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SEPTEMBER 1993

Specification for

Mobile sanitary chairs

UDC 615.477.3:645.687.6

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The preparation of this British Standard was entrusted by the Surgical Instruments and Medical Equipment Standards Committee (SGC/-) to Technical Committee SGC/39 upon which the following bodies were represented:

- Association of Health and Residential Care Officers
- Association of National Health Service Supplies Officers
- British Furniture Manufacturers' Federated Associations
- British Surgical Trades Association Incorporated
- College of Occupational Therapists
- Department of Health and Social Security
- Disabled Living Foundation
- National League of the Blind and Disabled
- Royal College of Nursing and National Council for Nurses of the UK
- Visiting Aids Centre of the Spastics Society
- Coopted member

This British Standard, having been prepared under the direction of the Surgical Instruments and Medical Equipment Standards Committee, was published under the authority of the Board of BSI and comes into effect on 31 August 1984

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First published August 1971
First revision August 1984

The following BSI references relate to the work on this standard:
Committee reference SGC/39
Draft for comment 83/53519 DC

ISBN 0 580 13927 1

Amendments issued since publication

Amd. No.	Date of issue	Comments

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Foreword

This revision of this British Standard has been prepared under the direction of the Surgical Instruments and Medical Equipment Standards Committee. It supersedes BS 4751:1971, which is withdrawn.

This revision retains the test for durability of the sanitary chair, the requirements for corrosion-resistance of the under static loading and the stability of the sanitary chair. Requirements for the manoeuvrability of the sanitary chair, the performance and toxicity of the surface finish and the ignitability of the upholstered portions have also been introduced.

The scope of the standard has been enlarged to include sanitary chairs that are stated by the manufacturer to be suitable for use also as shower chairs and, for this type of chair, the requirements for corrosion resistance of the surface finish have been set at a more stringent level.

The Technical Committee responsible for the preparation of this revision recognizes that the needs of individual users of sanitary chairs will differ according to the extent and type of disability, and that the configuration and dimensions of the WC pan and cistern, as installed, may also vary. The Committee has decided that these factors make it impractical and undesirable to specify the exact design and dimensions of some features of the sanitary chair. A number of variations in design of the chair are possible, and various accessories may be fitted to the chair by the manufacturer at the request of the purchaser. The purchaser is advised to consider the various options in order to ensure that the chair will meet the needs of the user and will be compatible with the environment and fittings with which it is intended to be used. This is particularly important when purchasing a sanitary chair for use in domestic premises, where there may be severe restrictions on overall size and manoeuvrability. Such factors should also be considered by personnel responsible for prescribing the issue of sanitary chairs. Appendix A lists the information that the purchaser should supply to the manufacturer at the time of ordering.

Attention is drawn to the variations in the rim height of the WC pan with which a chair may be used. In setting the minimum height of the seat of the sanitary chair, the committee felt that WC pans with a rim height of 450 mm suggested for use by ambulant disabled persons in "Designing for the Disabled"¹⁾ would form a very small proportion of the WC pans likely to be used by sanitary chair users, and that stipulating an appropriately high minimum chair seat height could complicate the attainment of adequate chair stability characteristics.

Consequently, although it was felt advisable to increase the minimum chair seat height from that given in BS 4751:1971, it was decided to adopt a minimum height of 430 mm, thus enabling the sanitary chair to be used in conjunction with WC pans of normal rim height, i.e. approximately 405 mm, and with WC pans in accordance with the recommendations for housing for the disabled given in BS 5619 and BS 5810. It should be noted, however, that the specified clearance height is a minimum, and chairs with higher seats may be produced in compliance with this standard.

This British Standard calls for the use of substances and/or procedures that may be injurious to health if adequate precautions are not taken. It refers only to technical suitability and does not absolve the user from legal obligations relating to health and safety at any stage.

In particular, attention is drawn to the procedure for testing the ignitability of the upholstered portions of the sanitary chair. This procedure should be carried out by trained personnel under adequate supervision, and precautions should be taken to safeguard the health of personnel against the risk of fire or inhalation of smoke and toxic products of combustion.

¹⁾ Goldsmith, Selwyn, *Designing for the Disabled*, 3rd ed., RIBA Publications Ltd., 1976.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

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

Summary of pages

This document comprises a front cover, an inside front cover, pages i to iv, pages 1 to 18, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

1 Scope

This British Standard specifies materials, construction and performance requirements for mobile sanitary chairs for use by persons of adult stature, including sanitary chairs that are intended to be used also as shower chairs, of both the type propelled by the user and the type propelled by an attendant.

This standard does not apply to commode chairs or to chairs intended solely for use as shower chairs.

NOTE 1 Appendix A gives details of the information to be supplied by the purchaser to the manufacturer.

NOTE 2 The titles of the publications referred to in this standard are listed on the inside back cover.

2 Definitions

For the purposes of this British Standard the following definitions apply.

2.1

sanitary chair

a mobile structure, fitted with a WC seat, propelled either by the user or by an attendant and primarily intended to fit temporarily over a conventional WC pan

NOTE The sanitary chair may have provision to accommodate a bedpan or similar receptacle. It differs from a commode chair in that a commode is not intended for use in conjunction with a WC pan. Some sanitary chairs are also intended for the user to sit on when taking a shower.

2.2

footboard

the component of a sanitary chair that is permanently attached to the chair and is intended for the user and/or an attendant to stand on whilst mounting or alighting from the chair and to provide support for the user's feet

2.3

footrest

the component of a sanitary chair that is detachable from the chair, is of one-piece or multi-piece construction, and is intended to provide support for the user's feet when seated, but not to act as a load-bearing component when the user mounts or alights from the chair

3 Types of chair

Sanitary chairs shall be classified as follows:

- a) type A: sanitary chair intended to be propelled by the user;
- b) type B: sanitary chair intended to be propelled by an attendant.

NOTE Both types of chair may be intended for use also as shower chairs and if so, this should be stated by the manufacturer (see clause 10).

4 Materials

4.1 Plastics materials. Plastics materials used for the upholstery, or for the construction of any other part of the chair shall comply with the requirements for freedom from toxic metals given in 5.2.1 or 5.2.2 as appropriate.

4.2 Upholstery covers. If woven or knitted fabric is used for the outer upholstery cover it shall comply with BS 2543 and, if described as cleanable, it shall comply with the additional requirements given in Table 2 of BS 2543:1980.

If PVC coated materials are used, they shall comply with the requirements of type 1 or grade X of BS 5790-1, or of grade A of BS 5790-2.

4.3 Cushioning materials. If the materials listed in Table 1 are used, they shall comply with the relevant British Standard, as given in Table 1.

Table 1 — Cushioning materials

Material	Relevant British Standard
Flexible polyurethane foam	BS 3379
Latex foam rubber components	BS 3129
Layered washed filling containing wool	BS 3474-1
Curled hair	BS 3474-3
Recleansed hair	BS 3474-4

4.4 Ignitability. When tested for ignitability in accordance with example two of A.2 of BS 5852-1:1979, and in accordance with 6.1.2 of BS 5852-2:1982, using the butane flame ignition source 3, the upholstery and moulded plastics or rubber components shall show neither flaming nor progressive smouldering in either test.

NOTE Attention is drawn to the Upholstered Furniture (Safety) (Amendment) Regulations 1983, S.I. No. 519.

5 Surface finish

5.1 General. The surface finish shall present a smooth surface free of any discontinuities.

NOTE All surfaces of the chair should be capable of being cleaned and disinfected by the normal hospital methods for this type of equipment. Surface finishes should not be affected by, nor take permanent traces from, urine, faecal material, common toilet substances, water, soap and common cleaning materials, lubricants and mineral oils. Surface finishes should not permit adhesion of dried body substances and organic fluids, plaster or adhesive tape.

Examples of methods for testing the performance of surface finishes are as follows:

- a) BS 3962-2, *Assessment of surface resistance to wet heat.*
- b) BS 3962-3, *Assessment of surface resistance to dry heat.*
- c) BS 3962-4, *Assessment of surface resistance to liquid attack.*
- d) BS 3962-5, *Assessment of surface resistance to cold oils and fats.*

5.2 Toxicity

5.2.1 Thin section plastics. When tested in accordance with Appendix B, plastics of thickness not greater than 0.6 mm shall not contain soluble antimony, arsenic, barium, cadmium, chromium, lead or mercury, or any soluble compound of any of those elements, such that the proportion of the element, calculated as such, exceeds the amounts given in Table 2.

Table 2 — Toxic metals content

Metal	Maximum content
	mg/kg
antimony	250
arsenic	100
barium	500
cadmium	100
chromium	100
lead	250
mercury	100

NOTE The term “soluble” in relation to an element or compound means capable of being dissolved by the method given in Appendix B.

5.2.2 Thick section plastics. When tested in accordance with Appendix C, plastics of thickness greater than 0.6 mm shall not contain soluble antimony, arsenic, barium, cadmium, chromium, lead or mercury or any soluble compound of those elements, such that the proportion of the element, calculated as such, exceeds the amounts given in Table 2.

NOTE The term “soluble” in relation to an element or compound means capable of being dissolved by the method given in Appendix C.

5.2.3 Other surface coatings. When tested in accordance with Appendix D, any coating of enamel, paint, varnish, lacquer and other surface finishes (see note 2) shall not contain lead, or any compound of lead, such that the proportion of lead calculated as the element exceeds 2 500 mg/kg of the coating.

When tested in accordance with Appendix D, any coating of enamel, paint, varnish, lacquer or similar substance shall not contain any soluble antimony, arsenic, barium, cadmium, chromium or mercury, or any soluble compound of those elements, such that the proportion of the element, calculated as such, exceeds the amounts given in Table 2.

When tested in accordance with Appendix D, any coating of zinc or any anodic oxidation shall not contain soluble cadmium, or any soluble compound of cadmium, such that the proportion of cadmium, calculated as such, exceeds the amount given in Table 2.

NOTE 1 The term “soluble” in relation to an element or compound means capable of being dissolved by the method given in Appendix D.

NOTE 2 Other surface finishes should withstand the service conditions applicable to the finishes given in 5.3 and 5.4

5.3 Surface finish of steel

5.3.1 Stainless steel shall be either finished with enamel, plastics coating or chromium plating, or shall be left uncoated. The surface finish of uncoated stainless steel shall comply with the requirements for finish no. 4 or finish no. 8 of BS 1449-2. Steel other than stainless steel shall be finished with enamel, plastics coating or chromium plating.

NOTE In view of the range of suitable stainless steels available, no grade is specified. However, the manufacturer should ensure that the grade selected has suitable corrosion-resistance properties, especially in the case of sanitary chairs that are intended for use also as shower chairs.

5.3.2 If the finish is of enamel or plastics coating, it shall comply with the requirements given in Table 3. The test panels used in these tests shall be of mild steel as given in BS 3900-A3 and the surface finish shall be applied and dried in the same manner and under the same conditions as the finish applied to the sanitary chairs.

5.3.3 If the finish is of chromium plate, the finish for sanitary chairs shall comply with the requirements for any of those coatings specified in BS 1224 as meeting not less than service condition no. 2 and the finish for sanitary chairs that are intended for use also as shower chairs shall comply with the requirements for any of those coatings specified in BS 1224 as meeting not less than service condition no. 3.

5.4 Surface finish of aluminium alloys.

Aluminium alloys shall be either finished with enamel or plastics coating, chromium plate or shall be anodized. If the finish is of enamel or plastics coating, it shall comply with the requirements given in 5.3.2. If the finish is of chromium plate, it shall comply with the requirements of 5.3.3. If the finish is anodized, the finish for sanitary chairs shall comply with the requirements for grade AA10 of BS 1615 and the finish for sanitary chairs that are intended for use also as shower chairs shall comply with the requirements for grade AA15 of BS 1615.

6 Overall dimensions

Type A sanitary chairs shall not exceed an overall width of 700 mm, excluding buffering devices if fitted.

Type B sanitary chairs shall not exceed an overall width of 600 mm, excluding buffering devices if fitted.

For both types of chair, the distance between the vertical plane of the front of the seat to the vertical plane of the front edge of the backrest shall not exceed 455 mm.