



SLOVENSKI STANDARD SIST EN 721:2020

01-januar-2020

Nadomešča:
SIST EN 721:2005

Bivalna počitniška vozila - Zahteve za varnostno prezračevanje

Leisure accommodation vehicles - Safety ventilation requirements

Bewohnbare Freizeitfahrzeuge - Anforderungen an die Sicherheitslüftung

Véhicules habitables de loisirs - Exigences de ventilation de sécurité

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Ta slovenski standard je istoveten z: **EN 721:2019**

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ICS:

43.100	Osebni avtomobili. Bivalne prikolice in lahke prikolice	Passenger cars. Caravans and light trailers
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SIST EN 721:2020

en,fr,de

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 721

October 2019

ICS 43.100

Supersedes EN 721:2004

English Version

Leisure accommodation vehicles - Safety ventilation requirements

Véhicules habitables de loisirs - Exigences de ventilation de sécurité

Bewohnbare Freizeitfahrzeuge - Anforderungen an die Sicherheitslüftung

This European Standard was approved by CEN on 9 September 2019.

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This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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European foreword

This document (EN 721:2019) has been prepared by Technical Committee CEN/TC 245 “Leisure accommodation vehicles”, the secretariat of which is held by AFNOR.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by April 2020, and conflicting national standards shall be withdrawn at the latest by April 2020.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 721:2004.

In relation to EN 721:2004, the main technical changes are:

- a) “ventilation” specified to “safety ventilation” throughout the document;
- b) specified to flueless appliances;
- c) normative references updated;
- d) in 6.2 “Procedure”, procedure and calculation modified;
- e) in 6.3 “Test report”, elements of the test report specified;
- f) editorially modified;
- g) Alternative ventilation arrangements have been added
- h) Revision of chapter 5.2.1 “Habitable compartments containing non-room-sealed appliances” (the table has been divided into two different tables)
- i) deleted volume calculation for CO₂ testing
- j) 6.2.4 modified.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

EN 721:2019 (E)

1 Scope

This document specifies the minimum safety ventilation requirements for leisure accommodation vehicles.

It provides alternative methods of calculation or testing of safety ventilation.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 13878, *Leisure accommodation vehicles — Terms and definitions*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 13878 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <https://www.iso.org/obp>

3.1
habitable compartment
compartment used for living purposes which is not solely utility room, sanitation compartment, walk in storage or hallway

3.2
utility room
room limited in function to a washing machine and/ or tumble dryer

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4 Requirements

4.1 General

Each habitable compartment, shall be provided with safety ventilation. Where trickle ventilation is used in caravan holiday homes, the sanitary compartments shall be included. A habitable compartment that includes a part that can be temporarily separated by a curtain shall be considered as a single compartment.

The safety ventilation shall permit at least:

- a) renewal of air for occupants;
- b) supply of combustion air for appliances that are non-room-sealed;
- c) evacuation of the products of combustion for flueless appliances, and
- d) the necessary ventilation as prescribed by installed appliances manufacturer's instructions.

This requirement shall be considered fulfilled if, for each model:

- e) the minimum free area of safety ventilation is provided, in accordance with Clause 5, or
- f) the CO₂ concentration in the air within each habitable compartment of the leisure accommodation vehicle does not rise by more than 1 % (10 000 ppm) absolute above the background level, when tested in accordance with Clause 6 and independently verified, and a permanent label is affixed adjacent to the cooker (see Annex A)

If, when the vehicle is in motion, the free area of safety ventilation is reduced, then as the vehicle becomes stationary the ventilators shall automatically return to the position in which the free area of safety ventilation was calculated in accordance with Clause 5 or tested in accordance with Clause 6.

4.2 Ingress of products of combustion

Flue terminals shall be sited in accordance with the appliance manufacturer's instructions preferably on the roof or in the wall of the vehicle.

Where national legislation does not forbid that the flue of an appliance is designed to discharge through the floor, precautions shall be taken to prevent ingress of the products of combustion into the habitation area through safety ventilation openings in the floor. The terminal shall be positioned as close as possible to the sides or rear of the vehicle.

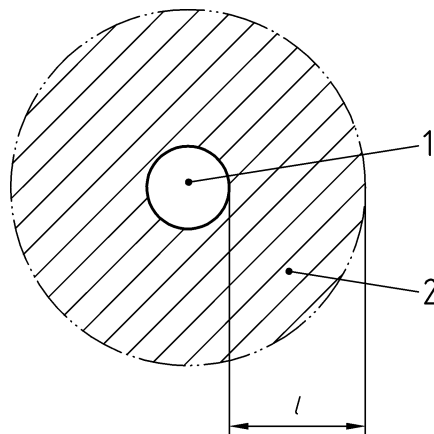
If there are underfloor flue terminals, it is recommended that low level safety ventilation openings are positioned in the side of the vehicle and not in the floor.

Where the underfloor area is divided into distinct channels that project below the floor, e.g. by chassis members or floor bearers, there shall be no safety ventilation openings in the same channel as any flue outlet.

Flue terminals shall not be positioned within 500 mm of a refuelling point or fuel tank breather outlet or any ventilator from the fuel system(s).

Flue terminals positioned on a wall or a roof (except for gas appliances of not more than 30 g/h LPG consumption) shall not be fitted within 300 mm of a ventilator for the living space or an opening part of a window (see Figure 1).

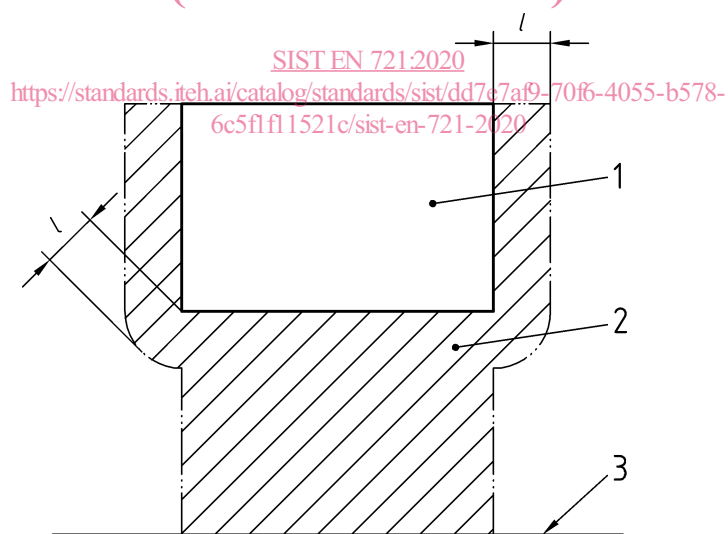
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**Key**

- 1 Ventilator
- 2 Prohibited zone
- $l = 300 \text{ mm}$

Figure 1 — Prohibited zone for discharge openings for the products of combustion in relation to ventilators

Where the flue terminal of an appliance (except for gas appliances of not more than 30 g/h LPG consumption) is positioned vertically below an opening part of a window, the appliance shall be fitted with an automatic shut-off device to prevent operation when the window is open (see Figure 2).

**Key**

- 1 Window
- 2 Prohibited zone
- 3 Floor
- $l = 300 \text{ mm}$

Figure 2 — Prohibited zone for discharge openings for the products of combustion in relation to windows

4.3 Avoidance of obstructions

Safety ventilation openings shall be positioned so that they cannot be made ineffective by drapes, curtains or other obstructions.

If the safety ventilation is provided to the interior through a cupboard, bed box or similar space, it shall not be possible for the passage of air to be obstructed inadvertently e.g. by items stored in these spaces.

4.4 Safety ventilator grilles

The safety ventilation openings shall be protected by a grille that shall be accessible for cleaning. Access may be gained by the use of a simple tool, e.g. a screwdriver.

5 Minimum free area of safety ventilation, by calculation

5.1 General

All safety ventilation grilles (see 4.4) shall be accounted for when providing the minimum free area of safety ventilation.

When the high level safety ventilation is not provided by roof vents, the minimum high level safety ventilation area shall be twice the values shown for roof vents in Table 1. The high level safety ventilation openings, which are not roof vents, shall be not less than 1 750 mm from the interior floor level of the leisure accommodation vehicle and not less than 300 mm above the upper surface of the uncompressed mattress of the highest sleeping berth.

A combination of roof and wall vents is possible. To calculate the level of safety ventilation required, subtract the level of safety ventilation given by the roof vent from the total required. Multiply the remainder by two to give the level of safety ventilation required of the wall vents.

Low level safety ventilation openings shall be not more than 100 mm above the interior floor level.

5.2 Sizes of safety ventilation openings in habitable compartments

5.2.1 Habitable compartments containing non-room-sealed appliances

Safety ventilation openings shall conform to Table 1 for caravans and motorcaravans and to Table 2 for caravan holiday homes.

Table 1 — Minimum sizes of safety ventilation openings in habitable compartments containing non-room-sealed appliances in caravans and motorcaravans

Overall plan area m ²	Minimum high level safety ventilation (Roof vents) mm ²	Minimum low level safety ventilation mm ²
up to 5	7 500	1 000
over 5 and up to 10	10 000	1 500
over 10 and up to 15	12 500	2 000
over 15 and up to 20	15 000	3 000
over 20	20 000	5 000