PD ISO/TR 13570-2:2014



BSI Standards Publication

Wheelchairs

Part 2: Typical values and recommended limits of dimensions, mass and manoeuvring space as determined in ISO 7176-5

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National foreword

This Published Document is the UK implementation of ISO/TR 13570-2:2014.

The UK participation in its preparation was entrusted by Technical Committee CH/173, Assistive products for persons with disability, to Subcommittee CH/173/1, Wheelchairs.

A list of organizations represented on this committee can be obtained on request to its secretary.

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Published by BSI Standards Limited 2014

ISBN 978 0 580 87084 2
ICS 11.180.10

Compliance with a British Standard cannot confer immunity from legal obligations.

This Published Document was published under the authority of the Standards Policy and Strategy Committee on 31 July 2014.

Amendments/corrigenda issued since publication

Date	Text affected

PD ISO/TR 13570-2:2014

TECHNICAL REPORT

ISO/TR 13570-2

First edition
2014-06-15

Wheelchairs —

Part 2: Typical values and recommended limits of dimensions, mass and manoeuvring space as determined in ISO 7176-5

Fauteuils roulants —

Partie 2: Valeurs types et limites ou dimensions recommandées, masses et espace requis pour maneuvres comme évalués dans l'ISO 7176-5



Reference number
ISO/TR 13570-2:2014(E)

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Published in Switzerland

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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 (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 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*.

ISO/TR 13570 consists of the following parts, under the general title *Wheelchairs*:

— *Part 1: Guidelines for the application of the* ISO 7176 *series on wheelchairs*

— *Part 2: Typical values and recommended limits of dimensions, mass and manoeuvring space as determined in* ISO 7176-5

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Introduction

The purpose of this part of ISO/TR 13570 is to provide typical values (where enough evidence has been gathered) and recommended limits of important dimensions and masses of manual wheelchairs and electrically powered wheelchairs including scooters. Typical values are based on evidence that was current at the end of 2011. The items are grouped to reflect their importance and utility for the different user groups of the standard. Typical values are reported where there has been enough sampling to give reliable data and contributions are sought to enable the future publication of values currently marked as Insufficient Data (+).

These user groups are:

— wheelchair occupants — for items that are of importance for the estimation of the space needed and the general manoeuvrability;

— architects and public authorities — for items with regard to the accessibility of e.g. dwellings, lifts, kitchen and bathroom equipment, lodging and public buildings, and areas etc.;

— manufacturers, wheelchair providers, clinicians, and test laboratories — for items that need to be considered when manufacturing, setting up, adjusting, repairing, or testing wheelchairs.

The core information of this part of ISO/TR 13570 is contained in two Clauses:

Clause 5 gives the typical values and recommended limits of dimensions and masses of a wheelchair that are most important for the wheelchair occupant (as defined and tested in ISO 7176-5, Clause 8, Required measurements). These dimensions inform the wheelchair occupant before purchase whether the wheelchair will fit to its specific requirements and needs. They also provide guidance to the wheelchair manufacturer for new developments. They inform the wheelchair occupant about the space the wheelchair will need. They also assist architects in planning accessible buildings and environments.

Clause 6 gives the typical values and recommended limits of supplementary dimensions (as defined and tested in ISO 7176-5, Annex A, Technical dimensions), which are of higher influence to good performance of the wheelchair (driving, steering, tracking etc.). They are worthwhile to be known by the technical personnel when designing, making, testing, repairing, setting up or even adjusting the wheelchair.

Call for Contribution

Much work and effort went into this project in order to collect data for the tables in this document. However, there are still values for which there is insufficient data (+) in these tables. Therefore every manufacturer, institution or expert, who can contribute with additional data, preferably for blank boxes, is invited to send any usable information to ISO/TC 173, SC 1, at project@tech4life.com.au.

Wherever possible, the material should be submitted comprising the following auxiliary information:

a. collected data;

b. type of wheelchair (with handrims or without);

c. if the procedures of ISO 7176-5 are not used for the measurements, the actual method of measurement;

d. the occupant mass group I, II, or III claimed for the wheelchair(s);

e. the class of the wheelchair A, B, or C (for electrically powered wheelchairs);

f effective seat width of the test wheelchair;

g. number of samples from which these data are derived;

h. whether the selection of the wheelchair is in accordance with ISO 7176-5, Clause 6 and the preparation for the measurements is in accordance with ISO 7176-5, Clause 7;

All contributions will be highly appreciated.

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TECHNICAL REPORT **ISO/TR 13570-2:2014(E)**

Wheelchairs —

Part 2: Typical values and recommended limits of dimensions, mass and manoeuvring space as determined in ISO 7176-5

1 Scope

This part of ISO/TR 13570 lists the typical values and recommended limits of the dimensions obtained from measurements taken in accordance with ISO 7176-5. This part of ISO/TR 13570 lists the typical values and recommended limits of the important wheelchair dimensions (ready for occupation and folded or dismantled), space for pivoting or reversing between limiting walls and some dimensions worthwhile to estimate usability of the wheelchair as well as determination of the mass of the wheelchair. It is intended for use of prescribers, clinicians, wheelchair occupants or manufacturers.

This part of ISO/TR 13570 lists the typical values and recommended limits of the dimensions when the wheelchair is occupied and some operating areas when performing special tasks encountered in every day's life. This part of ISO/TR 13570 lists the typical values and recommended limits of the technical dimensions critical to the performance of the wheelchair. This part of ISO/TR 13570 applies to manual wheelchairs and electrically powered wheelchairs (including scooters).

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 7176-5, *Wheelchairs — Part 5: Determination of dimensions, mass and manoeuvring space*

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

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 7176-5 and ISO 7176-26, and the following apply.

3.1
insufficient data
+
there have not been sufficient samples evaluated to produce reliable values for this measurement

4 Wheelchair groups

4.1 General

Wheelchairs appear in a very wide variety of designs, types, models, and sizes. To cope with these circumstances, all wheelchair models are listed into one of four principal groups.

These four principal groups listed in 4.2 to 4.5 comprise wheelchairs with handrims and electrically powered wheelchairs of class A, B, and C.

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