

Specification for

Performance requirements and tests for office furniture —

Part 1: Desks and tables

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Cooperating organizations

The Furniture Standards Committee, under whose supervision this British Standard was prepared, consists of representatives from the following organizations.

- British Bankers' Association*
- British Educational Equipment Association
- British Furniture Manufacturers' Federated Association*
- British Rubber Manufacturers' Association Limited
- Business Equipment Trade Association*
- Consumer Standards Advisory Committee
- Department of the Environment (Fire Research Station)
- Department of the Environment (Property Services Agency)*
- Design Council*
- Drawing Office Material Manufacturers' and Dealers' Association*
- Furnishing Fabrics Association Limited
- Furniture Industry Research Association*
- Furniture Timber and Allied Trades Union
- Greater London Council
- Institute of Administrative Management*
- National Association of Retail Furnishers
- Office Machines and Equipment Federation*
- Rubber and Plastics Research Association
- Textile Research Council
- Timber Research and Development Association

The organizations marked with an asterisk in the above list, together with the following, were directly represented on the committee entrusted with the preparation of this British Standard.

- British Stationery and Office Products Federation
- Civil Service Department
- Electricity Supply Industry in England and Wales
- Institute of Chartered Secretaries and Administrators
- Joint Advisory Committee on Local Authority Purchasing

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Foreword

This Part of this British Standard has been prepared in recognition of the need for performance standards for office furniture; it is intended to provide assurance that furniture made in compliance with it is sound and reasonably durable, factors which are difficult to assess by inspection at the time of purchase.

Although general requirements as to quality of materials and workmanship are given, the standard is based mainly on performance tests so as to ensure a satisfactory article whatever materials or manufacturing methods are used. The tests have been devised to take into account the conditions and hazards to which office furniture is subjected during everyday use, and in issuing them the committee wish to acknowledge the considerable assistance given to them by the Furniture Industry Research Association (FIRA), whose research work has been utilized wherever possible. At the request of the Business Equipment Trade Association, FIRA have completed a special programme of testing during which items of furniture were subjected to the strength and stability requirements contained in this British Standard and the committee have taken due account of this work in the performance figures now given.

Part 2 of this British Standard deals similarly with adjustable chairs.

Both Parts have taken certain general requirements from the existing dimensional standard BS 3893 which, it is anticipated, will be replaced by a European Standard when the present work within CEN (European Committee for Standardization) is published.

An appendix lists British Standards relating to materials in use.

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 12, 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 5459 contains performance requirements for office desks and tables and specifies tests applicable to those items.

General requirements for safety and colour, and miscellaneous requirements are also included.

2 References

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

3 Definitions

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

3.1

length

the greater of two horizontal dimensions

3.2

width

the lesser of two horizontal dimensions

3.3

height

the vertical dimension above a horizontal reference level

4 Performance and general requirements

NOTE Unless otherwise stated, the requirements refer to the finished product and refer to both desks and tables as applicable.

4.1 Materials

4.1.1 General. Materials shall be used which accord with good trade practice. A list of relevant British Standards is given in Appendix A.

4.1.2 Timber and timber derivatives. Timber and timber derivatives shall comply with the requirements given in 4.1.2.1 to 4.1.2.5.

4.1.2.1 Moisture content. Timber shall be properly seasoned.

At the time of assembly, timber and timber derivatives should normally be conditioned by the manufacturer so that moisture content is between the following limits¹⁾:

for hardboard:	6 % to 10 %	} of the dry mass
for chipboard:	7 % to 11 %	
for timber, plywood		
and timber veneers:	8 % to 12 %	

If the furniture is required for use under unusual conditions of climate, this fact may be taken into account and the requirements suitably modified.

4.1.2.2 Knots and knot holes. Sound and tight knots are permitted in solid timber provided that their diameter does not exceed 12 mm or one third of the width of the surface on which they appear, whichever is the less, and that they are not within 12 mm of any edge. Plugs or inserts are not permitted.

4.1.2.3 Other defects. Checks, splits and shakes, boxed heart and exposed pith are not permitted.

4.1.2.4 Decay and insect infestation²⁾. No signs of decay or active insect infestation shall be present.

4.1.2.5 Distortion. Timber shall be resistant to distortion induced by changes of humidity and temperature. Surface bow shall be tested in accordance with 7.1.1 and shall not exceed 1.0 mm in any 600 mm of length in the longitudinal, transverse and diagonal directions. After this test, no visible corrosion or delamination shall be present.

4.1.3 Veneers, laminates and foils

4.1.3.1 General. The application of veneers, laminates and foils to wood products shall be balanced.

4.1.3.2 Moisture content. The moisture content of plastics laminates and paper based plastics foils shall be between 3 % and 7 % of the dry mass at the time of assembly. Moisture of facing and backing laminates should be similar. This will be facilitated by their storage together.

4.1.3.3 Distortion. Laminates shall be resistant to distortion induced by changes of humidity and/or temperature. When tested in accordance with 7.1.1, surface bow shall not exceed 1.0 mm in any 600 mm of length in the longitudinal, transverse and diagonal directions.

After this test no visible corrosion or delamination shall be present.

4.2 Finish

4.2.1 General. Office furniture and fittings shall be finished in accordance with good trade practice and methods.

Edges, corners and protrusions shall be smoothed, rounded or shaped so as to avoid personal injury and damage to clothing.

All surfaces shall be smooth and shall, as far as possible, be free from crevices, corners, mouldings, etc., which can harbour dirt or moisture.

¹⁾ The figures quoted allow a margin of error in the reading given by an electric moisture meter.

²⁾ See BS 1186-1 for more detailed information on classification of timber.

4.2.2 Metal parts. Metal parts shall be corrosion resistant or shall have a corrosion resistant finish if there is a likelihood of the person, clothes, or work coming into contact with them in normal use.

Parts requiring a corrosion resistant finish shall be thoroughly cleaned, freed from rust and scale, and degreased before finishing, and treated to form a corrosion inhibiting layer as a key for finishing.

Finishing shall be carried out as soon as possible after drying. If enamel is used, oven drying shall be employed to produce a hard, tough surface. Other finishes may be used, provided that they give equal performance.

4.2.3 External surfaces. External surfaces, including edges of desks and tables shall comply with the requirements given in 4.2.3.1 to 4.2.3.4.

4.2.3.1 The surface finish shall have no obvious imperfections (sags, runs, bubbles, etc.).

4.2.3.2 The colours and surface finish shall be in accordance with Appendix B.

4.2.3.3 The surface shall be resistant to impact so that, when tested in accordance with the impact test in BS 3962-6, the requirements of rating 3 shall be met.

NOTE It is not considered practicable to include a requirement that no damage will result from the use of ballpoint pens.

4.2.3.4 Panels shall be of such a thickness or so supported, reinforced, or damped in a permanent manner as to minimize vibration and noise transmission.

4.2.4 Top surfaces. Desk and table tops shall meet additionally the requirements given in 4.2.4.1 to 4.2.4.3.

4.2.4.1 They shall be resistant to heat. When tested in accordance with BS 3962-2 at 70 °C the requirements of rating 3 shall be met.

4.2.4.2 Finished wooden surfaces shall be resistant to the stains and solvents listed below and, when tested in accordance with BS 3962-4, shall meet the requirements of the rating specified as follows:

- rating 4 for: ink (e.g. a modern permanent blue black writing ink)
- tea
- coffee
- potable spirits
- rating 3 for: acetone
- butyl acetate
- toilet spirits (see Appendix A to BS 3962-4:1970)

For other materials and finishes the same stains and solvents shall be used, the requirement being that it shall be possible to remove them with an appropriate cleaning agent.

NOTE The representative liquids have been chosen from a wide range of liquids which may be split on desk tops. It is not considered practicable to include a requirement that no damage will result from the use of ballpoint pens.

4.2.4.3 Tops of laminated or composite construction shall be resistant to corrosion and delamination when tested in accordance with 7.1.1.

4.3 Fittings and moveable parts

4.3.1 All accessible fittings shall be smoothed, rounded or shaped and positioned so as to avoid personal injury and damage to clothing.

4.3.2 Fittings shall be firmly secured and any fixings provided shall themselves be smoothed, rounded or shaped so as to avoid personal injury and damage to clothing.

4.3.3 Locks and brackets shall be so arranged that they do not reduce the minimum knee-hole width specified in BS 3893.

4.3.4 Controls of moving or adjustable parts shall be so designed that they can be operated without risk of trapping the fingers and so that they cannot be inadvertently removed.

4.3.5 Locks and locking mechanisms shall be checked for satisfactory functioning with the drawers in the loaded and unloaded conditions, before and after the tests described in clause 7.

4.4 Rigidity and stability. A desk or table shall be constructed to meet the requirements given in 4.4.1 to 4.4.3.

4.4.1 It shall stand on a level surface without rocking both before and after being subjected to the rigidity tests prescribed in 7.2. If fitted with a levelling device, there should be a further adjustment available of ± 8 mm after levelling.

4.4.2 With any drawers and cupboards empty and drawers closed, it shall not tip or overturn when a force equivalent to that of a heavy human body is applied to any point on its top in the way described in 7.3.1. It shall also remain stable when, with any drawers and cupboard shelves loaded to their normal full capacity and drawers set in their fully open position, it is tested in accordance with 7.3.2.

4.4.3 When tested in accordance with 7.2.3 the displacement shall not exceed the following amounts, and there shall be no permanent distortion:

desk or work table:	1 mm	} per 100 mm of height
tables for light, occasional use:	1.5 mm	