SLOVENSKI STANDARD
SIST EN 13150:2020

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Nadomešča:
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Delovni pulti za laboratorije v vzgojno-izobraževalnih ustanovah - Mere, zahteve za varnost in trajnost ter preskusne metode

Workbenches for laboratories in educational institutions - Dimensions, safety and durability requirements and test methods

Arbeitstische für Laboratorien in Bildungseinrichtungen - Maße, Anforderungen an die Sicherheit und Dauerhaltbarkeit und Prüfverfahren

Paillasses de laboratoire dans les établissements d'enseignement - Dimensions, spécification de sécurité et de durabilité et méthodes d'essai

Ta slovenski standard je istoveten z: **EN 13150:2020**

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71.040.10	Kemijski laboratoriji. Laboratorijska oprema	Chemical laboratories. Laboratory equipment
97.140	Pohištvo	Furniture

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EN 13150

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English Version

Workbenches for laboratories in educational institutions - Dimensions, safety and durability requirements and test methods

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This European Standard was approved by CEN on 27 October 2019.

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

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European foreword

This document (EN 13150:2020) 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of an identical text or by endorsement, at the latest by August 2020, and conflicting national standards shall be withdrawn at the latest by August 2020.

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 13150:2001.

Compared to EN 13150:2001, the following modifications have been made:

a) scope has been restricted to the workbenches in educational institutions;

b) removal of Annex A (normative) containing detailed test methods;

c) this document refers to other relevant EN standards such as EN 1730, EN 16122 for the applicable test methods;

d) no terms and definitions are listed in this document;

e) removal of Annex B (informative) containing optional durability tests. Durability test requirements are now in the main body of this document.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1 Scope

This document applies to workbenches, movable science tables and workbench shelves designed for use in educational institutions and similar laboratories. It does not apply to workbenches and working tables for industrial laboratories, institutes and universities or similar research institutions. It does not apply to fume cupboards.

This document specifies safety and durability requirements and test methods and gives dimensions.

Requirements and test methods related to the fire safety of workbenches and to the resistance of the work surface are not included in this document.

Requirements concerning electrical safety and media services (e.g. water, gas, wastewater, compressed air) are not included in this document.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 527-1:2011, *Office furniture — Work tables and desks — Part 1: Dimensions*

EN 1729-1:2015, *Furniture — Chairs and tables for educational institutions — Part 1: Functional dimensions*

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

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

EN 13722, *Furniture — Assessment of the surface gloss*

EN 16121, *Non-domestic storage furniture — Requirements for safety, strength, durability and stability*

EN 16122:2012, *Domestic and non-domestic storage furniture — Test methods for the determination of strength, durability and stability*

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— IEC Electropedia: available at http://www.electropedia.org/

— ISO Online browsing platform: available at https://www.iso.org/obp

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. 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.

For workbenches/work tables that are designed to be fixed to the structure of a building, the unit shall be mounted according to the manufacturer's instructions to a structure representative of the service installation. This structure shall be sufficiently strong and stiff to eliminate the possibility of it affecting the results of the test.

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. However, 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.

4.2 Tolerances

Unless otherwise stated the following tolerances apply:

— Masses: ± 0,5% of the nominal mass;

— Dimensions: ± 1,0 mm of the nominal dimension;

— Angles: ± 2° of the nominal angle;

— Forces: ± 5% of the nominal force.

4.3 Test installation

For the structural tests in Clause 6, the product shall be installed according to the manufacturer's instructions.

5 Dimensions

5.1 General

Workbenches shall fulfil the relevant dimensional requirement given in 5.2, 5.3 and 5.4.

5.2 Heights

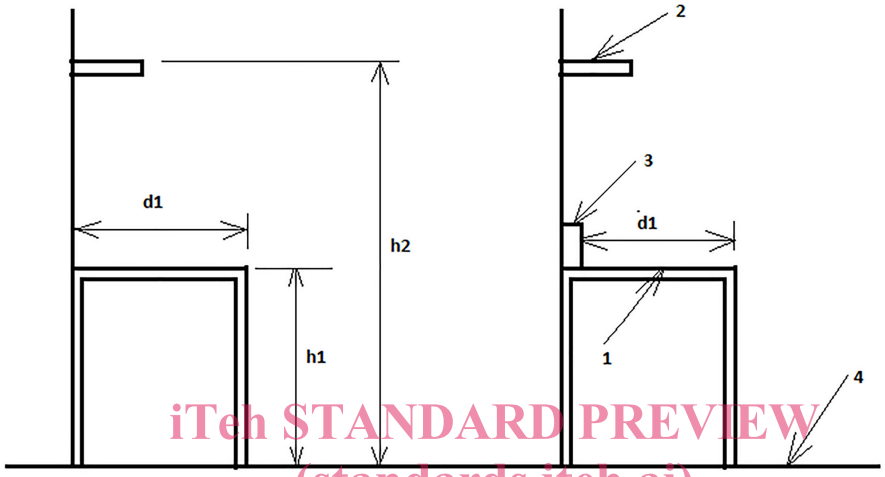
5.2.1 Work surface height (h_1)

The nominal heights h_1 as shown in Figure 1 shall be as specified in Table 1. Levelling devices shall be provided with all freestanding furniture allowing adjustment in the range of nominal height +/- 10 mm.

For seated work, the relationship between seat height and work surface height is critical. The guidance for this is provided in EN 1729-1:2015, Annex E.

Table 1 — Work surface heights

Type of workbench	Nominal heights h_1 (mm)
Sitting	740 ± 10
Standing [a]	600 for primary schools 850 or 900 for secondary schools
[a] or sitting on high chairs or stools.	



Key

1 workbench
2 shelf combined with the workbench
3 service zone on top of workbench
4 floor
h_1 workbench height
h_2 height of workbench including the shelf
d_1 depth of clear depth of workbench

NOTE Drawings are examples only.

Figure 1 — Side view of a workbench

5.2.2 Legroom

Minimum legroom dimensions (i.e. f_2, k_1, k_2 and k_3) under the workbench for standing work shall be in accordance with EN 527-1:2011, 4.2, Table 1, Figure 3.

Minimum legroom under the workbench for sitting work shall be in accordance with EN 1729-1:2015, A.3, Figure A.8, Table A.3 for size mark 6 tables. The width of legroom for sitting work is the gap between the legs of the workbench or the gap between two furniture units where the user is expected to sit. The width of legroom shall in accordance with EN 1729-1:2015, A.2, Table A.2, Figure A.7 b) for size mark 6 tables.

5.2.3 Height of shelves above workbench (h_2)

For workbenches with a depth ≥ 600 mm, the maximum height h_2 of the highest shelf combined with the workbench shall be 1 750 mm (see Figure 1).

5.3 Depth of work surface

The depths in Figure 1 shall be as specified in Table 2.

Table 2 — Depths

Part of workbench	**Depth** mm
Clear work surface d_1	600 to 900

5.4 Service zone

Service zones can be added to the furniture. Service zones should have enough space for the installation of services such as water, gas, wastewater and compressed air.

Service zones shall not interfere with the legroom requirements and any service zone protruding above the worksurface shall not reduce the depth of worksurface (d_1) to less than the specified value in Table 2.

6 Safety requirements

6.1 General

Workbenches shall be manufactured so as to minimize injuries and damage to the human body or parts of the body during normal working conditions. Components or parts of the workbench with which the user may come into contact during intended use shall not have burrs, sharp edges or sharp corners and points.

Workbenches should be manufactured from materials, which are resistant to the mechanical, chemical and thermal requirements of the intended use of the workbench. Any glass component greater than or equal to 0,06 m^2 shall comply with EN 12600 type 4B or 4C.

In order to avoid shearing and pinching, the distance between parts moving relative to each other shall have safety distances, which shall always be less than 8 mm or more than 25 mm in any position during movement.

The width of accessible apertures (excluding drawers and doors and their associated fittings but including the gap between handles and other parts of the structure) shall always be either less than 8 mm or more than 18 mm. Handles shall not incorporate recesses in which substances may accumulate. Accessible open ends and feet of tubular components shall be capped or otherwise closed.

Work surfaces specifically designed to retain liquids shall be provided with retaining edges on all sides so that the retention capacity is min. 5 litres per square metre of work surface.

6.2 Stability

A freestanding workbench/worktable shall not overturn when tested in accordance with 6.1 and tests 6, 7 and 8 in Table 3.