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Furniture – Tables – Test methods for the determination of stability, strength and durability

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Denna standard ersätter SS-EN 1730, utgåva 1.

The European Standard EN 1730:2012 has the status of a Swedish Standard. This document contains the official version of EN 1730:2012.

This standard supersedes the Swedish Standard SS-EN 1730, edition 1.

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EUROPEAN STANDARD

EN 1730

NORME EUROPÉENNE

EUROPÄISCHE NORM

October 2012

ICS 97.140

Supersedes EN 1730:2000

English Version

Furniture - Tables - Test methods for the determination of stability, strength and durability

Ameublement - Tables - Méthodes d'essai pour la détermination de la stabilité, de la résistance et de la durabilité

Möbel - Tische - Prüfverfahren zur Bestimmung der Standsicherheit, Festigkeit und Dauerhaltbarkeit

This European Standard was approved by CEN on 18 August 2012.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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Foreword

This document (EN 1730:2012) 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of an identical text or by endorsement, at the latest by April 2013, and conflicting national standards shall be withdrawn at the latest by April 2013.

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 EN 1730:2000.

The main changes with respect to the previous edition are listed below.

- All test methods for seating used in European Standards for furniture have been collated in one document. The document now contains methods that were previously listed in EN 581-3, *Outdoor furniture*, EN 527-3, *Office Work Tables and Desks* and EN 15372, *Non-domestic tables*.
- A durability test for tables with castors has been added.
- A durability test for height adjustment mechanisms has been added.
- Wherever possible test methods have been simplified and clarified for ease of use.

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

SS-EN 1730:2012 (E)

1 Scope

This European Standard specifies test methods for the determination of stability, strength and durability of the structure of all types of tables and desks without regard to use, materials, design/construction or manufacturing process.

This European Standard does not apply to changing units which are covered by other European Standards.

Test methods for the assessment of ageing, degradation, and electrical functions are not included.

This European Standard does not apply to the strength and durability of any storage features that are covered by other European Standards.

This European Standard does not include any requirements. Requirements for different end uses can be found in other Standards.

2 Normative references

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

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

ISO 7619-2, *Rubber, vulcanized or thermoplastic — Determination of indentation hardness — Part 2: IRHD pocket meter method*

3 Terms and definitions

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

3.1

structure

load bearing parts of furniture such as the frame, top and legs

3.2

ancillary surface

surface additional to the main surface intended for occasional use as part of the table top

3.3

duty cycle

length of time the height adjustable table's drive system may be operated without impairing its useful life

3.4

levelling device

device intended to keep the table top horizontal e.g. adjustable feet or similar

4 General test conditions

4.1 Preliminary preparation

The furniture shall be tested as delivered. Knock-down furniture shall be assembled according to the instructions supplied with it. If the instructions allow the furniture to be assembled or combined in different ways, the most adverse combination shall be used for each test. Knock-down fittings shall be tightened before testing. Further tightening shall not take place unless specifically required by the manufacturer.

Unless otherwise specified by the manufacturer, the sample for test shall be stored in indoor ambient conditions for at least 24 h immediately prior to testing.

The tests shall be carried out at indoor ambient conditions but if during a test the temperature is outside the range 15 °C to 25 °C the maximum and/or minimum temperature shall be recorded in the test report.

The test for deflection of table tops (see 6.7), except those made from metal, glass and stone, shall be carried out at a relative humidity of (50 ± 5) % and a temperature of (23 ± 2) °C.

4.2 Application of forces

The test forces in durability and static load tests shall be applied sufficiently slowly to ensure that negligible dynamic load is applied. The forces in durability tests shall be applied sufficiently slowly to ensure that kinetic heating does not occur.

Unless otherwise stated, static loads shall be maintained for (10 ± 2) s. Unless otherwise stated, durability loads shall be maintained for (2 ± 1) s.

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

4.3 Tolerances

Unless otherwise stated, the following tolerances are applicable to the test equipment:

Forces: ± 5 % of the nominal force;

Velocities: ± 5 % of the nominal velocity;

Masses: ± 1 % of the nominal mass;

Dimensions: ± 1 mm of the nominal dimension;

Angles: $\pm 2^\circ$ of the nominal angle.

The accuracy for the positioning of loading pads and impact plates shall be ± 5 mm.

NOTE For the purposes of uncertainty measurement, test results are not considered to be adversely affected when the above tolerances are met.

5 Test Equipment and Apparatus

Unless otherwise stated, the tests may be applied by any suitable device because the results are not dependent upon the apparatus, except in the case of impact tests where the apparatus described in 5.2 shall be used.

The equipment shall not inhibit deformation nor cause unnatural deformation of the unit/component, i.e. it shall be able to move so that it can follow the deformation of the unit/component during testing.

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With the exception of the horizontal static, durability and stiffness tests, described in 6.2 and 6.4, all loading pads shall be capable of pivoting in relation to the direction of the applied force and the pivot point shall be as close as practically possible to the load surface.

Loading pads for the horizontal static, durability and stiffness tests, described in 6.2 and 6.4, shall not pivot.

With the exception of the horizontal static, durability and stiffness tests described in 6.2 and 6.4, if a loading pad tends to slide, use a slip resistant material between the loading pad and the surface being tested.

5.1 Vertical impactor, as shown in Figure 1 and comprised of the following:

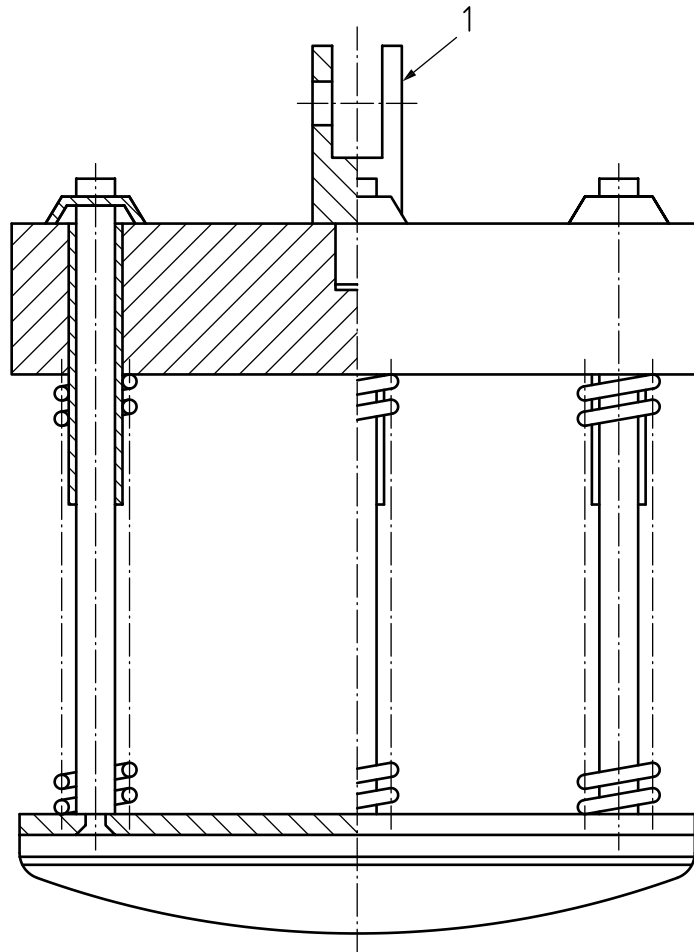
5.1.1 Circular body, 200 mm in diameter separated from the striking surface by helical compression springs and free to move relative to it on a line perpendicular to the plane of the central area of the striking surface.

The body and associated parts minus the springs shall have a mass of $(17 \pm 0,1)$ kg and the whole apparatus, including mass, springs and striking surface, shall have a mass of $(25 \pm 0,1)$ kg.

5.1.2 Springs, which shall be such that the nominal spring rate of the combined spring system is (7 ± 2) N/mm and the total friction resistance of the moving parts is less than 1 N.

The spring system shall be compressed to an initial load of $(1\ 040 \pm 5)$ N (measured statically) and the amount of spring compression movement available from the initial compression point to the point where the springs become fully closed shall be not less than 60 mm.

5.1.3 Striking surface, which shall be a rigid circular object, 200 mm in diameter, the face of which has a convex spherical curvature of 300 mm radius with a 12 mm front edge radius.



Key

- 1 joint of lifting device not inhibiting free fall

Figure 1 — Vertical Impactor

5.2 Floor, horizontal, flat and rigid with a smooth surface.

For the drop test (6.9) the floor shall be faced with a 2 mm thick layer of rubber with a hardness of 85 ± 10 IRHD according to ISO 7619-2.