

This is a preview of "ISO 7176-30:2018". [Click here to purchase the full version from the ANSI store.](#)

First edition
2018-12

Wheelchairs —
Part 30:
**Wheelchairs for changing occupant
posture — Test methods and
requirements**



Reference number
ISO 7176-30:2018(E)

© ISO 2018



COPYRIGHT PROTECTED DOCUMENT

© ISO 2018

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Fax: +41 22 749 09 47
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

This is a preview of "ISO 7176-30:2018". Click here to purchase the full version from the ANSI store.

Contents

	Page
Foreword	v
Introduction	vi
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 Test methods	3
4.1 General principle.....	3
4.2 Test preparation.....	3
4.3 Determining the maximum drivable configuration.....	4
4.4 Order of testing.....	4
5 General requirements	4
5.1 Application.....	4
5.2 Static stability.....	4
5.3 Dynamic stability of electrically powered wheelchairs.....	5
5.4 Efficiency of brakes.....	6
5.5 Overall dimensions.....	6
5.6 Strength tests.....	6
5.6.1 General.....	6
5.6.2 Multi drum test.....	6
5.6.3 Seat impact strength - Test method.....	7
5.7 Wheelchairs for use as a seat in a motor vehicle.....	8
5.8 Climatic tests for wheelchairs for changing occupant postures.....	9
5.9 Back support strength.....	9
5.10 Requirements for the operation force of levers.....	9
6 Specific requirements for electrically powered wheelchairs and scooters	9
6.1 Electrical, power and other controls and mechanisms.....	9
6.2 Theoretical range/postural cycles of electrically powered wheelchairs and scooters due to the energy consumption of the OABSS.....	10
6.2.1 For OABSS's which share a power source with the wheelchair's drive system — Modified theoretical range.....	10
6.2.2 For OABSS's which have a separate power source dedicated to the OABSS — Theoretical cycle capacity.....	10
6.3 Test methods of maximum speed of electrically powered wheelchairs.....	11
6.4 Obstacle climbing — Determination of obstacle climbing ability of electrically powered wheelchairs.....	11
7 Specific requirements for wheelchairs with either an electrically or manually operated body support system for occupant not exceeding 150 kg - Back support applied wheelchair tip fatigue strength	11
7.1 General.....	11
7.2 Requirement.....	11
7.3 Test method.....	12
8 Back-support adjustment force test (unlocked) for reclining type wheelchair	13
9 Specific requirements for wheelchairs with stand-up mechanisms	14
9.1 Strength test for wheelchairs that incorporate a stand-up mechanism with lower leg support.....	14
9.1.1 General.....	14
9.1.2 Test methods.....	14
9.2 Strength test for the wheelchairs for changing occupant posture which has stand-up mechanism with hip/upper torso support.....	15
9.2.1 General.....	15
9.2.2 Test methods.....	16

This is a preview of "ISO 7176-30:2018". [Click here to purchase the full version from the ANSI store.](#)

10	Requirements for information disclosure	17
11	Test report	17
Annex A (informative)	Recommendations for lower leg support of the wheelchair with stand-up mechanism	19
Bibliography	20

This is a preview of "ISO 7176-30:2018". [Click here to purchase the full version from the ANSI store.](#)

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 (see 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 (see 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 of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 173, *Assistive products*, Subcommittee SC 1, *Wheelchairs*.

A list of all parts in the ISO 7176 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

Wheelchairs which can alter the occupant's position in relation to the ground, in one or multiple planes can be an important factor in the appropriate selection of a wheelchair for people with disability and/or aged persons. These wheelchairs and their adjustable body support system can allow the occupant to engage in their environment, or assist in altering pressure distribution and/or postural position.

These features include but are not limited to:

- recline (where the angle of a back support can be changed),
- tilt (where the angle of a seat surface can be changed),
- elevate (where the seat height changes in the vertical plane), and
- stand-up function (where the back support, seat surface, arm supports, lower leg and foot supports can be changed to support the occupant in a standing position).