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

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**Industrial trucks - Safety requirements and verification - Part 6:
Burden and personnel carriers**

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1 Scope

This document specifies self-propelled cargo carriers that are not lifted and/or have three or more wheels, as defined in ISO 5053-1:2020:

Self-propelled personnel carriers with a maximum speed not exceeding 56km/h and a load capacity not exceeding 5000kg (hereinafter referred to as "carriers" or "vehicles")

security requirements and verification methods:

This document applies to vehicles equipped with a platform (tiltable) to carry cargo, or with seats to transport passengers:

This document does not apply to:

---Vehicles mainly used for earthmoving operations or road transportation;

---Unmanned vehicles;

---golf cart;

---A tractor with a hook traction force not exceeding 20,000N and equipped with a cargo platform:

This document covers the use of the relevant machinery under the manufacturer's intended use and misuse under foreseeable conditions, as listed in Appendix A:

Danger, dangerous state or dangerous event:

This document does not cover hazards arising from the risk of disintegration during operation:

This document does not cover hazards that may occur when the vehicle is used on public roads or operated in potentially explosive atmospheres:

This document does not specify requirements for the provision of fire extinguishers:

2 Normative reference documents

The contents of the following documents constitute essential provisions of this document through normative references in the text: Among them, the dated quotations For undated referenced documents, only the version corresponding to that date applies to this document; for undated referenced documents, the latest version (including all amendments) applies to this document:

GB/T 7593-2008 Symbols for driver control devices and other display devices of motorized industrial vehicles (ISO 3287:1999, IDT)

GB/T 8420-2011 Body dimensions of drivers of earthmoving machinery and minimum movement space of drivers (ISO 3411:2007, IDT)

GB/T 15706-2012 General principles for mechanical safety design risk assessment and risk reduction (ISO 12100:2010, IDT)

GB/T 17300-2017 Earthmoving machinery access device (ISO 2867:2011, IDT)

GB/T 26560-2011 General principles for safety signs and hazard pictorial representations of motorized industrial vehicles (ISO 15870:2000, IDT)

GB/T 26562-2011 Structure and arrangement of pedals for self-propelled industrial vehicles Principles of structure and arrangement of pedals (ISO 21281:2005, IDT)

GB/T 26948-1-2011 Technical requirements and test methods for driver restraint systems of industrial vehicles Part 1: Waist safety belt (ISO 24135-1:2006, IDT)

GB/T 27544-2011 Electrical requirements for industrial vehicles (ISO 20898:2008, IDT)

GB/T 32272-1-2015 Test methods for verification of field of view of motorized industrial vehicles Part 1: Seating seats with a lifting capacity not exceeding 10t Ride-on and stand-up vehicles and telescopic forklifts (ISO 13564-1:2012, IDT)

ISO 3795:1989 Test of combustion behavior of internal materials of road vehicles, tractors and machinery used in agriculture and forestry (Roadvehicles, and materials)

Note: GB/T 20953-2007 Determination of combustion characteristics of interior materials for agricultural and forestry tractors and machinery cabs (ISO 3795:1989, MOD)

ISO 5010:2019 Earth-moving machinery wheeled machine steering requirements (Earth-moving machinery-Wheeled machine)

Note: GB/T 14781-2014 Steering requirements for tire-type earthmoving machinery (ISO 5010:2007, IDT)

ISO 5053-1:2020 Industrial vehicle terminology Part 1: Industrial truck types (Industrial trucks-Vocabulary)

Note: GB/T 6104-1-2018 Industrial vehicle terminology and classification Part 1: Industrial vehicle types (ISO 5053-1:2015, IDT)

Note: GB/T 18849-2011 Brake performance and parts strength of motorized industrial vehicles (ISO 6292:2008, IDT)

ISO 13849-1:2006 Safety components related to machinery safety control systems Part 1: General principles for design (Safetyofmachin-

ISO 22915-17:2020 Industrial vehicle stability verification Part 17: Tractors, cargo and personnel carriers (Industrial

3 Terms and definitions

The following terms and definitions as defined in ISO 5053-1:2020 and GB/T 15706-2012 apply to this document:

4 Security requirements and/or protective measures

4:1 General 4:1:1 General requirements Vehicles shall comply with the safety requirements and/or protective measures of this chapter: In addition, non-significant hazards not covered in this document should be Vehicle design shall be carried out in accordance with the principles specified in GB/T 15706-2012:

4:1:2 Normal climatic conditions The following normal climatic conditions should be met when the vehicle is operating:

---Average ambient temperature under continuous operating conditions: 25°C;

---The highest ambient temperature in a short period of time (not more than 1h): 40 degrees C;

---Minimum ambient temperature when using the vehicle under normal indoor conditions: 5 degrees C;

---Minimum ambient temperature when using the vehicle under normal outdoor conditions: -20°C;

---Altitude: no more than:2000m:

4:1:3 Electrical requirements Electrical systems and equipment should comply with the requirements of GB/T 27544-2011:

4:1:4 Side or angle During normal operations and daily inspections, the operating area of the operator's normal operating position, as well as the operator or passenger access area should not be Sharp edges or corners that pose a hazard:

4:1:5 Energy storage components Measures should be taken for components that store energy and may cause a hazard during movement or disassembly, such as hydraulic accumulators or spring brakes:

Shi releases its energy before moving or dismantling it:

4:2 Start/run The vehicle should be equipped with a device (such as a key, password, magnetic card, etc.) to prevent the vehicle from starting when the device is not used:

4:2:2 Unexpected movement 4:2:2:1 Parking brake A parking brake that meets the requirements of 4:3:1 shall be equipped:

4:2:2:2 Internal combustion carrier vehicles Internal combustion carriers shall be equipped with a device that prevents the engine from starting when the transmission is engaged:

4:2:2:3 Operation control The operation control device of an internal combustion carrier should be designed so that the vehicle can start from a standstill on a level road only when the transmission is engaged:

Start moving:

4:2:2:4 Power operation The ride-on carrier can only operate under power when the operator is in the normal operating position:

When the operator returns to the normal operating position but does not perform additional operations such as readjusting direction control or activating speed control, the power Running should not happen automatically:

4:2:2:5 Manual transmission and manually operated clutch pedal Carriers with manual transmissions and manually operated clutch pedals shall comply with the requirements of 4:2:2:2 and 4:2:2:4:

4:2:3 Speedometer For ride-on carriers with a maximum operating speed exceeding 25km/h, a speedometer should be provided:

4:3 Braking device 4:3:1 General All trucks should be equipped with service brakes and parking brakes, and the brakes should comply with ISO 6292:2020:

The parking brake shall be equipped with a device to prevent accidental release: Parking braking force shall be generated by mechanical means:

4:3:2 Stand-up truck Stand-up carriers should be equipped with a braking device that automatically closes until it is released by the operator: The device can be used as a carrier The vehicle's service brake and parking brake:

4:3:3 Power failure For automatic braking brakes, failure of the power supply that releases the brake should not cause the brake to fail: The braking system power occurs In case of failure, the brake should automatically apply the brake:

4:4 Manual controls 4:4:1 General 4:4:1:1 Consistency with vehicle motion The action of the control device should be consistent with the ongoing movement of the vehicle, and the operation of the control device should be limited to the vehicle or tiller: