

English Version

Furniture - Strength, durability and safety - Requirements for domestic tables

Meubles - Résistance, durabilité et sécurité - Exigences relatives aux tables à usage domestique

Möbel - Festigkeit, Dauerhaltbarkeit und Sicherheit - Anforderungen an Tische im Wohnbereich

This European Standard was approved by CEN on 3 July 2009.

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Contents

Page

Foreword.....	3
1 Scope	4
2 Normative references	4
3 Terms and definitions	4
4 Test conditions and test sequence.....	5
5 Safety requirements	5
5.1 General.....	5
5.2 Shear and squeeze points	5
5.2.1 Shear and squeeze points when setting up and folding	5
5.2.2 Shear and squeeze points under influence of powered mechanisms	5
5.2.3 Shear and squeeze points during use.....	6
5.3 Stability.....	6
5.3.1 Stability under vertical load.....	6
5.3.2 Stability for tables with extension elements.....	6
6 Stability, strength and durability.....	6
6.1 General.....	6
6.2 Strength and durability requirements.....	8
7 Information for use	8
8 Test report	8
Annex A (informative) Table top deflection test.....	9

Foreword

This document (EN 12521:2009) has been prepared by Technical Committee CEN/TC 207 "Furniture", the secretariat of which is held by UNI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by January 2010, and conflicting national standards shall be withdrawn at the latest by January 2010.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes ENV 12521:2000.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

This European standard specifies the minimum requirements for the safety, strength and durability of all types of domestic tables for use by adults, including those with glass in their construction.

It does not apply to office tables or desks, tables for non-domestic use, tables for educational institutions and outdoor tables for which EN standards exist.

It does not apply to tables where the tabletop is not fixed to the understructure, i.e. when applying test 3, Table 2, the top becomes detached from the understructure.

With the exception of stability tests, the standard does not provide assessment of the suitability of any storage features included in domestic tables.

It does not include requirements for the durability of castors and height adjustment mechanisms.

It does not include requirements for electrical safety.

It does not include requirements for the resistance to ageing and degradation.

Annex A contains test methods for the deflection of tabletops.

2 Normative references

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

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

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

EN 12600:2002, *Glass in building - Pendulum test - Impact test method and classification for flat glass*

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

3 Terms and definitions

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

3.1 accessible parts
parts to which access can easily be gained by the user when the table is in its intended configuration of use and for which the probability of unintentional user contact is high

3.2 parts accessible during setting up and folding
parts to which access can only be gained when setting up and folding the table

3.3

shear and squeeze point

shear and squeeze points exist if the distance between two accessible parts moving relative to each other is less than 18 mm or more than 7 mm in any position during movement

4 Test conditions and test sequence

The tests shall be carried out in the order in which they are listed in Table 2 of this standard.

The tests conditions shall be as contained in EN 1730 with the exception of the conditioning time (EN 1730:2000, 4.1) which shall be at least 24 h, instead of 1 week.

The test forces may be replaced by masses. The relationship $10 \text{ N} = 1 \text{ kg}$ shall be used.

5 Safety requirements

5.1 General

The table shall be so designed as to minimise the risk of injury to the user.

All parts of the table with which the user comes into contact during intended use shall be so designed that physical injury and damage are avoided.

These requirements are met when:

- 1) the edges of table tops which are directly in contact with the user shall be rounded or chamfered. All other edges accessible during use shall be free from burrs and/or sharp edges;
- 2) the ends of hollow components are closed or capped.

Movable and adjustable parts shall be designed so that injuries and inadvertent operation are avoided.

It shall not be possible for any load bearing part of the table to come loose unintentionally.

All parts that are lubricated to assist sliding shall be designed to protect users from lubricant stains when in normal use.

5.2 Shear and squeeze points

5.2.1 Shear and squeeze points when setting up and folding

Unless 5.2.2 or 5.2.3 are applicable, shear and squeeze points, as defined in 3.3, that are created only during setting up and folding, including the installation of extensions to the main table surface are acceptable, because the user can be assumed to be in control of his/her movements and to be able to cease applying the force immediately upon experiencing pain.

The edges of parts moving relative to each other and creating shear and squeeze points shall be as specified in 5.1.

5.2.2 Shear and squeeze points under influence of powered mechanisms

There shall be no shear and squeeze points created by parts of the table operated by powered mechanisms, i.e. springs, gas lifts and motorised systems.

5.2.3 Shear and squeeze points during use

There shall be no shear and squeeze points created by forces applied during normal use, see Table 2.

There shall be no shear and squeeze points if a hazard is created by the user during normal movements and actions, e.g. attempting to move the table.

5.3 Stability

5.3.1 Stability under vertical load

5.3.1.1 General

Tables that can be set to heights both above and below 950 mm shall be tested to both 5.3.1.1.1 and 5.3.1.1.2.

5.3.1.1.1 Test for tables that are or can be set to a height of 950 mm or less

The table shall be set to the height most likely to overturn the table, but not more than 950 mm. The table shall not overturn when tested according to EN 1730:2000, 6.7, using the forces specified within Table 2.

5.3.1.1.2 Test for tables that are or can be set to a height greater than 950 mm

The table shall be set to the height most likely to cause overturning, but not less than 950 mm. The table shall not overturn when tested according to EN 1730:2000, 6.7, using 50 % of the forces specified within Table 2.

5.3.2 Stability for tables with extension elements

Load each extension element with the load specified in Table 1.

For tables with extension elements not fitted with interlocks open all extension elements in the least favourable combination. For tables with extension elements fitted with interlocks open the two extension elements with the largest loads without overriding the interlock. If an interlock device prevents any two of the extension elements from being opened simultaneously, open the extension element with the largest load.

The table shall not overturn when the vertical force specified in Table 2 is applied at the centre of the front of the table, through a loading pad (EN 1730:2000, 5.6), 50 mm from the edge.

Table 1 — Loading of extension elements

Component	Load
Extension elements designed for suspended filing only	1,25 kg/dm
Other extension elements	0,2 kg/dm ³

6 Stability, strength and durability

6.1 General

Tables shall be tested for stability, strength and durability according to Table 2, following the order listed in Table 2.

Table 2 — Stability, strength and durability tests

Test	Reference	Loading	Tables less than or equal to 600 mm in height, or Tables with tops with a surface area less than or equal to 0,25 m ²	All other tables
1. Horizontal static load	EN 1730:2000, 6.2	Test force, N: 10 times	200	400
2. Vertical static load ^a	EN 1730:2000, 6.3	Test force, N a) main surface for tables with a height less than or equal to 600 mm b) main surface for tables with a height greater than 600 mm c) ancillary surface 10 times	1 000 250 -	- 1 000 200
3. Horizontal fatigue	EN 1730:2000, 6.4	Number of cycles: Test force	5 000 150 N	10 000 300 N
4. Vertical fatigue for cantilever or pedestal tables	EN 1730:2000, 6.5	Number of cycles: Test force 300 N	-	10 000
5. Vertical impact for tables without glass in their construction	EN 1730:2000, 6.6	Drop height, mm: 10 times	140	180
6. Vertical impact for tables with glass in their construction	EN 1730:2000, 6.6	Drop height, mm: 10 times Safety glass ^b	140	180
	EN 14072:2003, 6 ^c	Other glass	180	240
7. Stability under vertical load ^{a, d}	EN 1730:2000, 6.7	Test force, N		
		Main surface V ₁	200	200
		V ₂	400	400
		Ancillary surface V ₁	-	100
		V ₂	-	200
8. Stability for tables with extension elements ^d	5.3.2	Test force, N	-	200

^a Tables with extension pieces shall be tested both in the extended and unextended configurations. A table extension added in the centre of the table shall be tested as the main surface. A part of the main surface in the unextended configuration may become an ancillary surface in the extended configuration.

^b Glass is considered to be safety glass if the glass fulfils the requirements in EN 12150-1:2000, Clause 8, fragmentation test, or where the mode of breakage (β) according to EN 12600:2002, is Type B or Type C.

^c Impact the table top in accordance with the positions defined within EN 1730:2000, 6.6.

^d For tables that might not fulfil the stability requirements before carrying out any tests, the applicable stability tests shall be carried out before starting the sequence of tests specified in this table.

6.2 Strength and durability requirements

The strength and durability requirements are fulfilled when after testing in accordance with Table 2:

- 1) there are no fractures of any member, joint or component,
- 2) there is no loosening of joints intended to be rigid,
- 3) the table fulfils its functions after removal of the test loads,
- 4) the table fulfils the stability requirements.

7 Information for use

Information for use shall be available in the language of the country in which it will be delivered to the end user. It shall contain at least the following details:

- a) assembly instructions, where applicable,
- b) instructions for the care and maintenance of the table.

8 Test report

The test report shall include at least the following information:

- a) a reference to this European Standard;
- b) details of the piece of furniture tested;
- c) details of defects observed before testing;
- d) any variation from the specified temperature range;
- e) the test results;
- f) details of any deviations from this European Standard;
- g) the name and address of the test facility;
- h) the date of test.

Annex A (informative)

Table top deflection test

A.1 It is recommended that the test specified in A.2 should be carried out if the deflection of the main surface of the table measured in the vertical static load test (EN 1730:2000, 6.3) exceeds 1/250 of the span for wood based panels, 1/150 of the span for timber products or 1/100 of the span for other materials.

A.2 Testing of the deflection of table tops that are not made of metal, glass or stone, shall be carried out in a relative humidity of (50 ± 5) % RH and a temperature of (20 ± 5) °C.

The deflection of the tabletop shall be measured where it is greatest.

The greatest deflection shall be measured and recorded with reference to a straight line to an accuracy of $\pm 0,1$ mm.

Place the table being tested on the floor surface in its normal position. Load the table top uniformly with an evenly distributed load $1,5 \text{ kg/dm}^2$.

Maintain the test load for:

- 1 h for table tops made of metal, glass and stone,
- one week for all other table tops.

Measure and record the deflection at the same points and as specified above.