

Specification for

Performance requirements and tests for office furniture —

Part 3: Storage furniture

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- Amalgamated Union of Engineering Workers
- British Educational Equipment Association
- British Furniture Manufacturers' Federated Associations
- British Stationery and Office Products Federation
- Business Equipment Trade Association
- Civil Service Department
- Committee of London Clearing Bankers on behalf of the Committee of Scottish Clearing Bankers, Co-operative Bank, Central Trustee Savings Bank and Yorkshire Bank
- Department of the Environment (PSA)
- Design Council
- Drawing Office Material Manufacturers' and Dealers' Association
- Electricity Supply Industry in England and Wales
- Envelope Makers' and Manufacturing Stationers' Association
- Furniture Industry Research Association
- Her Majesty's Stationery Office
- Institute of Administrative Management
- Institute of Chartered Secretaries and Administrators
- Local Authorities Management Services and Computer Committee
- Office Machines and Equipment Federation
- Royal Institute of British Architects
- Society of Industrial Artists and Designers

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Foreword

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

The requirements are based on performance tests that are intended 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 using them the Technical Committee wishes to acknowledge the considerable assistance given to it by the Furniture Industry Research Association (FIRA), Whose research work has been utilized whenever possible. At the request of the Business Equipment Trade Association, FIRA has completed a special programme of testing during which several typical items of office furniture were subjected to the strength and stability tests and due account of this work has been taken in the performance figures given in this standard. Subsequent to the completion of the testing programme, the opportunity was taken to align the test methods with those in international work in progress within ISO/TC 136/SC 1 "*Furniture — test methods*". An additional loading test for flaps, and a test for displacement of the bottom surface of drawers was also included using the tests proposed in ISO Draft Proposal DP 7170 "*Furniture — storage units — determination of strength and durability*". The performance tests specified in this standard are similar to those given in BS 4875-3 for domestic and contract furniture and do not assess ageing and wear. The tests are designed to be applied to an article of furniture that is fully assembled and ready for use.

At present, no requirements are specified in this standard for surface finishes. It is intended to introduce requirements for surface finishes at a later date in an amendment to this standard.

This standard forms Part 3 of a specification for office furniture of which the other Parts are Part 1 "*Desks and tables*" and Part 2 "*Adjustable chairs*".

Attention is drawn to BS 4438 which specifies dimensional and performance requirements for filing cabinets and suspended filing pockets.

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 10, 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 specifies performance requirements and describes applicable tests for office storage furniture. The test methods give three levels of severity of testing, i.e. furniture intended for general use (test level G), heavy use (test level H) and severe use (test level S).

The requirements do not apply to office desks, mechanical filing and retrieval systems, rotary filing systems, drawing office storage furniture and furniture for archival storage.

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

2 Definition

For the purposes of this Part of BS 5459 the following definition applies.

2.1

office storage

shelves and open or closed cupboards and cabinets

NOTE This definition includes free-standing, fixable and mobile items, e.g. shelf systems.

3 Description of performance tests

3.1 Functional tests

3.1.1 Principle. The functional tests simulate the loads imposed on an article of furniture during the performance of its primary function.

The following tests (3.1.2 to 3.1.4) fall within the functional test category.

3.1.2 Sustained load test. The sustained load test simulates the levels of continuous application that occur most frequently.

3.1.3 Operational test. The operational test simulates the repetition of operations occurring during daily use.

3.1.4 Fatigue loading test. The fatigue loading test simulates that level of repeated loading that is likely to occur most frequently.

3.2 Non-functional tests

3.2.1 Principle. The non-functional tests simulate the loads imposed on an article of furniture as a result of the use to which it may reasonably be put outside the performance of its primary function. As such the test levels set in the non-functional tests represent the dividing line between reasonable misuse and abuse.

The following tests (3.2.2 to 3.2.5) fall within the non-functional test category.

3.2.2 Static load test. The static load test consists in the steady and gradual application, up to the maximum that the article may be required to withstand occasionally, of a test load repeated a sufficient number of times to check the static strength of the article.

3.2.3 Impact test. The impact test simulates impact or repetition of sudden operations that occur only occasionally.

3.2.4 Slam open and slam shut tests. The slam open and slam shut tests simulate sudden operations that occur only occasionally.

3.2.5 Carcase rigidity test. The carcase rigidity test simulates the forces employed when moving a loaded carcase.

4 Performance requirements

4.1 When tested in accordance with clauses 5 and 6, the article shall meet the requirements of 4.2 and 4.3 and, where appropriate, the requirements of 4.4 and 4.5 at the same test level in all tests.

4.2 There shall be no overbalancing during the tests.

4.3 The article shall not develop any of the following as a consequence of the tests:

- a) any fracture of any member, component or joint;
- b) any deformation or wear of any part or component that will essentially affect its function;
- c) any loosening of any means of fixing components to the article;
- d) any loosening, shown to be permanent by hand racking the article, of any joint intended to be rigid.

4.4 The maximum deflection of each shelf or clothes hanging rail when tested in accordance with 6.1.1 shall not exceed the span divided by 100 for metals and the span divided by 200 for all other materials.

NOTE The requirements for metals are different from those for other materials owing to their different time dependent properties.

4.5 When tested in accordance with 6.5.1 to 6.5.4, the force required to move the loaded drawer from rest shall not exceed 70 N and the force required to maintain constant movement shall not exceed 40 N. The drawer shall operate smoothly.

NOTE Guidance on the scale of sampling is given in BS 6001.