

BS EN 527-2:2016



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Office furniture — Work tables

Part 2: Safety, strength and durability requirements

National foreword

This British Standard is the UK implementation of EN 527-2:2016. It supersedes BS EN 527-2:2002 which is withdrawn.

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durabilité

Büromöbel - Büro-Arbeitstische - Teil 2:
Anforderungen an die Sicherheit, Festigkeit und
Dauerhaltbarkeit

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

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European foreword

This document (EN 527-2:2016) 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of an identical text or by endorsement, at the latest by June 2017, and conflicting national standards shall be withdrawn at the latest by June 2017.

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

This document supersedes EN 527-2:2002.

Compared to the previous version, modifications are:

- Test sequence and parameters are included, according to tests in EN 1730:2012 instead of EN 527-3:2003, which will be withdrawn;
- Suppression of A-deviation;
- Addition of an Annex B (informative) for an example of calculation for stiffness of the structure.

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1 Scope

This European Standard specifies safety, strength and durability requirements for work tables and desks for office tasks to be undertaken in a seated, a sit-stand or standing position.

It does not apply to other tables in the office area, which are covered by EN 15372.

Annex A (informative) contains a test for the deflection of tables tops.

Annex B (informative) contains an example of calculation of the stiffness of the structure.

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 1730:2012, *Furniture - Tables - Test methods for the determination of stability, strength and durability*

3 Terms and definitions

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

3.1

accessible part

part 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

part accessible during setting up and folding

part to which access can only be gained when setting up and folding the table

3.3

shear and squeeze point

gap which can cause harm to fingers and which occurs when two accessible parts move relative to each other

3.4

overturn

event at which a table pivots to a point beyond which the table continues to fall

4 Safety requirements

4.1 General

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

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

These requirements are fulfilled when:

- a) all accessible edges and corners are free from burrs and rounded or chamfered;
- b) the edges and corners of the top surfaces are chamfered not less than 1 mm by 1 mm or rounded with a radius of not less than 2 mm;

c) the ends of feet and tubular 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 which are lubricated to assist sliding shall be designed to protect users from lubricant stains when in normal use.

4.2 Shear and squeeze points

4.2.1 Shear and squeeze points when setting up and folding

Unless 4.2.2 or 4.2.3 are applicable, shear and squeeze points that are created only during setting up and folding 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 4.1.

4.2.2 Shear and squeeze points under influence of powered mechanisms

There shall be no shear and squeeze points which close to less than 25 mm unless they are always less than 7 mm created by parts of the table operated by powered mechanisms, i.e. springs, gas lifts and motorized systems.

4.2.3 Shear and squeeze points during use

There shall be no shear and squeeze points which close to less than 25 mm unless they are always less than 7 mm created by forces applied during normal use or created by the user during normal movements and actions, e.g. attempting to move the table.

4.3 Stability requirements

The table shall not overturn when tested according to tests 10 and 11 of Table 1.

4.4 Structural safety requirements

The structural safety requirements are fulfilled when the requirements according to 5.2 are fulfilled.

5 Strength and durability

5.1 General

Tables shall be tested according to Table 1 and following the order listed in Table 1.

With the exception of test 9 – Drop test, work tables supplied with storage features shall be tested with the following loads in the storage feature:

- extension elements: 0,5 kg/dm³;
- suspended pocket files: 4 kg/dm.

Table 1 — Test sequence and parameters

Tests	Reference	Parameters	Value
1. Durability of height adjustment mechanisms ^d	EN 1730:2012, 8	<p>Minimum mass on the table top, kg:</p> <p>Location of the centre of the loading point and loading on the table top:</p> <ul style="list-style-type: none"> - A: 20 kg at 200 mm from the front and side edges. The remaining load shall be at the geometric centre of the table top (25 % of the cycles); - B: 50 kg or the maximum load specified shall be at the geometric centre of the table top (50 % of the cycles); - C: 20 kg positioned at a rear corner 200 mm from the rear edge and the side edge. The remaining load shall be at the geometric centre of the table top (25 % of the cycles) <p>cycles:</p>	<p>50^c</p> <p>5000</p>
2.1. Horizontal static load test ^a	EN 1730:2012, 6.2	<p>Load on the table top, kg:</p> <p>Specified force, N:</p> <p>Minimum specified force, N:</p> <p>Cycles</p>	<p>50</p> <p>450</p> <p>300</p> <p>10</p>
2.2. Additional horizontal static load test for adjustable tables with a height more than 950 mm ^b	EN 1730:2012, 6.2	<p>Load on the table top, kg:</p> <p>Moment, Nm:</p> <p>Cycles</p>	<p>50</p> <p>285</p> <p>10</p>
3.1 Vertical static load tests ^a	EN 1730:2012, 6.3.1	<p>Force, N</p> <p>Cycles</p>	<p>1 000</p> <p>10</p>
3.2 Additional vertical static load test for	EN 1730:2012, 6.3.1	<p>Force, N</p> <p>Cycles</p>	<p>500</p> <p>10</p>

Tests	Reference	Parameters	Value
adjustable tables with a height more than 950 mm ^b			
4. Horizontal durability test ^a	EN 1730:2012, 6.4.1, 6.4.2	Load on the table top, kg: Force, N: Cycles:	50 300 10 000
5. Stiffness of the structure ^a	EN 1730:2012, 6.4.1 and 6.4.3	Load on the table top, kg: Force, N:	0 200
6. Vertical durability test ^a	EN 1730:2012, 6.5	Force, N: Cycles:	400 10 000
7. Durability of tables with castors	EN 1730:2012, 6.8	Load on the table top, kg: Cycles:	50 2 000
8. Vertical impact test ^a	EN 1730:2012, 6.6	Drop height, mm : Cycles	140 10
9. Drop test ^a	EN 1730:2012, 6.9	Nominal drop height, mm:	100
10. Stability under vertical load ^e	EN 1730:2012, 7.2	Force, N V ₁ V ₂	750 750
11. Stability for work tables extension elements ^e	EN 1730:2012, 7.3	Force, N	400
<p>^a Height adjustable tables shall be adjusted to their maximum height or 950 mm table top height, whichever is the lower.</p> <p>^b Adjust the work table to its maximum height</p> <p>^c Either minimum 50 kg or nominal load according to the manufacturer's instruction whichever is the greater</p> <p>^d This test is only applicable to electrically operated height adjustment mechanisms.</p> <p>^e The tests of the stability Clauses 10 and 11 may be carried out additionally at the very beginning as an option.</p>			

5.2 Requirements

The strength and durability requirements are fulfilled when after testing in accordance with Table 1:

- a) there are no fractures of any member, joint or component;
- b) there are no loosening of joints intended to be rigid;
- c) the work table fulfils its functions after removal of the test loads;
- d) when tested according to Table 1, test number 5, the stiffness of the structure, both D_1 and D_2 divided by the height to the top of the table top shall be ≤ 17 mm/m.

NOTE An example of calculation of D_1 and D_2 is given in Annex B (informative).

6 Information for use

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

- a) information regarding intended use;
- b) instruction for operating the adjusting mechanisms;
- c) instruction for the care and maintenance of the table.

7 Test report

The test report shall include at least the following information:

- a) reference to this European Standard (EN 527-2:2016);
- b) the piece of furniture tested;
- c) details of defects observed before testing;
- d) any variation from the specified temperature range;
- e) test results;
- f) name and address of the test facility;
- g) date of test.

Annex A
(informative)

Test for the deflection of table tops

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 1730:2012, 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.

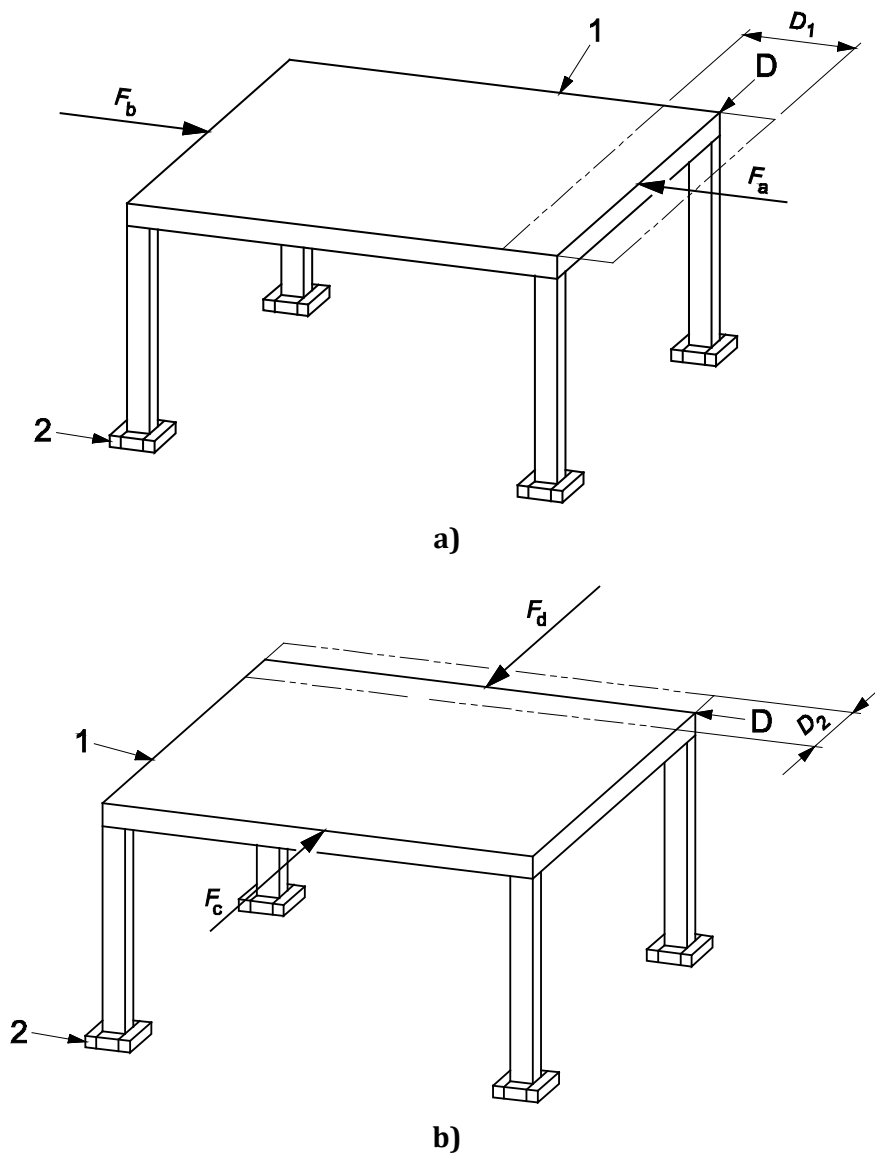
A.2 Test the deflection of table tops according to EN 1730:2012, 6.7, with an evenly distributed load 1,5 kg/dm².

Measure according to EN 1730:2012, 6.7, and record the deflection at the same points as specified above.

Annex B
 (informative)

Stiffness of the structure – example

Example for the calculation.



Key

- | | | | |
|-------|-------------------------------|-------|-------------------------------|
| F_a | Force applied at point a | D_2 | distance travelled by point D |
| F_b | Force applied at point b | 1 | main table top |
| F_c | Force applied at point c | 2 | stops |
| F_d | Force applied at point d | | |
| D | measurement point | | |
| D_1 | distance travelled by point D | | |

Figure B.1 — Stiffness of the structure

Gained values when applying the forces (examples):

Case A - Longitudinal direction:

When applying F_a : 5 mm

When applying F_b : 4 mm

$$D_1 = F_a + F_b = 5 \text{ mm} + 4 \text{ mm} = 9 \text{ mm} \quad (\text{B.1})$$

Upper height of table top: 743 mm = 0,743 m

$$\frac{9 \text{ mm}}{0,743 \text{ m}} = 12,11 \text{ mm} / \text{m} \quad (\text{B.2})$$

Case B - Transverse direction:

When applying F_c : 4 mm

When applying F_d : 3 mm

$$D_2 = F_c + F_d = 4 \text{ mm} + 3 \text{ mm} = 7 \text{ mm} \quad (\text{B.3})$$

Upper height of table top: 743 mm = 0,743 m

$$\frac{7 \text{ mm}}{0,743 \text{ m}} = 9,42 \text{ mm} / \text{m} \quad (\text{B.4})$$

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BSI Group Headquarters

389 Chiswick High Road London W4 4AL UK