

Residential park homes — Specification

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Committees responsible for this British Standard

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- British Holiday and Home Parks Association
- Camping and Caravanning Club
- Caravan Club
- Chief and Assistant Chief Fire Officers' Association
- Department for Transport
- Institution of Electrical Engineers
- LP Gas Association
- National Caravan Council
- National Prefabricated Building Association
- Society of Motor Manufacturers and Traders

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Foreword

This British Standard has been prepared by Technical Committee B/511. It supersedes BS 3632:1995, which is withdrawn.

This revision introduces technical changes to take account of present living requirements, following a full review of the standard.

When this British Standard was first published in 1963, the title *Specification for permanent residential caravans* was adopted to reflect the design and use of this type of caravan, the term by which it was then commonly known. Since then, the permanent residential caravan has undergone considerable development in terms of size, services, equipment and material. The revision published in 1989 recognized changes made up to that time.

When issued in 1981, this standard was titled *Specification for mobile homes*, “mobile home” being the term used in the United Kingdom shortly before and following the Mobile Homes Act of 1975. Since 1981 the term “park home” has been adopted by the caravan industry and is now in common use and this term was, therefore, introduced into the standard. The term “residential park home” has now been adopted in order to be more specific and to avoid ambiguity. This edition had regard to criteria appropriate to more conventional forms of housing, and was aimed at ensuring the suitability of a residential park home as a permanent dwelling as far as is possible with this form of construction.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

In particular, attention is drawn to the following statutory regulations:

Furniture and Furnishings (Fire) (Safety) Regulations 1988, as amended [1]

Gas Safety (Installation and use) Regulations 1998 [2]

Water Supply (Water Fittings) Regulations 1999 [3]

Caravan Sites and Control of Development Act 1960 [4]

Caravan Sites Act 1968 [5]

Manual Handling Operations Regulations 1992 [6]

Summary of pages

This document comprises a front cover, an inside front cover, pages i to ii, pages 1 to 24, an inside back cover and a back cover.

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1 Scope

This British Standard specifies requirements for the manufacture of an ex-works residential park home for use as a permanent place of residence. It also specifies conditions of tests to be carried out to ensure conformity of products.

2 Normative references

The following referenced documents are indispensable for the application 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.

BS 476-3:1975, *Fire tests on building materials and structures — Part 3: External fire exposure roof test*

BS 476-7:1987, *Fire tests on building materials and structures — Part 7: Method for classification of the surface spread of flame of products*

BS 715, *Specification for metal flue pipes, fittings, terminals and accessories for gas-fired appliances with a rated input not exceeding 60 kW*

BS 1188, *Specification for ceramic wash basins and pedestals*

BS 5410-1, *Code of practice for oil firing — Part 1: Installations up to 45 kW output capacity for space heating and hot water supply purposes*

BS 5440-1, *Installation and maintenance of flues and ventilation for gas appliances of rated input not exceeding 70 kW net (1st, 2nd and 3rd family gases) — Part 1: Specification for installation and maintenance of flues*

BS 5446-1, *Fire detection and fire alarm devices for dwellings — Part 1: Specification for smoke alarms*

BS 5482-1, *Domestic butane- and propane-gas-burning installations — Part 1: Specification for installations at permanent dwellings*

BS 5493, *Code of practice for protective coating of iron and steel structures against corrosion*

BS 5608, *Specification for preformed rigid polyurethane (PUR) and polyisocyanurate (PIR) foams for thermal insulation of pipework and equipment*

BS 6206, *Specification for impact performance requirements for flat safety glass and safety plastics for use in buildings*

BS 6262-4, *Glazing for buildings — Part 4: Safety related to human impact*

BS 6700, *Specification for design, installation, testing and maintenance of services supplying water for domestic use within buildings and their curtilages*

BS 6891, *Specification for installation of low pressure gas pipework of up to 28 mm (R1) in domestic premises (2nd family gas)*

BS 7376, *Inclusion of glass in the construction of tables or trolleys — Specification*

BS 7449, *Specification for inclusion of glass in the construction of furniture, other than tables or trolleys, including cabinets, shelving systems and wall hung or free standing mirrors*

BS 8417, *Preservation of timber — Recommendations*

BS 12056-2, *Gravity drainage systems inside buildings — Part 2: Sanitary pipework, layout and calculation*

BS EN 33, *Pedestal WC pans with close-coupled flushing cistern — Connecting dimensions*

BS EN 37, *Pedestal WC pans with independent water supply. Connecting dimensions*

BS EN 997, *WC pans and WC suites with integral trap*

BS EN 50291, *Electrical apparatus for the detection of carbon monoxide in domestic premises — Test methods and performance requirements*

BS EN ISO 12944-2, *Paints and varnishes — Corrosion protection of steel structures by protective paint systems — Part 3: Design considerations*

3 Terms and definitions

For the purposes of this standard the terms and definitions given in BS 6760 and the following apply.

3.1

residential park home

caravan used for permanent residence as defined in the Caravan Sites and Control of Development Act 1960 [4] and the Caravan Sites Act 1968 [5]

3.1.1

habitable room

room used for living purposes, such as a:

- a) living room,
- b) kitchen
- c) bedroom,
- d) study,
- e) dining room, or
- f) utility room

4 Design

4.1 Occupancy

To determine the ventilation requirements the occupancy shall be designated as the number of berths provided, both standard and additional berths.

4.2 Accommodation

The accommodation shall comprise living area, space for meals, kitchen, bedroom (or bedrooms), bathroom or shower room and sanitary accommodation.

4.3 Dimensions

4.3.1 All floor areas shall be ascertained from internal measurements taken at floor level, between external and/or partition walls.

4.3.2 The total floor area shall be not less than 23 m².

4.3.3 Double bedrooms shall be not less than 2 300 mm in one plan dimension and not less than 5.5 m² in area.

4.3.4 Single bedrooms shall be not less than 1 900 mm in one plan dimension and not less than 2.3 m² in area. There shall be space for a standard single bed measuring 1 830 × 760 mm.

4.3.5 The ceiling height on a flat ceiling shall be not less than 2 135 mm excluding carpets. For a pitched ceiling, the ceiling shall have an average height of not less than 2 135 mm and not more than 3 048 mm excluding carpets. For bedrooms, the height of the pitched ceiling shall not reduce below 2 135 mm within the minimum floor areas as specified in **4.3.3** and **4.3.4**.

4.4 External doors and windows

If the floor area is less than 40 m² then at least one external door shall be provided.

If the floor area is greater than 40 m², then a minimum of two external doors shall be provided.

If the two external doors are in the same room then they shall be a minimum of 2 500 mm apart when measured between the nearest inner faces of the frames.

All habitable rooms shall be provided with windows or glazed external doors or both, the total glazed area of which shall be not less than 10 % of the floor area. Windows to habitable rooms shall be openable to the extent of 5 % of each room's floor area.

For the purpose of calculation of glazed area and extent of window opening, the floor area excludes built-in furniture from floor to ceiling and habitable rooms exclude any hall, bathroom or WC.

4.5 Means of escape

4.5.1 General

Habitable rooms shall each be provided with a means of escape by a door or a window, which shall give direct access to the open air. If a jamb of the only door opening into a kitchen is within 1 000 mm of any cooking equipment, an alternative means of escape shall be provided from the kitchen.

No part of furniture or equipment shall obstruct the clear opening of an entrance door or a means of escape.

4.5.2 Emergency doors

Emergency doors shall be vertically hinged or slide horizontally and have a clear opening of not less than 1 900 mm in height and 700 mm in width.

4.5.3 Emergency windows

The minimum clear opening of an emergency window shall be not less than 0.33m² with a minimum horizontal dimension of 450 mm and minimum vertical dimension of 450 mm. Emergency windows shall be capable of being easily and quickly opened from the inside. Opening of an emergency window shall require not more than three operations in addition to those required to move curtains, blinds and flyscreens. An emergency window shall be capable of remaining open after the third operation. The simultaneous manual opening of two window catches shall be regarded as one operation.

No casement stay or casement fastener shall project into the minimum clear opening. No opening shall be more than 900 mm above floor level except in the case of kitchen windows used as a means of escape in which case the clear opening shall be no more than 1 000 mm above floor level.

Emergency windows shall not be pivoted horizontally on their lower edge. Where top-hung, they shall open not less than 70° and shall be capable of staying fully open until closed manually. Locking devices of top-hung windows shall be located at not more than a quarter of the height of the frame from its lower edge.

4.6 External walls

The thickness of an external wall shall be a minimum of 50 mm and the wall shall conform to the thermal insulation requirement specified in 4.9.3 and the sound insulation requirements specified in 4.9.4.

4.7 Internal walls and room doors

Doors shall be hinged vertically to fit the aperture as closely as is practicable and shall be capable of rotating on their hinges a minimum of 85° from their fully closed position.

NOTE Alternatively, sliding doors may be provided.

4.8 Glazing

Glazing in doors and windows shall be of energy efficient glass and be in accordance with BS 6262-4 and BS 6206 (see 4.9.3.1).

Glass in furniture shall conform to BS 7449 or BS 7376, as applicable.

4.9 Construction design criteria

4.9.1 Structure

NOTE The external construction should be designed to prevent penetration of weather and damp under normal conditions.

4.9.1.1 The structure shall be capable of transmitting the dead and imposed load to which it is to be subject in normal service to the foundations.

NOTE It is recommended that residential park homes exceeding 10.9 m long should be fitted with a second axle, suitably positioned for manoeuvring purposes

4.9.1.2 If the weight imposed on wheels exceeds 5 500 kg then a second wheeled axle shall be provided.

4.9.1.3 If the nose-weight exceeds 25 kg then a notice shall be displayed adjacent to the coupling head making reference to the Manual Handling Operations Regulations 1992 [6].

4.9.1.4 The wheel and tyre configuration shall be designed to withstand the ex-works mass of the residential park home.

4.9.2 Stability (resistance to overturning)

A residential park home shall be provided with holding down points, each capable of resisting 10 kN. Holding down points shall be located at 1 000 mm $\pm$ 200 mm from the end of the chassis at each of the four corners of the home. A suitable chassis holding down point detail is shown in Annex A.

4.9.3 Thermal insulation

4.9.3.1 General

The external walls, floor and roof, excluding any door and window openings, shall be of such materials and be so constructed and finished that the U-value does not exceed:

0.5 W/(m²K) for the wall and floor construction; and

0.3 W/(m²K) for the roof,

except where the requirements of 4.9.3.2 are applied.

These values shall be calculated in accordance with Annex B.

Windows and doors shall be of energy efficient construction with a maximum U-value of 2.0.

4.9.3.2 Permitted averaging of U-values

It is permissible for a wall, floor or roof to have a higher U-value than the values specified in 4.9.3.1 only where the average U-value calculated in accordance with Annex B does not exceed the average U-value as calculated in accordance with Annex C using the values specified in 4.9.3.1. No individual U-value shall exceed 0.6 W/(m²K).

Means shall be provided to minimize water vapour condensing within the insulating material.

NOTE 1 Under-floor insulation should be protected from being dislodged during transit.

NOTE 2 Guidance on dealing with interstitial condensation is given in BRE Digest 369 [7] and in BS 5250.

4.9.4 Sound insulation

The external walls shall have an average sound reduction index of not less than 35 dB over a frequency range of 125 Hz to 4 000 Hz excluding door, windows and ventilation apertures.

NOTE The sound reduction index may either be determined in accordance with the methods given in Annex D or as recommended in BS 8233.

4.10 Mechanical ventilation

4.10.1 Siting of appliances

Care shall be exercised in the siting of open or closed flue appliances adjacent to any mechanical extraction system in order to prevent reversal in the flue system. The installation of any flue system shall be in accordance with BS 5440-1 for gas-fired appliances and BS 5410-1 for oil-fired appliances, with all appliances and the extractor in operation.

4.10.2 Kitchen

The kitchen shall be provided either with a mechanical extractor capable of extracting a minimum of 60 l/s or with a cooker hood capable of extracting a minimum of 30 l/s, vented to the outside air.

Mechanical ventilation shall only be excluded from a kitchen if a heating appliance is installed in the kitchen and the installation instructions for the heating appliance preclude the fitting of a mechanical extractor.

Mechanical extractors shall be capable of being switched on and off manually.

4.10.3 Bathrooms and WCs

Bathrooms and WCs shall be provided with a mechanical extractor capable of extracting a minimum of 15 l/s vented to the outside air.

4.11 Ventilation

4.11.1 General

Ventilation shall be provided to permit:

- a) the renewal of air for occupants;
- b) the supply of combustion air for all appliances that are not room-sealed; and
- c) the evacuation of the products of combustion of all appliances which are not room-sealed.

Fixed ventilation shall be provided at high level and low level in each separate compartment where a non-room-sealed appliance is installed to ensure that the carbon dioxide (CO₂) content of the air within a living compartment cannot rise by more than 1 % over the background level, when tested in accordance with the method given in Annex E.

4.11.2 Free area of ventilation

For the purposes of calculating the minimum requirement for ventilation the “free area of ventilation” shall be considered as the unobstructed cross-sectional area of ventilator, i.e. the total geometric area of only the apertures in the ventilator or grille where fitted.

4.11.3 Habitable rooms containing appliances that are not room sealed

Installation of a non-room sealed gas-fired or oil-fired appliance in a habitable room shall be in accordance with the appliance manufacturer’s installation instructions.

4.11.4 Habitable rooms containing no flued appliances that are not room-sealed appliances

4.11.4.1 Habitable rooms

NOTE Two alternatives for ventilation of habitable compartments can be considered.

Each separate compartment, excluding WCs and bathrooms shall be provided with fixed ventilation openings of at least 1 000 mm² at low level and 2 000 mm² at high level. If the number of occupants exceeds four, then a minimum free area of 650 mm² multiplied by the number of occupants similarly apportioned between high and low level shall be provided.

As an alternative the total fixed ventilation required in a bedroom shall be incorporated in a window frame at high level; in this case the free area of fixed ventilation shall be a minimum of 4 000 mm².

4.11.4.2 Bathroom and/or WC compartments

A minimum total free area of fixed ventilation of 2 000 mm² shall be provided for bathroom and/or WC compartments, distributed equally between high level and low level.

4.11.4.3 Alternative ventilation provisions

As an alternative to the provisions listed from 4.11.4.1 to 4.11.4.2, the provisions for ventilation shall be met by using trickle vents, fixed or adjustable, with the following areas for rooms containing no flued appliances, other than room-sealed, utilising Method 1 or Method 2 below, as appropriate.

Method 1

Habitable room (except utility room)	8 000 mm ²
Kitchen	4 000 mm ²
Utility room	4 000 mm ²
Bathroom (with or without WC)	4 000 mm ²
WC (separate from bathroom)	4 000 mm ²

Method 2

An overall provision shall be provided for the residential park home equivalent to 6 000 mm² per room for the rooms listed above with a minimum provision in each room of 4 000 mm².

Ventilators shall be installed at high level (above 1 750 mm from the finished floor level) with no requirement for low-level ventilation.