

ICS 43.100
CCS T 47



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

GB/T 22551-2023

Replacing GB/T 22551-2008

Leisure accommodation vehicles - Habitation requirements

旅居车辆 居住要求

Issued on: May 23, 2023

Implemented on: December 1, 2023

**Issued by: State Administration for Market Regulation;
Standardization Administration of China**

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1 Scope

China's national habitation requirements for leisure accommodation vehicles. It specifies the whole vehicle configuration, the internal facilities, the water supply, storage and wastewater treatment, the thermal insulation and heating, the gas system, the emergency measures, the warning signs and the user manual requirements. This is the standard that treats the vehicle as somewhere people sleep. The hazards it addresses are those of a very small dwelling that is also a vehicle, and they are not the hazards a vehicle standard covers. The gas installation is the first of them: a motorhome carries liquefied petroleum gas for cooking and often for heating and refrigeration, in a confined space, in a structure that vibrates and flexes as it is driven, with occupants asleep inside. So the standard specifies the cylinder compartment and its ventilation to the outside, the pipework and its support, the appliance installation and the flueing, the isolation and the leak testing. The heating installation carries the second: a combustion heater inside a sealed insulated box produces

carbon monoxide, and the requirement for a room-sealed appliance and for adequate permanent ventilation is what prevents the accidents that occur every winter in vehicles without them. The water system carries the third, since a tank of stored water at ambient temperature is a microbiological risk and the potable and waste systems must not be able to cross-connect. Around those sit the insulation and the temperature that must be achievable, the emergency exit and its dimensions and operation, the fire extinguisher and detection, the warning signs, and the user manual - which for a product operated by someone who has never used one before is a safety component in its own right. Issued on 23 May 2023 and in force since 1 December 2023, it replaces GB/T 22551-2008.

This Document specifies the whole vehicle configuration, internal facilities, water supply, storage and wastewater treatment, thermal insulation and heating, gas system, emergency measures, warning signs, and user manual requirements for leisure accommodation vehicles. This Document applies to the design, production and use of leisure accommodation vehicles and caravans.

2 Normative References

The provisions in following documents become the essential provisions of this Document through reference in this Document. For the dated documents, only the versions with the dates indicated are applicable to this Document; for the undated documents, only the latest version (including all the amendments) is applicable to this Document.

GB/T 5842 Liquefied petroleum steel gas cylinders

GB 7258 Safety specifications for motor vehicles operating on roads

GB/T 9867-2008 Rubber vulcanized or thermoplastic - Determination of abrasion resistance using a rotating cylindrical drum device

GB/T 17219 Standard for Safety Evaluation of Equipment and Protective Mater

GB/T 22550 Leisure accommodation vehicles - Terminology

GB/T 36121-2018 Technical requirements for caravans

GB/T 41601 Leisure accommodation vehicle - Safety ventilation requirements

GB/T 42289 Leisure accommodation vehicle - Safety general requirements for the residential electric system QC/T 776 Motor caravan

ISO 8936 Awnings for leisure accommodation vehicles - Requirements and test methods

3 Terms and Definitions

For the purposes of this Document, the terms and definitions given in GB 7258 and GB/T 22550 apply.

4 The Whole Vehicle Configuration

4.1 Capacity of bed The bed capacity of a leisure accommodation vehicle shall be consistent with the number of beds provided (including fixed beds and movable beds), and the number of beds and their layout shall be indicated in the user manual.

4.2 Stiffness When the caravan supports all its supporting devices on the ground in a stationary state, conduct a stiffness test on any supporting device in accordance with the method specified in Appendix A. The doors and windows of the caravan shall not deform in such a way that it is difficult to open.

4.3 Supporting device Caravan shall be equipped with four supporting devices, one at each corner. The supporting device shall be telescopic and height-adjustable. Each supporting device shall be able to withstand a load of no less than 25% of the maximum total design mass of the caravan when extended. The front supporting device of the caravan semi-trailer shall be able to withstand a load of no less than 50% of the maximum total design mass of the caravan. When the supporting device is used, one or more wheels of the caravan shall not be lifted off the ground unless the user manual specifically states that the supporting device is used for this purpose. Suitable operating tools for height adjustment shall be provided. The load capacity of the supporting device shall be stated in the user manual.

4.4 Grab handle for vehicle moving A caravan with a total mass less than or equal to 2000kg shall be equipped with 4 grab handles for vehicle moving, one at the front and rear of each side. If the maximum allowable total mass of the caravan does not exceed 750kg, it only needs to be equipped with one grab handle for vehicle moving at the front on the left and right sides. The horizontal operating space of each grab handle for vehicle moving shall be no less than 30mm x 120mm. The grab handle for caravan moving shall be tested in accordance with Appendix B. After the test, the grab handle for caravan moving and its fixing device shall not be permanently deformed or loose.

4.5.1 Height

4.8 Sunroof and side windows When the leisure accommodation vehicle is driving, the sunroof, side windows and their accessories shall not become loose, and screens and sunshades shall be installed on the inside.

4.9 Awnings If a leisure accommodation vehicle is equipped with an awning, it shall meet the requirements of ISO 8936; and its installation and use shall meet the requirements of the manufacturer's technical documents.

4.10 Electrical equipment The electrical appliances and supporting equipment of a leisure accommodation vehicle shall meet the requirements of GB/T 42289.

4.11 Ventilation The ventilation system of the leisure accommodation vehicles shall meet the requirements of GB/T 41601. Bathrooms, stove areas, and gas cylinder storage rooms

shall be equipped with ventilation devices or exhaust outlets. Ventilation devices or exhaust outlets shall not be shielded or blocked.

5 Internal Facilities

5.1 Seat The seats for the approved number of passengers of the leisure accommodation vehicle shall meet the requirements of QC/T 776.

5.2 Beds

5.2.1 Mattress size The bed shall be equipped with a mattress (or cushion). The length and width of all mattresses (or cushions) shall be clearly stated in the user manual. The allowable deviation of size is $\pm 20\text{mm}$. If the mattress (or cushion) has an irregular shape, an illustration shall be attached and the relevant dimensions shall be stated.

5.2.2 Clear space of bed The minimum width of the bed of a leisure accommodation vehicle shall be no less than 600mm, and the minimum width of the bed of a caravan shall be no less than 700mm. The minimum length of the bed of the leisure accommodation vehicle should be no less than 1800mm. When a uniformly distributed load of 75kg is placed on the mattress (or cushion), the vertical clear height above 2/3 of the surface area of the mattress (or cushion) shall be no less than 650mm.

5.2.3 Protective facilities The upper bed shall be equipped with rigid protective (guardrails) or elastic protection (curtains or protective nets) facilities. The gap between protective facilities and other facilities shall be no greater than 75mm. The minimum height of the rigid protective facilities shall be 150mm higher than the upper surface of the mattress (or cushion). The rigid protective facilities on the outside of the bed shall have an opening of 350mm~550mm as the upper bed passage. The minimum height of the elastic protective facility shall be 160mm higher than the upper surface of the mattress (or cushion). At least one end of the elastic protection facility shall be removable, and an opening of 350mm~550mm can be opened as a passage for the upper bed. Any area on the elastic protective device shall be able to withstand a horizontal external thrust force of 100N for 15 s without causing any tearing, separation or creating a gap greater than 60mm at the lower edge of the elastic protective device.

5.2.4 Mechanical strength After the surface of the mattress (or cushion) is loaded with a vertical downward force of 1000N for 60 min, the bed frame shall not produce permanent deformation exceeding 5mm, and the fixation of the bed shall not be damaged. The mechanical strength test of the bed shall be carried out in accordance with Appendix D.

5.2.5 Bed safety All beds shall be free of accidental movement. If the bed is foldable, there shall be no accidental automatic folding. If the bed can be folded and stored while the leisure accommodation vehicle is in motion, it shall not be accidentally moved during storage.