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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/Z 18029.10-2021

Wheelchairs - Part 10: Determination of obstacle-climbing ability 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 10 of GB/T 18029 "Wheelchair Vehicles": GB/T 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 18029:10-2009 "Wheelchairs - Part 10: Determination of the ability of electric wheelchairs to overcome obstacles", and

Compared with GB/T 18029:10-2009, in addition to structural adjustment and editorial changes, the main technical changes are as follows:

--- Added requirements and test methods for wheelchair vehicles to approach obstacles (see 7:3);

--- Changed the height of the test obstacle, from the original 20mm~200mm to 10mm~200mm, and increased the increase of each level:

The amount is changed from 20mm to 5mm (see 5:2, 5:2 of the:2009 edition);

--- Increase the measurement provisions for the starting distance for obstacle crossing and illustrate with diagrams (see 7:4);

--- Added test methods for wheelchairs equipped with devices intended by the manufacturer to climb obstacles (see 7:8);

--- Added the requirements for releasing test results in accordance with the provisions of GB/T 18029:15 (see Chapter 9):

This document is equivalent to ISO 7176-10:2008 "Wheelchairs - Part 10: Determination of the obstacle-surmounting ability of electric wheelchairs", document type

The ISO standard is adjusted to my country's guiding technical document:

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 document user principle, GB/T 18029 "Wheelchair Vehicles" stipulates that wheelchair users, manufacturers, testing institutions and other relevant parties should pay attention

requirements for the design, performance, testing, infrastructure, and information release of wheelchair vehicles: GB/T 18029 is intended to consist of 22 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 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:

When choosing the most suitable wheelchair for the user considering the range and safety of the wheelchair accessible passage, the electric wheelchair climbs

The ability to (up and down) obstacles is a crucial factor:

Wheelchair capacity may be affected by its ability to safely pass obstacles, such as thresholds, changes in the height of the road surface and the edge of the pavement:

Stone etc:

The wheelchair's ability to drive up the height of an obstacle is different from its ability to get off the obstacle: However, how high an obstacle can a wheelchair climb?

Obstacles and how high they can get off are important to users and prescribers: The ability of the wheelchair to climb (up and down) obstacles is also related to

The technique of operating the wheelchair is also related to changing the mode of operation (such as four-wheel drive):

This document specifies a uniform method for determining the ability of electric wheelchairs to climb (up and down) obstacles in order to obtain comparable results:

Wheelchair Part 10:

Determination of obstacle-surmounting ability of electric wheelchair

1 Scope

This document describes the climbing (top,

Bottom) Methods of measuring obstacle capability: