

BS 7376:2009



BSI British Standards

Inclusion of glass in the construction of tables and trolleys for domestic use – Specification

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Summary of pages

This document comprises a front cover, an inside front cover, pages i to ii, pages 1 to 6, an inside back cover and a back cover.

Foreword

Publishing information

This British Standard is published by BSI and came into effect on 30 April 2009. It was prepared by Subcommittee FW/0/2, *Domestic and contract furniture*, under the authority of Technical Committee FW/0, *Furniture*. A list of organizations represented on these committees can be obtained on request to their secretary.

Supersession

Together with BS EN 15372:2008, this British Standard supersedes BS 7376:2004, which is withdrawn.

Information about this document

This new edition of BS 7376 incorporates changes made necessary by the publication of BS EN 15372. It does not represent a full review or revision of the standard, which will be undertaken in due course.

BS EN 15372 specifies strength, stability and durability requirements for non-domestic tables, including those featuring glass in their construction. Therefore this new edition of BS 7376 has been prepared to cover domestic tables and trolleys only.

The purpose of this British Standard is to provide designers, manufacturers, retailers, consumers and other interested parties with performance requirements that should minimize the risks of serious accidents with glass in tables and trolleys.

Hazard warnings

WARNING. This British Standard calls for the use of substances and/or procedures that can be injurious to health if adequate precautions are not taken. It refers only to technical suitability and does not absolve the user from legal obligations relating to health and safety at any stage.

Presentational conventions

The provisions of this standard are presented in roman (i.e. upright) type. Its requirements are expressed in sentences in which the principal auxiliary verb is "shall".

Commentary, explanation and general informative material is presented in smaller italic type, and does not constitute a normative element.

Contractual and legal considerations

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a British Standard cannot confer immunity from legal obligations.

1 Scope

This British Standard specifies requirements to ensure reasonable safety of tables and trolleys, for domestic use, which incorporate an area of flat glass $>0.02 \text{ m}^2$. It does not apply to non-domestic tables featuring glass in their construction.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the reference cited applies. For undated references, the latest edition of the referenced document (including any amendments) apply.

BS 3193, *Specification for thermally toughened glass panels for use in domestic appliances*

BS 3447, *Glossary of terms used in the glass industry*

BS 4875-5:2009, *Strength and stability of furniture – Part 5: Requirements for strength, durability and stability of tables and trolleys for domestic use*

BS EN 1730:2000, *Domestic furniture – Tables – Test methods for determination of strength, durability and stability*

BS EN 12150-1:2000, *Glass in building – Thermally toughened soda lime silicate safety glass – Part 1: Definition and description*

BS EN 14072:2003, *Glass in furniture – Test methods*

3 Terms and definitions

For the purposes of this British Standard, the following terms and definitions apply.

3.1 toughened glass

glass, the surface of which has been rapidly cooled from near the softening point so that a residual compressive stress remains in the surface after complete cooling

NOTE 1 This process increases the thermal and mechanical strength of the glass and tends to make it shatter into smaller and less angular fragments than an ordinary glass when it is subjected to a breaking stress.

NOTE 2 Toughened glass is also known as tempered glass.

3.2 annealed glass

glass that has been heated to the annealing temperature to remove internal stresses and cooled under controlled conditions

NOTE 1 When broken, annealed glass tends to break into dagger-like shards.

NOTE 2 Annealed glass is sometimes referred to as ordinary glass.

3.3 laminated glass

two or more layers of glass permanently bonded together by one or more interlayers of plastics and considered as one piece of glass

NOTE The fracture characteristics of laminated glass are similar to those of the type of glass present in the laminate. Impact energy can be absorbed by the interlayers of plastics intended to hold together pieces of glass when broken.

3.4 film-backed glass

glass to which a film of flexible plastics has been applied

NOTE The working surface of film-backed glass is the glass surface.

3.5 decorated glass

glass, the surface of which has been worked by acid etching or embossing, sandblasting, brilliant cutting or engraving, to give a decorative effect (see BS 3447) or has been fired with enamels or screen printed

3.6 cast glass

glass manufactured by the rolling process

NOTE Cast glass is also known as patterned glass.

4 Construction

4.1 Edgework and beveling

The exposed edges of glass used in the construction of tables or trolleys shall be edge worked or beveled.

4.2 Contact with other materials

The clearance between a glass component and any surrounding material shall be sufficient to ensure that excessive compressive/tensile stresses shall not be generated by changes in temperature or moisture content.

4.3 Film-backed glass

When film-backed glass is used in the construction of a table or trolley, the glass surface shall be the working surface.

4.4 Trolleys that contain a heating device

All flat glass components of trolleys that contain a heating device shall conform to BS 3193.

4.5 Support of glass

4.5.1 When the glass is moved to extreme positions in any direction by a force not exceeding 100 N, it shall overlap all supports simultaneously by at least 6 mm.

4.5.2 The minimum horizontal area of each support shall be 36 mm².

5 Test requirements

5.1 All tables and trolleys shall be tested according to Table 1.

5.2 All tables and trolleys shall conform to the requirements of BS 4875-5:2009, Clause 4, excluding h) and i).

5.3 Toughened glass shall be tested in accordance with BS EN 12150-1:2000, 8.3 and 8.4 (fragmentation test), and shall have a minimum particle count of 40 particles in any 50 mm × 50 mm square.

Table 1 Tests

Test	Test description	Loading	Test level ^{A)}				
			1	2	3	4	5
BS EN 1730:2000, 6.7	Stability under vertical load	Test force, N:					
		V_1	300	300	300	300	300
		V_2	600	600	600	600	600
BS 4875-5:2009, Annex B	Stability – horizontal impact	Drop height, mm:	30	30	35	35	40
		Total mass of impactor, kg:	40	40	45	45	50
BS EN 1730:2000, 6.2 ^{B)}	Horizontal static load	Test force, N:	300	300	450	600	750
BS EN 1730:2000, 6.3	Vertical static load	Test force, N:					
		a) toughened and laminated glass components	750	750	1 000	1 250	1 500
		b) all other glass components ^{D)}	1 500	1 500	1 500	1 500	1 500
BS EN 1730:2000, 6.4 ^{B)}	Horizontal fatigue	Number of cycles: Test force 150 N	10 000	10 000	15 000	30 000	60 000
BS EN 1730:2000, 6.5	Vertical fatigue for cantilever or pedestal tables	Number of cycles: Test force 300 N	10 000	10 000	15 000	30 000	60 000
BS EN 14072:2003, Clause 6 ^{C)}	Vertical impact	Drop height, mm:					
		a) toughened and laminated glass components	140	140	180	240	300
		b) all other glass components ^{D)}	300	300	300	300	300
BS 4875-5:2009, D.1	Drop test for single tables weighing up to and including 20 kg	Nominal drop height, mm:	40	40	50	50	100
BS 4875-5:2009, D.2	Drop test for single tables weighing more than 20 kg	Determined by Figure D.2 of BS 4875-5:2009 (using nominal drop height) Number of cycles: 10					
BS 4875-5:2009, D.3	Drop test for stacking tables	Determined by Figure D.2 of BS 4875-5:2009 (using nominal drop height) Number of cycles: 10					

A) For details of the relationship of the test levels to the use of the furniture see Annex A.

B) When tested to BS EN 1730:2000, 6.2 and 6.4, the horizontal force shall not exceed that which causes the top to move more than 100 mm in relation to the supporting structure.

C) When tested to BS EN 14072:2003, Clause 6, tops shall be impacted ten times at the following positions:

- as close as possible to one point of support of the top but not less than 100 mm from any edge;
- 100 mm from the edge of the top as far away from the supports as possible;
- 100 mm from the edges at one corner;
- at the geometric center of the top.

D) All other glass components include glass of types annealed glass, film-backed glass, decorated glass and cast glass.

6 Information to be supplied

Tables and trolleys shall be supplied with the following information headed "KEEP THESE INSTRUCTIONS FOR FUTURE REFERENCE". It shall contain:

- a) the number and date of this British Standard, i.e. BS 7376:2009¹⁾;
- b) the furniture manufacturer's or supplier's (i.e. agent, importer or retailer) name and address;
- c) a means of identifying the item of furniture, for example the model number and batch number or date of manufacture;
- d) the following statement:
"If the glass is chipped or broken, stop using the product and consult the manufacturer or supplier."
- e) the following warnings:
"WARNING
 - a) Do not place very hot or very cold items on the glass surface(s) unless adequately thick table mats are used to prevent such items from coming into contact with the glass.
 - b) Do not sit or stand upon the glass surface(s).
 - c) Do not use the glass as a chopping surface. Do not strike the glass with hard or pointed items.
 - d) When cleaning glass panels use a damp cloth or leather with washing up liquid or soft soap if necessary; do not use washing powders or any other substances containing abrasives since these substances scratch glass."

¹⁾ Marking BS 7376:2009 on or in relation to a product represents a manufacturer's declaration of conformity, i.e. a claim by or on behalf of the manufacturer that the product meets the requirements of the standard. The accuracy of the claim is solely the claimant's responsibility. Such a declaration is not to be confused with third-party certification of conformity.

Annex A (informative) Test levels in relation to application

Table A.1 shows the type of use that might be expected from furniture in relation to the five test levels.

Table A.1 **Relationship of test levels to use of furniture**

Test level	Performance category	Example of use
1	Delicate	Fine tables of delicate appearance
2	Light	Domestic bedroom
3	General	Domestic living/dining room
4	Heavy	Tables where rough treatment and careless handling occur
5	Severe	Tables intended for exceptionally severe use

Bibliography

Standards publications

For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

BS EN 15372:2008, *Furniture – Strength, durability and safety – Requirements for non-domestic tables*

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BSI Group Headquarters

389 Chiswick High Road London W4 4AL UK

Tel +44 (0)20 8996 9001

Fax +44 (0)20 8996 7001

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