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

GB/T 41601-2022

**Leisure accommodation vehicle - Safety ventilation
requirements**

旅居车辆 安全通风要求

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Foreword

This document was issued on 11 July 2022 by the State Administration for Market Regulation; Standardization Administration of the PRC and takes effect on 1 November 2022.

It is a GB/T standard: recommended rather than compulsory, but it is the text a Chinese reviewer applies when assessing a submission.

1 Scope

GB/T 41601-2022 covers safe ventilation in leisure accommodation vehicles - motorhomes and caravans built with a compartment people live in. Clause 4 sets the vehicle requirements: the general rules, the design of the flue discharge ports that carry combustion products out, and the design of the ventilation openings themselves. Clause 5 gives the free area of ventilation, requiring the area taken up by grilles and other guards to

be deducted from the opening rather than counted, and sets the minimum free area for a habitable compartment. Clause 6 is the effective ventilation test: the conditions under which it is run, the test process, how the result is judged, and what the report must contain. Annex A gives the warning signs that have to be fitted. A living compartment is a small sealed box in which people cook, run a heater and then sleep. An appliance burning fuel inside it consumes oxygen and produces carbon monoxide, and an occupant who tapes over a vent against a draught, or a flue outlet placed where exhaust is drawn back through a window, can turn a night's sleep into an asphyxiation. Air change here is a safety function, not a comfort feature. For vehicle builders and converters, appliance installers, and the type approval and inspection bodies that sign the vehicles off.

This document specifies the vehicle requirements, effective ventilation area requirements, and effective ventilation test methods for the safe ventilation of leisure accommodation vehicles.

This document is applicable to the leisure accommodation vehicles specified in GB/T 22550.

2 Normative references

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

GB/T 2893.2-2020 Graphical symbols - Safety colours and safety signs - Part 2:

Design principles for product safety labels

GB/T 3730.3 Motor vehicles and towed vehicles - Dimensions of vehicles - Terms and definitions

GB/T 22550 Leisure accommodation vehicles - Vocabulary

3 Terms and definitions

The terms and definitions defined in GB/T 3730.3 and GB/T 22550 and the following terms and definitions apply to this document.

3.1 leisure accommodation vehicle

Units for temporary or seasonal occupancy and meeting building requirements and road vehicle use requirements.

Note: leisure accommodation vehicles include motor caravans and caravans.

4.1.2 If the vehicle has been tested for safe and effective ventilation in accordance with the provisions of Chapter 6 and the test results meet the requirements for determining the results, and a permanent label is posted next to the fired equipment, it is considered that the requirements of 4.1.1 have been met. The content of the label shall comply with the provisions of Appendix A.

4.1.3 The ventilator shall meet the following requirements:

- a) Renew the air for the occupants;
- b) Provide combustion air for non-space enclosed equipment in the vehicle;
- c) Evacuate the combustion products of the equipment having no flue in the vehicle;
- d) Provide necessary ventilation for installed electrical equipment.

4.1.4 If the effective ventilation area is reduced during the running of the vehicle, when the vehicle is stopped and the engine is turned off, the ventilator shall be automatically restored to meet the requirements of Chapter 5 or Chapter 6.

4.1.5 In order to ensure the safety of living, the following points shall be emphasized in the vehicle instruction manual:

- a) Under no circumstances shall the vents be blocked or partially blocked;
- b) It is necessary to keep the ventilation openings unobstructed and keep the ventilation mesh panels or ventilation protection devices for the ventilation openings (such as gratings) clean;
- c) Cooking equipment such as cookers working with naked fire shall not be used for indoor heating;
- d) If the leisure accommodation vehicle has been tested and approved in accordance with the provisions of Chapter 6, the warning sign specified in Appendix A shall be reproduced in the vehicle instruction manual;
- e) During the living, all lift roofs shall be raised for leisure accommodation vehicles

with lift roofs.

4.2 Design requirements for flue discharge ports

4.2.1 The flue discharge port shall be installed according to the requirements of the equipment description, and it should be installed on the roof or side wall of the vehicle.

4.2.2 When the flue discharge port is installed under the floor, its position shall be close to the sides or rear of the vehicle, and protective measures shall be taken to prevent combustion products from entering the living area through the floor.

Description of the indexing numbers:

1 --- Window;

2 --- Forbidden area;

3 --- Bottom of the vehicle.

Note: If the flue discharge port is installed directly below the window opening due to structural or layout

restrictions, the gas equipment shall stop working automatically when the window is opened.

Figure 2 -- Schematic diagram of the window surrounding area where the installation of the flue discharge port is forbidden

4.3 Design requirements for ventilation openings

4.3.1 The ventilation openings of the ventilator shall include high-level ventilation openings and low-level ventilation openings.

4.3.2 The high-level ventilation openings can be on the car roof or at a high position on the wall. The high-level ventilation openings on the wall shall be installed at a position that is no less than 1750 mm above the interior floor of the vehicle or no more than 150 mm from the interior roof of the vehicle, and in any case, the position shall be at least 300 mm higher than the top surface of the mattress of the highest berth.

4.3.3 The low-level ventilation opening shall not exceed 100 mm above the floor of the vehicle.

4.3.4 The installation of the ventilation openings shall ensure that the ventilation function of the ventilation openings will not be affected due to decorative parts, curtains,