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Wheelchairs —

Part 26: Vocabulary

Fauteuils roulants —

Partie 26: Vocabulaire

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Contents

Page

iTeh STANDARD PREVIEW
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ISO 7176-26:2007
https://standards.iteh.ai/catalog/standards/sist/2b32631e-9688-40a8-a40e-0fc1fee4b518/iso-7176-26-2007

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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.

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 7176-26 was prepared by Technical Committee ISO/TC 173, *Assistive products for persons with disability*, Subcommittee SC 1, *Wheelchairs*.

This first edition cancels and replaces the first edition (ISO 6440:1985), all clauses and annexes of which have been technically revised.

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

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— *Part 1: Determination of static stability*

— *Part 2: Determination of dynamic stability of electric wheelchairs*

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— *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*

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— *Part 19: Wheeled mobility devices for use in motor vehicles*

— *Part 21: Requirements and test methods for electromagnetic compatibility of electrically powered wheelchairs and motorized scooters*

— *Part 22: Set-up procedures*

— *Part 23: Requirements and test methods for attendant-operated stair-climbing devices*

— *Part 24: Requirements and test methods for user-operated stair-climbing devices*

— *Part 25: Requirements and test methods for batteries and their chargers for electrically powered wheelchairs and motorized scooters*

— *Part 26: Vocabulary*

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https://standards.iteh.ai/catalog/standards/sist/2b32631e-9688-40a8-a40e-0fc1fee4b518/iso-7176-26-2007

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Introduction

The provision and selection of wheelchairs and associated seating products relies on clear communication of information relating to these devices. Over time, many terms and definitions have evolved. Unfortunately, this process has resulted in a lack of clear meaning for some terms and duplication of other terms (sometimes with conflicting messages).

For example, the terms tilt and recline are sometimes used interchangeably, but usually have quite distinct meanings. If used inappropriately, an entirely inappropriate wheelchair may be specified or purchased.

The purpose of this part of ISO 7176 is to provide a collection of terms and their definitions to form the basis of clear communication across the field of wheelchair and associated seating and to eliminate confusion from duplication or inappropriate use of terms.

The vocabulary is drawn from surveys of the literature and language used by experts in this field. It excludes, however, terms which are adequately defined in the everyday language of English, medicine and technology.

ISO 7176 recognises that there are a number of terms in use which, because of duplication or inadequacies of meaning, should be replaced by terms from this vocabulary. To help people move towards a common vocabulary, these deprecated terms are included along with a reference to the preferred term.

The development and application of wheelchair standards is particularly dependent upon clear and consistent terms and definitions. Hence, a major proportion of this part of ISO 7176 includes terms and definitions used in more than one of the ISO standards specifically related to ISO Wheelchair Standards. These include the ISO 7176, ISO 10542, and ISO 16840 series, and ISO 7193. Future standards in these series will cite this document for definition of terms wherever possible, thus facilitating the consistent use of a common vocabulary.

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This part of ISO 7176 is intended purely as a means of specifying terms and definitions. It does not attempt to classify wheelchairs and associated seating into any classification of device groupings as this is the purpose of ISO 9999. Annex A provides a standard set of descriptors for characterizing wheelchairs.

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Wheelchairs —

Part 26: Vocabulary

1 Scope

This part of ISO 7176 specifies a vocabulary consisting of terms and definitions used in the field of manual and electrically powered wheelchairs (including scooters) and associated seating systems. This part of ISO 7176 includes, but is not limited to, the preferred terms used in two or more ISO standards of the ISO 7176, ISO 10542, and ISO 16840 series, but does not include terms considered to be adequately defined in everyday English.

NOTE 1 In addition to terms used in the three official ISO languages (English, French and Russian), this International Standard gives the equivalent terms in United States English; these are published under the responsibility of the member body/National Committee for the United States. However, only the terms and definitions given in the official languages can be considered as ISO terms and definitions.

NOTE 2 Annex A provides a standard set of descriptors for characterizing wheelchairs.

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2 Rules and elements used in vocabulary

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2.1 Rules used in vocabulary

Most terms defined are used in more than one of the ISO standards relating specifically to wheelchairs and seating supports. Terms used in only one of these standards, are defined in the terms and definitions clause of that standard.

Within Clause 4, terms are organized by function. Terms (and the function) can be further specified by adding an adjective as shown in 4.8.

2.2 Organization of elements used in the vocabulary

The structure used throughout the nomenclature is based upon ISO 10241.

3 Abbreviated terms

ATD anthropometric test device

PSD postural support device

RLG reference loader gauge

UDIG universal docking interface geometry

WTORS wheelchair-tiedown and occupant-restraint system

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4 Terms and definitions

4.1 Wheelchairs and related mobility devices

4.1.1
wheelchair
device to provide wheeled mobility with a seating support system for a person with impaired mobility

NOTE A walking aid with wheels is not a wheelchair.

4.1.2
manual wheelchair
wheelchair (4.1.1) which relies on an occupant (4.2.2) or an assistant (4.2.3) to provide power for its operation

4.1.3
handrim-drive wheelchair
manual wheelchair (4.1.2) designed to be propelled and steered using handrims (4.5.11)

4.1.4
lever-drive wheelchair
manual wheelchair (4.1.2) intended to be propelled and steered by a lever or levers

4.1.5
foot-propelled wheelchair
manual wheelchair (4.1.2) designed to be propelled and steered by contact of the occupant's (4.2.2) foot or feet with the floor

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4.1.6
push wheelchair
manual wheelchair (4.1.2) intended to be pushed by an assistant (4.2.3)

ISO 7176-26:2007
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4.1.7
aisle wheelchair
push wheelchair (4.1.6) intended to be used in narrow aisles such as on aircraft

4.1.8
electrically powered wheelchair
e chair (deprecated)
electric wheelchair (deprecated)
powered chair (deprecated)
powered wheelchair (deprecated)
wheelchair (4.1.1) in which the motor power is derived from an integral source of electric power

NOTE A scooter (4.1.9) is an electrically powered wheelchair.

4.1.9
scooter
electrically powered wheelchair (4.1.8) with a tiller (4.4.7) to control direct steering (4.4.8)

4.1.10
electrically powered wheelchair with integral seat
electrically powered wheelchair (4.1.8) with a seating system (4.7.2) and drive system that cannot be separated

4.1.11
powerbase wheelchair
electrically powered wheelchair (4.1.8) with a powerbase (4.4.3)

4.1.12
balancing wheelchair
electrically powered wheelchair (4.1.8) that electronically maintains the balance of the wheelchair

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4.1.13
rigid wheelchair
wheelchair (4.1.1) with frame components under the seat that are fixed and non-foldable

4.1.14
folding wheelchair
wheelchair (4.1.1) with frame components under the seat which can be collapsed

4.1.15
shower wheelchair
wheelchair (4.1.1) intended to be used in the shower

4.1.16
toilet wheelchair
wheelchair (4.1.1) intended to be used over a toilet

4.1.17
stand-up wheelchair
wheelchair (4.1.1) capable of transporting an occupant (4.2.2) in a seated position and which also has the capability to raise and maintain the occupant in a stand-up position

4.1.18
stair-climbing device
device intended to transport a person or an occupied wheelchair by climbing up or down stairs, but that is not fixed to the stairs

4.1.19
stair-climbing chair
stair-climbing device (4.1.18) that includes a seat for the occupant (4.2.2)

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4.1.20
stair-climbing wheelchair carrier
stair-climbing device (4.1.18) that carries an occupied wheelchair

ISO 7176-26:2007
https://standards.iteh.ai/catalog/standards/sist/2652651e-9688-40a8-a40e-0fc1fee4b518/iso-7176-26-2007

4.2 Wheelchair operators

4.2.1
operator
person who operates the wheelchair

NOTE Can be either the occupant or the assistant.

4.2.2
occupant
user (deprecated)
person supported by the wheelchair seating system (4.7.2)

4.2.3
assistant
attendant (deprecated)
carer (deprecated)
person, other than the occupant (4.2.2), who manoeuvres the wheelchair

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4.3 Overall dimensions

4.3.1
overall length
distance between the most forward and most rearward points of the wheelchair when it is ready for use, measured in a direction parallel to the forward direction of movement

NOTE The measurement methods are specified in ISO 7176-5.

4.3.2
overall width
distance between the outermost side-to-side points of the wheelchair when fully opened and ready for use, measured in a direction perpendicular to the forward direction of movement

NOTE The measurement method is specified in ISO 7176-5.

4.3.3
overall height
vertical distance from the ground to the uppermost point of the wheelchair when it is ready for use with the back support (4.7.9) in the upright position

NOTE The measurement method is specified in ISO 7176-5.

4.3.4
stowage length
distance between the most forward and most rearward points of the wheelchair when folded and/or dismantled for transport or stowing purposes

NOTE The measurement method is specified in ISO 7176-5.

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4.3.5
stowage width
overall width folded (deprecated)
distance between the two outermost side-to-side points of the wheelchair when folded and/or dismantled for transport or stowing purposes

ISO 7176-26:2007
https://standards.iteh.ai/catalog/standards/sist/...
0fc1fee4b518/iso-7176-26-2007

NOTE The measurement method is specified in ISO 7176-5.

4.3.6
stowage height
overall height folded (deprecated)
vertical distance from the ground to the uppermost point of the wheelchair when folded and/or dismantled for transport or stowing purposes

NOTE The measurement method is specified in ISO 7176-5.

4.3.7
wheelbase
distance between the ground contact points of the front and rear wheels of the wheelchair, measured in a direction parallel to the forward direction of movement

NOTE The measurement method is specified in ISO 7176-5.

4.3.8
ground clearance
shortest distance between the ground and any part of the wheelchair that is not a wheel

NOTE The measurement method is specified in ISO 7176-5.

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4.3.9
turning diameter
turning radius (deprecated)
turning circle (deprecated)
diameter of the smallest cylindrical envelope in which the occupied wheelchair can be driven in a circle through 360°

NOTE The measurement method is specified in ISO 7176-5.

4.3.10
reversing width
minimum corridor width required for the occupied wheelchair to turn through 180° where forward and backward movements of the wheelchair may be used

NOTE The measurement method is specified in ISO 7176-5.

4.3.11
turning width
minimum corridor width required for the occupied wheelchair to turn through 180° where backward movements of the wheelchair may not be used

NOTE The measurement method is specified in ISO 7176-5.

4.3.12
total mass
mass of the wheelchair when ready for use, but unoccupied

NOTE The measurement method is specified in ISO 7176-5.

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4.4 Drive systems

ISO 7176-26:2007
https://standards.iteh.ai/catalog/standards/sist/2b32631e-9688-40a8-a40e-0fc1fee4b518/iso-7176-26-2007

4.4.1
control device
access method (deprecated)
control input device (deprecated)
input control device (deprecated)
input device (deprecated)
means by which the occupant (4.2.2) directs an electrically powered wheelchair (4.1.8) to move at the desired speed and/or in the desired direction of travel

EXAMPLE joystick

4.4.2
controller
device that converts input signals from the occupant (4.2.2) into output signals that activate powered components of the wheelchair

4.4.3
powerbase
component of an electrically powered wheelchair (4.1.8) which contains the drive system, batteries and wheels, and can be separated from the seating system (4.7.2)

4.4.4
propulsion system
combination of parts needed to propel the wheelchair

4.4.5
handrim-activated power-assisted
operated with a combination of human power and electrical power, where the activation of the electrical power is through application of a torque, displacement or force to the handrim or handrims (4.5.11)

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4.4.6
steering system
combination of parts, mechanical and/or electrical, that control the direction of travel of the wheelchair

4.4.7
tiller
bar fitted to a pivot wheel(s) (4.5.4), for turning the pivot wheel(s) in steering

4.4.8
direct steering
control of direction by changing the orientation of the pivot wheel(s) (4.5.4) or pivot drive wheel(s) (4.5.5)

4.4.9
manual direct steering
direct steering (4.4.8) without powered assistance

NOTE A three-wheeled scooter (4.1.9) with a tiller (4.4.7) uses manual direct steering.

4.4.10
powered direct steering
servo steering (deprecated)
direct steering (4.4.8) with powered assistance

NOTE Typically, a secondary motor is used to adjust the orientation of the pivot wheel (4.5.4) or wheels.

4.4.11
differential steering
indirect steering (deprecated)
control of direction by applying different speed and/or direction to the manoeuvring wheels (4.5.2)

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4.4.12
full differential steering
differential steering (4.4.11) where it is possible that the midpoint of the turn coincides with the centre-point of the wheelchair

ISO 7176-26:2007
https://standards.iteh.ai/catalog/standards/sist/2b32631e-9688-40a8-a40e-0fc1fee4b518/iso-7176-26-2007

NOTE The wheelchair can turn about its centre-point.

4.4.13
limited differential steering
differential steering (4.4.11) where it is not possible that the midpoint of the turn coincides with the centre-point of the wheelchair

NOTE A wheelchair with limited differential steering cannot turn about its centre-point.

4.4.14
manual differential steering
manual indirect steering (deprecated)
differential steering (4.4.11) in which the differential force is produced by the occupant (4.2.2)

NOTE A manual wheelchair (4.1.2) with handrims (4.5.11) uses manual differential steering.

4.4.15
powered differential steering
powered indirect steering (deprecated)
differential steering (4.4.11) in which the different wheel speeds are produced by two separate motors

NOTE Many electrically powered wheelchairs (4.1.8) with two drive wheels (4.5.1) use this type of steering.

4.4.16
parking brake
wheel lock (deprecated)
means of keeping the wheelchair stationary that does not require continuous force from the operator and does not require continuous power from the wheelchair

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4.4.17
automatic brake
parking brake (4.4.16) that applies automatically after the wheelchair stops and/or when no power is supplied by the wheelchair

4.4.18
running brake
dynamic brake (deprecated)
friction brake (deprecated)
regenerative brake (deprecated)
service brake (deprecated)
means of stopping or slowing the wheelchair

NOTE The running brake may include one or more of the following types of brake: dynamic brake, regenerative brake and friction brake (either fail-safe or manually applied).

4.4.19
push handle
push cane (deprecated)
component designed to be grasped by the hand of an assistant (4.2.3) to propel or tip the wheelchair

4.4.20
handgrip
material covering on the push handle (4.4.19) where the hand grasps

NOTE The handgrip may be integrated with or separate from the push handle.

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4.4.21
anti-tip device
anti-tipper (deprecated)
anti-tipping lever (deprecated)
device that limits the extent of tipping of a wheelchair and that may operate in forward, rearward or lateral directions of instability

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4.4.22
circuit protection device
protective device that causes a circuit to open when the current and/or temperature in the device exceeds a predetermined value

EXAMPLE fuse, thermal circuit breaker

4.4.23
battery pack
removable battery compartment that contains one or more batteries

4.4.24
rated capacity
nominal capacity (deprecated)
capacity value of a battery determined under specified conditions and declared by the manufacturer

[IEC 60050-482, definition IEV 482-03-15]

4.4.25
nominal voltage
suitable approximate value of the voltage used to designate or identify a cell, a battery or an electrochemical system

[IEC 60050-482, definition IEV 482-03-31]

4.4.26
on-board battery charger
battery charger that is built into a wheelchair and cannot be removed without the use of tools

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