

Non-domestic furniture — Seating — Determination of stability

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- 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.
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- National Bed Federation Ltd.
- Royal Society for the Encouragement of Arts, Manufacturers and Commerce
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- SATRA Technology Centre
- Society of Glass Technology

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Foreword

This British Standard has been prepared by Technical Committee FW/2. It determines stability of non-domestic seating and is based on BS EN 1022:1996 *Domestic furniture — Seating — Determination of stability*.

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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.

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1 Scope

This British Standard specifies methods for determination of the stability of all types of non-domestic seating, other than office seating, that can be used by adults. For seating that can be converted into beds, this standard applies only to the seating configuration. The standard does not apply to domestic seating, which is specified in BS EN 1022:1996.

Chair stability can be determined by either experimental or calculative methods. Both methods are based on the same forces and points of application. If the result of the calculative method is uncertain or marginal the results should be checked, if possible, by the experimental method.

The calculative method is invalid for chairs which visibly flex under horizontal loads and for the tests specified in 8.2, 8.3, 8.4.

2 Definitions

For the purposes of this standard, the following definitions apply.

2.1

stability

ability to withstand forces that tend to cause the loaded article to overbalance

2.2

load bearing structure

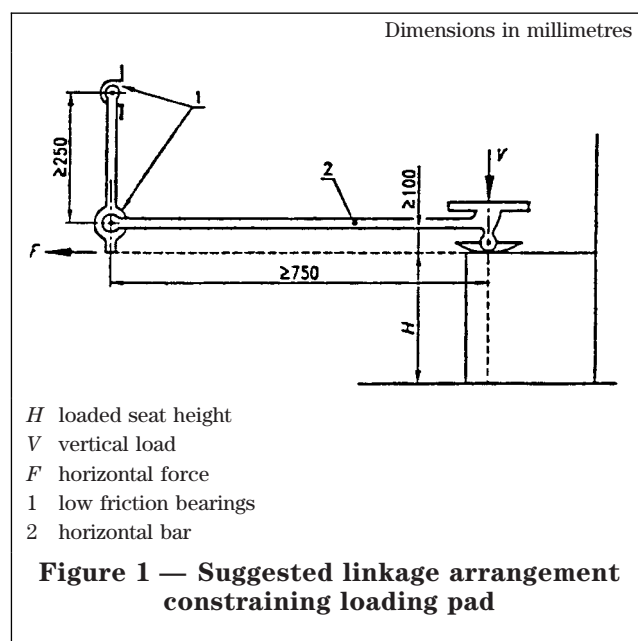
any part of a chair which supports a portion of the loads exerted by the sitter as its primary function, e.g. the seat frame but not the upholstery

3 Test equipment

3.1 The tests can be applied by any device because results are dependent on correctly applied loads and not upon the apparatus, except when the discs described in 3.4 are used. The device shall not hinder any movement of the article being tested. A suggested device is shown in Figure 1. For tolerances see 4.2.

3.2 *Loading pad*, rigid circular object 200 mm in diameter with a face having a convex spherical curvature of 300 mm radius with a 12 mm edge radius. The pad shall be pivoted on a ball joint as near to the loading surface of the pad as is practical. The loading pad shall be mounted on a device which can apply a vertical force as specified.

3.3 *Local loading device*, a rigid rod 20 mm in diameter with a hemispherical end.



3.4 *Horizontal force application device*, which can apply a force either at a given value or at a gradually increasing value, e.g. a spring balance.

3.5 *loading discs*, each with a mass of 10 kg, diameter 450 mm and thickness 48 mm.

3.6 *Support apparatus*, to support the main stack of discs in reclining chair tests. It should be as light as possible and not heavier than 2.5 kg. Figure 2 shows a basic design.

3.7 *Loading point template* (Figures 3 and 4), which consists of two sections, a seat portion with seat loading point A and a back portion with back loading point B.

The sections are linked to each other by a pivot, and the contour of the surface of the seat section is designed so that it sinks a representative distance into the seat when a weight of 20 kg is applied to loading point A.

3.8 *Stops*, to prevent the article from sliding, but not from overturning, not higher than 12 mm, except in cases where the design of the item necessitates the use of higher stops, in which case the lowest that will prevent the item from sliding shall be used.

3.9 *Testing surface*, horizontal, flat, rigid.