features, which, depending upon their setting, can have significant effects on the results from test methods in different wheelchair testing standards.

When used in combination with other wheelchair standards the procedure presented within this standard will produce test results which permit comparison between different wheelchairs and give comparable results between different test laboratories.

If a wheelchair is configured in a specific way, some clauses of ISO 7176-22 might not apply.

# Wheelchairs —

## Part 22: Set-up procedures

### 1 Scope

This part of ISO 7176 specifies a set-up procedure to be used as a part of the preparation of adjustable wheelchairs for testing. This procedure takes the manufacturer's instructions into account.

This part of ISO 7176 is applicable to manual wheelchairs and electric wheelchairs (including scooters) intended to provide indoor and/or outdoor mobility.

**NOTE** Other parts of ISO 7176 may have specific requirements for the adjustment of the wheelchair. In such cases, the individual part of ISO 7176 takes precedence over this part of ISO 7176.

### 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 7176-26, *Wheelchairs — Part 26: Vocabulary*

### 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 7176-26 apply.

### 4 Test apparatus

**4.1 Test dummy**, as specified in ISO 7176-11.

**4.2 Means for measuring linear dimensions up to 2 000 mm**, to an accuracy of  $\pm 1$  mm.

**4.3 Means for measuring the angles of surfaces to each other and/or to vertical or horizontal**, to an accuracy of  $\pm 0,2^\circ$ .

**4.4 Means of measuring forces**, between 25 N and 250 N to an accuracy of  $\pm 5$  % of the measurement

**4.5 Means of measuring torque**, between 2 Nm and 100 Nm to an accuracy of  $\pm 10$  % of the measurement.

**4.6 Means to inflate pneumatic wheelchair tyres**, up to 10 bar with an accuracy of  $\pm 0,2$  bar.

**4.7 A hard horizontal test plane**, of sufficient size to support the wheelchair during testing, such that the whole surface is contained between two imaginary parallel planes 5 mm apart.

**NOTE** The imaginary planes are intended to provide a measure of control on the flatness of the test plane.