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

**GB/Z 30661.4-2021**

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**Wheelchair seating - Part 4: Seating systems for use in motor  
vehicles**

轮椅车座椅 第4部分：机动车中使用的座椅系统

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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" Drafting. This document is Part 4 of GB/T 30661 "Wheelchair Seats". GB/T 30661 has released the following parts.

2. Determination of the physical and mechanical characteristics of the device for maintaining the integrity of the tissue;

3. Determination of the static, impact and fatigue strength of the posture support device;

4. Seat systems used in motor vehicles. The translation method used in this document is

equivalent to ISO 16840-4.2009 "Wheelchair Seat Part

4.Seat System Used in Motor Vehicles" System", the document type is adjusted from the ISO standard to the guiding technical document of our country. The Chinese documents that have consistent correspondence with the normatively cited international documents in this document are as follows:

---GB/T 3098.13-1996 Mechanical properties of fasteners Torque test and breaking torque of bolts and screws Nominal diameter 1~ 10mm (ISO 898-7.1992, IDT);

---GB/T 18029.19-2014 Wheelchairs Part

19.Wheeled mobile devices that can be used as motor vehicle seats (ISO 7176-19. 2008, IDT). The following editorial changes have been made to this document.

---According to the quotation in the text, change the ISO 10542-2 in Chapter 2 to ISO 10542-2.2001. Please note that some of the contents of this document may involve patents. The issuing agency of this document is not responsible for identifying patents. This document was proposed by the Ministry of Civil Affairs of the People's Republic of China. This document is under the jurisdiction of the National Standardization Technical Committee for Rehabilitation and Special Equipment for the Disabled (SAC/TC148). Drafting organizations of this document. National Rehabilitation Assistive Research Center, Shanghai Hubang Intelligent Rehabilitation Equipment Co., Ltd., Foshan Dongfang Medical Equipment Factory Co., Ltd., the National Quality Supervision and Inspection Center for Rehabilitation Assistive Devices. The main drafters of this document. Yang Xue, Li Man, Gu Huiru, Yan Wei, Zhang Weikang, Yan Heping, Zhao Cishun, Zhao Jianrong.

Research on the safety performance of transportation vehicles has shown that the design of motor vehicle seats, fixed equipment and seat spacing in motor vehicles, in When a motor vehicle collides, it will play a key role in protecting the occupants. It is impossible for motor vehicle manufacturers to change the seat, so for some wheelchairs For car users, they must sit in a wheelchair when traveling in a motor vehicle. GB/T 18029.19 provides design evaluation of wheelchairs Method and method for evaluating the frontal collision avoidance performance when the wheelchair is used as a front-facing seat in a motor vehicle and is subjected to a frontal impact. However, it is usually assembled into a complete wheelchair with a seat produced by one manufacturer and a frame produced by another manufacturer. Wheelchair The seat system can also be used in various wheelchairs. Therefore, it is necessary to be able to install wheelchair frames on wheelchairs and independently sell wheelchair frames from the market. The design and performance of the seat system are evaluated. This document provides the use of wheelchair alternatives to evaluate the frontal impact of a seat system without a frame The method of anti-collision performance at the time. GB/T 30661 is intended to be composed of four parts.

1.Vocabulary, reference axis and measurement of body parts, posture and posture

supporting surface.

2.Determination of the physical and mechanical properties of the device to maintain tissue integrity.

3.Determination of static, impact and fatigue strength of postural support devices.

## 1 Scope

GB/Z 30661.4-2021 covers the case where a wheelchair is also a vehicle seat. A person who cannot transfer out of their wheelchair travels seated in it, and at that moment the chair stops being mobility equipment and becomes automotive safety equipment - restrained to the vehicle floor, carrying an occupant through whatever the vehicle experiences. Ordinary car seats are engineered and crash-tested as part of the vehicle; a wheelchair was designed for none of that, and the loads in a frontal impact go through a seat and a fixing system never intended to carry them. This part specifies the design and performance requirements and the test methods for the seat fixing system of forward-facing seats installed in motor vehicles and on manual or powered wheelchairs, together with the requirements for identification, labelling, instructions for use, warnings and the information to be published. It provides for assessing frontal impact performance for adult or child occupants of not less than 22 kg. As a GB/Z it is a guiding technical document. It is written for wheelchair and seating manufacturers, for the converters who build accessible vehicles, and for the transport operators and testing bodies responsible for occupants who travel seated in their own chair.

This document specifies the design of the seat fixing system for front-facing seats installed on motor vehicles and manual or electric wheelchairs. Design, performance requirements and test methods, as well as requirements for identification, labeling, instructions for use, warnings and information release. This document can assess passengers It is the frontal collision avoidance performance of the seat system for adults or children weighing no less than 22kg. This document is only applicable to the four-point strap fastening device that is used with the wheelchair chassis that meets the performance requirements of ISO 7176-19. A complete wheelchair seat system including connecting hardware. This document is suitable for use with the occupant safety limit system (fixed to the motor vehicle, securing system or wheelchair frame) Seat system. Seating systems that are only used for specific wheelchair chassis should meet the requirements of ISO 7176-19.

## 2 Normative references

The content of the following documents constitutes an indispensable clause of this document through normative references in the text. Among them, dated quotations Only the version corresponding to the date is applicable to this document; for undated reference documents, the latest version (including all amendments) is applicable to This document.

ISO 898-

7 Mechanical properties of fasteners Torque test and breaking torque of bolts and screws  
Nominal diameter 1~10 mm (Mechanical properties of fasteners-Part

7. Torsional test and minimum torques for bolts and screws with nominal diameters 1 mm to 10 mm)  
ISO 7176-

### 3 Terms and definitions

The following terms and definitions apply to this document.

### 19 Wheelchairs Part

19. Wheeled mobile devices that can be used as motor vehicle seats (Wheelchairs-Part 19.  
Wheeled mobility devices for use as seats in motor vehicles)

ISO 6487 Road vehicles-Measurement techniques (Road vehicles-Measurement  
techniques) in impact tests-Instrumentation)

ISO 10542-1:2001 Assistive Technology System for the Disabled, Wheelchair Tethering  
Device and Occupant Safety Restraint System Part

1. System Requirements and test methods

(Technical systems and aids for disabled or handicapped persons-Wheelchair  
tiedown and occupant-restraint systems-Part