

Strength and stability of furniture —

Part 1: Requirements for the strength and durability of the structure of domestic and contract seating

ICS 97.140

Committees responsible for this British Standard

The preparation of this British Standard was entrusted to Technical Committee FW/2, Domestic and contract furniture, upon which the following bodies were represented:

- Association of Building Engineers
- Association of Manufacturers of Domestic Appliances
- Association of Suppliers to the Furniture Industry Ltd.
- British Coatings Federation Ltd.
- British Contract Furnishing Association
- British Furniture Manufacturers' Federation
- British Laminated Plastics Fabricators Association Ltd.
- British Plastics Federation
- British Retail Consortium
- British Shops and Stores Association (BSSA)
- British Woodworking Federation
- Castor Manufacturers' (UK) Association
- Consumer Policy Committee of BSI
- Co-opted Members
- DTI (Consumer Safety Unit)
- European Metal Sink Manufacturers' Association
- Federation of the Electronics Industry
- Flat Glass Manufacturers' Association
- Furniture Industry Research Association (FIRA)
- Glass and Glazing Federation
- ICE Ergonomics
- Kitchen Specialists Association
- Leisure and Outdoor Furniture Association Ltd.
- LHC Building Components and Services
- Mail Order Traders' Association
- National Bed Federation Ltd.
- SATRA Technology Centre
- Society of Glass Technology
- Trading Standards Institute

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Foreword

This part of BS 4875 has been prepared by Technical Committee FW/2. It supersedes BS 4875-1:1985 and BS 4875-3:1985, which are withdrawn.

This revision of BS 4875-1 has been prompted by the publication of BS EN 1728:2001, which now contains the test methods previously included in BS 4875-1:1985 and BS 4875-3:1985. BS 4875-1:2001 consequently cross-refers to the test methods given in BS EN 1728:2001, although it retains a test method for flexibility and a drop test for single-seat units (which are not included in BS EN 1728:2001).

The performance requirements are verified by tests which reproduce normal use and common types of misuse to which seating can be subjected. They apply to a wide range of seating. Five test levels are given, corresponding to the variations in severity of end-use to be expected for various types of seating, e.g. delicate styles, short-life furniture, robust serviceable types. Whilst the tests reproduce normal use and common types of misuse, they do not reproduce any abuse to which the article may be subjected.

Annex A explains the test levels used in this standard.

The requirements apply only to the durability of the structure. They do not apply to the durability of filling materials, upholstery fabrics or foam cushions. The tests are designed to be applied to an article that is fully assembled and ready for use. The tests do not reproduce the effects of degradation of structural materials by sunlight or chemical attack.

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 11 and a back cover.

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1 Scope

This part of BS 4875 specifies performance requirements for the strength and durability of the structure of domestic and contract seating, including swivel/pedestal chairs intended for use in an office in the home, and pouffes and stools.

It does not apply to multiple seating units for stadium seating, seating intended for educational institutions and office work chairs.

It does not include requirements for the durability of upholstery materials or the durability of mechanisms as used in convertible sofa beds, nor for resistance to degradation by ageing of structural materials or upholstery materials. It does not include requirements for seat height adjustment and swivelling durability of pedestal seating.

NOTE 1 Requirements for seat height adjustment and swivelling durability of pedestal seating are given in BS 5459-2:2000.

NOTE 2 Test methods from BS EN 1728 are specified where appropriate.

NOTE 3 The requirements of this standard are intended to demonstrate the ability of the item to give satisfactory service in its intended environment. Conformity with the standard does not ensure that structural failure will not eventually occur as a result of habitual misuse or after an excessively long period of service.

2 Normative references

The following normative document contains provisions which, through reference in this text, constitute provisions of this part of this British Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. For undated references, the latest edition of the publication referred to applies.

BS EN 1728:2001, *Domestic furniture — Seating — Test methods for the determination of strength and durability*.

3 Principle of the performance tests

3.1 General

Conformity with the requirements given in clause 4 for the strength and durability of the structure of an article of furniture is verified by applying to various parts, loads or forces simulating normal functional use, as well as acceptable misuse, according to a graded scale of severity (see Annex A).

The interrelation between the tests is shown in Table 1.

The test sequence as a whole determines the following:

- a) static strength and initial damage;
- b) fatigue strength and damage propagation;
- c) ability to withstand acceptable misuse; and demonstration of residual strength.

The magnitude of the forces applied or the number of applications varies according to the grade to which conformity is being tested.