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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 18029.2-2022

Replacing GB/T 18029.2-2009

**Wheelchairs - Part 2: Determination of dynamic stability of
electrically powered wheelchairs**

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foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for Standardization Work Part 1. Structure and Drafting Rules of Standardization Documents" drafted.

This document is part 2 of GB/T (GB /Z)18029 "Wheelchair Vehicles". GB/T (GB /Z)18029 has released the following parts.

- Part 1.Determination of static stability;
- Part 2.Determination of dynamic stability of electric wheelchairs;
- Part 3.Determination of braking performance;
- Part 4.Determination of theoretical energy consumption of electric wheelchairs and electric scooters;
- Part 5.Determination of dimensions, mass and operating space;
- Part 6.Determination of the maximum speed, acceleration and deceleration of electric wheelchairs;
- Part 7.Measurement of seat and wheel dimensions;
- Part 8.Requirements and test methods for static strength, impact strength and fatigue strength;
- Part 9.Electric wheelchair climatic test method;
- Part 10.Determination of the obstacle-surmounting ability of electric wheelchairs;
- Part 11.Test dummies;

- Part 13.Determination of the coefficient of friction of the test surface;
- Part 14.Requirements and test methods for power and control systems for electric wheelchairs and electric scooters;
- Part 15.Requirements for information release, document issuance and identification;
- Part 16.Flame retardancy of postural fixation devices;
- Part 19.Wheeled mobile devices that can be used as motor vehicle seats;
- Part 21.Electromagnetic compatibility requirements and test methods for electric wheelchairs, electric scooters and battery chargers;
- Part 22.Adjustment procedures;
- Part 26.Terminology;
- Part 28.Requirements and test methods for stair climbing appliances.

This document replaces GB/T 18029.2-2009 "Wheelchairs - Part 2.Determination of Dynamic Stability of Electric Wheelchairs", and

Compared with GB/T 18029.2-2009, in addition to structural adjustment and editorial changes, the main technical changes are as follows.

- Changed the ramp requirements (see 5.2, 5.2 of the.2009 edition);
- Increased remote control test (see 6.4.2).

This document is equivalent to ISO 7176-2:2017 "Wheelchairs - Part 2.Determination of Dynamic Stability of Electric Wheelchairs".

The following editorial changes have been made to this document.

- Delete the last paragraph of 5.2 which duplicates the content of Note 4 of 5.2.

Please note that some content of this document may be patented. The issuing agency of this document assumes no responsibility for identifying patents.

Introduction

According to the principle of document users, GB/T (GB /Z) 18029 "Wheelchair Vehicles" stipulates that wheelchair users, manufacturers, testing institutions, etc.

The design, performance, testing, infrastructure, information release and other aspects of the wheelchair vehicle concerned by the interested parties. GB/T 18029 (GB /Z) is proposed by

22 parts consist of.

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 - Part 4.Determination of theoretical energy consumption of electric wheelchairs and electric scooters;
 - Part 5.Determination of dimensions, mass and operating space;
 - Part 6.Determination of the maximum speed, acceleration and deceleration of electric wheelchairs;
 - Part 7.Measurement of seat and wheel dimensions;
 - Part 8.Requirements and test methods for static strength, impact strength and fatigue strength;
 - Part 9.Electric wheelchair climatic test method;
 - Part 10.Determination of the obstacle-surmounting ability of electric wheelchairs;
 - Part 11.Test dummies;
 - Part 13.Determination of the coefficient of friction of the test surface;
 - Part 14.Requirements and test methods for power and control systems for electric wheelchairs and electric scooters;
 - Part 15.Requirements for information release, document issuance and identification;
 - Part 16.Flame retardancy of postural fixation devices;
 - Part 19.Wheeled mobile devices that can be used as motor vehicle seats;
 - Part 21.Electromagnetic compatibility requirements and test methods for electric wheelchairs, electric scooters and battery chargers;
 - Part 22.Adjustment procedures;
 - Part 25.Batteries and chargers for electric wheelchairs;
 - Part 26.Terminology;
 - Part 28.Requirements and test methods for stair climbing appliances;
 - Part 30.Wheelchair test methods and requirements for changing the occupant's posture.
- Among them, Part 26 is the term; Part 11, Part 13 stipulates the infrastructure requirements for wheelchair testing; Part 22 stipulates
- Sets test preparation requirements; Part 15 sets out information release requirements;
- Parts 1, 3, 5, 7, 8

Part, Part 10, Part 16 specifies the general requirements and test methods for all wheelchairs (including manual and electric); Part 2, Part 4, Part 6, Part 9, Part 14, Part 21, Part 25 set out the requirements and Test methods; Parts 19, 28, and 30 specify requirements for special functional wheelchairs.

In order to better prescribe and adjust, it is important to understand the dynamic stability characteristics of wheelchairs. Wheelchair users and prescribers

The safety impact of dynamic stability should be understood, especially when adjusting seat systems with a wide range of configurations, the environment in which the wheelchair will be used and the

Possible risk factors in the environment, and wheelchair configuration to deal with the risk factors.

This document specifies dynamic stability tests for wheelchairs with different configurations under various operating conditions. The effectiveness of the stability control system is evaluated through the procedures outlined in this document.

Wheelchair instability is an important cause of injury accidents. Therefore, it is necessary for all parties involved in the supply of wheelchairs to understand the

Destabilizing factors, interested parties can be wheelchair designers and manufacturers, prescribers, therapists, architects, utility providers

merchants and inspection agencies.

The purpose of this document is to describe a test method for wheelchair vehicles to consistently demonstrate dynamic stability under various proven stability limit challenges.

The test can reflect the effect of adjustment and configuration.

This document will assist interested parties in defining the context and purpose of wheelchair use.

Although this document does not specify requirements, it can serve as a basic reference for other documents specifying wheelchair stability.

Wheelchairs Part 2.Electric Wheelchairs

Determination of dynamic stability

1 Scope

This document specifies a test method for determining the dynamic stability of electric wheelchairs.

This document applies to electric wheelchairs with a maximum speed of not more than