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Examination and general treatment couches —

Part 2: Specification for variable height couches

Committees responsible for this British Standard

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- Associated Offices Technical Committee
- Association of British Paediatric Nurses
- British Paediatric Association
- British Surgical Trades Association
- Chartered Society of Physiotherapy
- Consumer Policy Committee of BSI
- Crown Suppliers
- Department of Health
- Department of the Environment (Property Services Agency)
- Furniture Industry Research Association
- Health Service Supply Council
- Independent Engineering Insurers Committee
- Joint Committee of Professional Nursing, Midwifery and Health Visiting Associations (England)
- King Edward’s Hospital Fund for London
- Royal College of Nursing

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Foreword

This Part of BS 2838 has been prepared under the direction of the Health Care Standards Policy Committee.

BS 2838 was originally published in 1957 following a request by the Hospitals Standards Advisory Committee and it was first revised in 1972. During the preparation of the 1972 edition, it was decided that, in addition to a specification for fixed height couches, there was a need for a specification for couches of variable height to be published as BS 2838-2.

This Part of BS 2838 specifies most of the requirements for variable height couches. However, Appendix A allows individual purchasers to specify their own requirements, the product then being subject to the performance tests given in Appendix B to Appendix M and Table 1 to ensure compliance with this Part of BS 2838.

This Part of BS 2838 calls for the use of substances and/or procedures that may be injurious to health if adequate precautions are not taken. The standard 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 upholstery of the couch (see 4.11). 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 the inhalation of smoke and toxic products of combustion.

This Part of BS 2838 requires the purchaser to be advised by the supplier [see clause 6 c)] that the couch is not suitable for use with equipment for diathermy treatment or for high frequency electrical treatment.

Product certification. Users of this Part of BS 2838 are advised to consider the desirability of third party certification of product conformity with this British Standard based on testing and continuing surveillance, which may be coupled with assessment of a supplier's quality systems against the appropriate Part of BS 5750.

Enquiries as to the availability of third party certification schemes will be forwarded by BSI to the Association of Certification Bodies. If a third party certification scheme does not already exist, users should consider approaching an appropriate body from the list of Association members.

Alternatively, users of this British Standard may wish to consider the desirability of assessment and registration of a supplier's quality systems against the appropriate Part of BS 5750 by a third party certification body.

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 and ii, pages 1 to 14, 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 Part of BS 2838 specifies requirements for materials and for the basic design and performance of examination and general treatment couches of variable height and of metal and/or wood construction. It is applicable to couches fitted with an adjustable head section that are suitable for use in hospitals, clinics, consulting rooms, sick bays and for massage and similar physiotherapy treatment.

This Part of BS 2838 is not applicable to couches for use with short-wave diathermy and high-frequency electrical equipment.

This Part of BS 2838 is not applicable to electrically operated examination and treatment couches. It is also not applicable to couches for use in conditions of high humidity and high temperature such as Turkish baths and swimming pools.

Recommendations for information to be provided by the purchaser to the manufacturer or supplier are given in Appendix A. Relevant methods of test are given in Appendix B to Appendix M.

NOTE The titles of the publications referred to in this standard are listed on page 14.

2 Definitions

For the purposes of this Part of BS 2838 the following definitions apply.

NOTE Definitions of paint and related terms are given in BS 2015.

2.1 head section

the shorter section of the upholstered couch top which is hinged so that it may be raised, and adjusted, from the horizontal

2.2 body section

the larger section of the upholstered couch top which is usually fixed but which may be adjustable

2.3 one-way tilt

the adjustment of the whole of the top section of the couch to provide Trendelenberg position

3 Design

3.1 Dimensions

The overall dimensions of the couch shall be within the following limits:

- a) length: 1 830 mm to 1 980 mm;
- b) width: 610 mm to 840 mm.

The height of the top of the couch shall be adjustable between 458 ± 25 mm to 863 ± 25 mm.

The dimensions of the head section shall be within the following limits:

- 1) length: 355 mm to 900 mm;
- 2) width: 610 mm to 840 mm (see note).

NOTE The purchaser should state whether the couch is to have any particular dimensions within the specified ranges (see Appendix A).

3.2 Materials

3.2.1 General

The materials of construction shall be selected from those described in 3.2.2 to 3.2.9.

3.2.2 Timber

Timber shall be free from visible knots, sapwood, shakes and worm-holes with the exception that tight knots are permitted if their diameter does not exceed 12 mm or one-third of the width of the timber in which they occur, whichever is the smaller.

All timber, except tie rails, shall be of seasoned hardwood of density not lower than 650 kg/m^3 . This timber shall have a moisture content of not greater than 12 % (*m/m*) at the time of assembly of the frame, as determined by a calibrated moisture meter.

NOTE Provided that the moisture content of the timber is not greater than 12 % (*m/m*) at the time of assembly and the timber is protected as specified in 3.4.1, there will be no significant change in the moisture content during use.

3.2.3 Plywood

Plywood shall be of hardwood, such as birch or beech, complying with either grade III or grade BB of BS 6566-6. At the time of assembly, the moisture content of the plywood shall be 12 ± 2 % (*m/m*), as determined by a calibrated moisture meter.

3.2.4 Wood chipboard

Wood chipboard shall comply with type I chipboard specified in BS 5669-2.

3.2.5 Steel tube

This shall consist of mild steel solid drawn tube or electric resistance welded tube complying with BS 6323-5 or BS 6323-6.

3.2.6 Mild steel

Mild steel shall comply with grades 1, 3 or 37/23 specified in BS 1449-1.

3.2.7 Stainless steel

This shall, comply with grades 304S15, 304S16, or 304S31 specified in BS 1449-2.

3.2.8 Upholstery covering

All covering material shall be PVC coated knitted fabric complying with grade X of BS 5790-1 and, in order to reduce slipping, the coated surface of the covering material shall be lightly embossed. (See also 4.11.)

NOTE 1 The purchaser should state the pattern and/or colour of the upholstery covering (see Appendix A).

NOTE 2 The fabric should be easily cleaned and disinfected.

3.2.9 Upholstery filling

The thickness of the upholstery filling shall be not less than 50 mm.

The filling shall consist of either:

- a) combustion-modified high-resilience foam (CMHR) of a minimum density of 50 kg/m³ and with a minimum indentation hardness index of 135 N; or
- b) combustion-modified high-resilience chipfoam of minimum density 64 kg/m³ and with a minimum indentation hardness index of 245 N.

The indentation hardness index shall be determined at a thickness of 50 ± 2 mm using procedure A described in BS 4443-2:1972.

NOTE The purchaser should state which type of filling is required (see Appendix A).

3.3 Joints

3.3.1 Adhesives

Adhesives used for any timber joint shall comply with BS 745, BS 1204 or BS 4071. The adhesives used for plywood joints shall comply with BS 1203.

NOTE Attention is drawn to DD 74 which is relevant to the use of adhesives.

3.3.2 Welding

Couches constructed from tubular steel, mild steel, stainless steel or any combination of these materials shall be welded to comply with BS 3019-2 or BS 5135, as appropriate to the metal.

NOTE 1 Welded joints should be smooth.

NOTE 2 Attention is drawn to BS 4870-1, BS 4871-1 and BS 4872-1 for assessment of welding procedures.

3.4 Finish

3.4.1 Wood

The surface of the wood shall be planed true and sanded smooth. Any staining shall be applied by a spirit stain before finishing. The finish shall be either a pre-catalysed lacquer synthetic finish, consisting of at least one base coat rubbed down before applying a second coat, or a cellulose lacquer applied in accordance with the instructions of the manufacturer of the lacquer.

The properties of the finish shall comply with the requirements given in Table 1 when tested by the appropriate methods of test. The preparation of the test panels used in the tests shall be carried out in the same manner and under the same conditions as the finish applied to the wood of the couch.

NOTE The purchaser should state whether staining is to be applied and the type of finish required (see Appendix A).

3.4.2 Stainless steel

The finish of stainless steel shall either be bright polished or satin finished. If bright polished, the finish shall comply with finish No. 8 of Table 1 of BS 1449-2:1983.

3.4.3 Mild steel

3.4.3.1 Preparation

All rust, grease, scale or other adhering matter shall be removed from mild steel.

3.4.3.2 Finish

Mild steel shall be finished in one of the following ways:

- a) chromium plated in accordance with service condition number 2 of BS 1224;
- b) pre-treated with a rust-inhibiting material (e.g. a zinc phosphate priming paint) and then coated with a stoving enamel paint or an acrylic or epoxy resin-based enamel paint;
- c) pre-treated with a rust-inhibiting material (e.g. a zinc phosphate priming paint) and then coated with a powder coating material (e.g. nylon or epoxy resin-based) to a minimum thickness of 50 μ m.

The paint coatings detailed in b) and c) shall comply with the requirements given in Table 2 when tested by the appropriate methods. The coating of the test panels shall be applied in the same manner and under the same conditions as the coating applied to the mild steel of the couch.

NOTE The purchaser should state the type of finish required (see Appendix A).

3.5 Construction

3.5.1 General

The couch shall consist of a metal chassis fitted with castors complying with BS 2099. The castors shall be not less than 64 mm diameter. The chassis shall be surmounted with a support frame and an upholstered top.

Either all the castors, or the diagonally opposed castors, shall be capable of being immobilized either by braking or by retraction of the castors.

NOTE 1 When the castors have been immobilized, the couch should be stable.