BS EN 1729-2:2023

BSI Standards Publication

Furniture — Chairs and tables for educational institutions

Part 2: Safety requirements and test methods

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National foreword

This British Standard is the UK implementation of EN 1729-2:2023. It supersedes BS EN 1729-2:2012+A1:2015, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee FW/0/4, Educational Furniture.

A list of organizations represented on this committee can be obtained on request to its committee manager.

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European foreword

This document (EN 1729-2:2023) 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of an identical text or by endorsement, at the latest by November 2023, and conflicting national standards shall be withdrawn at the latest by November 2023.

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 1729-2:2012+A1:2015.

The EN 1729 series consists of the following parts under the general title *Furniture — Chairs and tables for educational institutions*:

— *Part 1: Functional dimensions;*

— *Part 2: Safety requirements and test methods.*

EN 1729-2:2023 includes the following significant technical changes with respect to EN 1729-2:2012+A1:2015:

a) extension of scope to include safety requirements and test methods for kindergarten, childcare institutions and early years education settings;

b) removal of the gloss requirement for tabletops;

c) additional durability requirements for single column chairs;

d) additional consideration of chairs with arm rests;

e) clarification of seat loading points and back loading points;

f) amendment of some loads and forces;

g) modification of Annex A” (informative) “Test method for determination of stability of chairs placed on tabletops”;

h) inclusion of corner stability test for chairs;

i) inclusion of requirements for auxiliary writing surfaces which are integral part of chairs;

j) inclusion of forward stability test for tables;

k) additional safety requirements for chairs sizemarks 0 to 3.

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

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1 Scope

This document specifies safety requirements and test methods for chairs and tables for general educational purposes in educational institutions including kindergarten, childcare institutions and early years education settings.

It applies to furniture for use with laptop computers or portable devices, but not to special purpose workstations, e.g. laboratories, ranked seating and workshops.

The chairs fulfilling the applicable requirements of this document are suitable for users weighing up to 110 kg.

The figures illustrate test principles only and cannot be used to carry out the tests.

NOTE EN 1729-1 specifies functional dimensions and marking of chairs and tables for general educational institutions.

Annex A (informative) gives a test method for determination of the displacement of chairs placed on tabletops.

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 71-2:2020, *Safety of toys — Part 2: Flammability*

EN 71-3:2019+A1:2021, *Safety of toys — Part 3: Migration of certain elements*

EN 1022:2018, *Furniture — Seating — Determination of stability*

EN 1728:2012, *Furniture — Seating — Test methods for the determination of strength and durability*

EN 1729-1, *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 17191:2021, *Children's Furniture — Seating for children — Safety requirements and test methods*

CEN/TR 17202:2018, *Furniture — General safety guidelines — Entrapment of fingers*

prEN 15372:—,[1] *Furniture — Strength, durability and safety — Requirements for non-domestic tables*

3 Terms and definitions

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

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

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

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

[1] Under preparation. Stage at the time of publication: prEN 15372:2021.

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3.1
single column chair
chair whose upper part, which includes the seat, is mounted on a single load bearing structure with a diameter of up to 120 mm at its narrowest point

Note 1 to entry: This includes e.g. chairs with gas lifts.

[SOURCE: prEN 12520:2021]

4 General test conditions

4.1 Testing ranges of chairs and tables

If chairs in a range of size marks are all manufactured with the same design details and geometry, it is only necessary to carry out the complete test programme on the highest size mark (including multi-size and height adjustable) in the range, plus additional stability tests on the smallest size mark in the range.

Safety requirements for chairs and tables as specified in Clause 5 shall be assessed for all size marks in the range. Additional safety requirements as specified in 5.2 and 5.3 shall be assessed for all size marks 0 to 3.

If tables in a range of size marks are all manufactured with the same design details and geometry, it is only necessary to carry out the complete test programme on the highest size mark in the range.

If a chair is adjustable between two sizemarks (e.g. sizemark 3 and 5), largest sizemark (i.e. sizemark 5) shall be fully tested and the smallest sizemark (e.g. sizemark 3) shall only be tested for stability.

In the event of failure in any of the chairs/tables in the above test programme, it is necessary to carry out the complete test programme on each chair/table size mark individually.

If a test cannot be carried out as specified, the test shall be carried out as closely as possible to that specified. Any modifications to the test method shall be technically justified and shall be recorded in the test method.

4.2 Testing of height adjustable and multi-size chairs and tables

Where tables or chairs can be set to a number of different configurations the worst case configuration shall be tested.

Where tables and chairs can be adjusted to suit multiple size marks the item shall be assessed in accordance with EN 1729-1 at all size marks, and structural testing shall be carried out at the highest size mark only.

4.3 Sequence of testing

All applicable tests shall be carried out on the same sample.

The dimensional assessment of chairs and tables according to EN 1729-1 shall be carried out before undertaking the tests specified in this document.

For chairs as far as applicable the tests shall be carried out in the following order:

— 5.1 a) to h) general requirements;

— 5.2 a) to c) additional requirements SM 0-3;

— 5.3 a) to e) additional requirements SM 0 and 1;

— 5.1 i) stability (optional);

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— 5.1 j) except 5.3.12 Overload test;

— 5.1 i) stability;

— 5.3.12 Overload test;

— 5.2 d) and e) additional requirements SM 0-3;

— 5.3 f) additional requirements SM 0 and 1.

For tables as far as applicable the tests shall be carried out in the following order:

— 5.1 b) to h) general requirements;

— 5.1 k) stability (optional);

— 5.1 l) strength and durability;

— 5.1 k) stability.

5 Safety requirements

5.1 General safety requirements

Where a requirement in 5.1 might conflict with 5.2 and/or 5.3, the relevant requirement of 5.2 and/or 5.3 has predominance over 5.1.

In order to minimize the risk of personal injury or damage to clothing, the following requirements apply:

a) edges which are directly in contact with the user are rounded or chamfered;

b) all other edges and corners accessible during intended use are free from burrs and/or sharp edges;

c) there shall be no areas where the distance between two accessible parts moving relative to each other can be less than 25 mm, and more than 8 mm in any position during movement that could present a risk of injury to the user, created by parts of the furniture operated by powered mechanisms, e.g. mechanical springs and gas lifts.

   This requirement is fulfilled if there is no hazard present when tested in accordance with CEN/TR 17202:2018, 8.3 and 8.4.

   NOTE Requirements for shear and compression points created under the influence of electrical motors are specified in prEN 17684:2022.

d) adjustment controls shall not operate inadvertently or accidentally;

e) when accessible to the user under normal use, open ends, and feet of tubular components shall be capped or otherwise closed;

f) There shall be no holes in the ends of tubular components or holes in rigid components in accessible parts between 8 mm and 18 mm, unless the depth of penetration is less than 10 mm or capped. This requirement is fulfilled if there is no hazard present when tested in accordance with CEN/TR 17202:2018, 7.3 and 7.4;

g) parts shall not be detachable without the use of an appropriate tool;

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h) chairs shall not overturn when tested as specified in 6.2;

i) chairs shall show no structural failure which can affect safety when tested for strength and durability as specified in 6.3 and they shall still fulfil their function. For overload tests there shall be no visible fracture or breakage;

j) tables shall not overturn when tested as specified in 7.1 of this document;

k) tables shall show no structural failure which can affect safety when tested for strength and durability as specified in 7.2 and they shall still fulfil its function.

5.2 Additional safety requirements for chairs sizemarks 0 to 3

Chairs sizemark 0 to 3 (according to EN 1729-1) shall also fulfil the requirements of the clauses of EN 17191:2021 as listed below:

a) 6.1 – Hazards from glass

There shall be no glass in seating for children.

b) 6.6 – Hazards from moving parts

5 mm restriction shall apply only to sizemarks 0 and 1. This safety distance shall be 7 mm for sizemark 2 and 3 chairs.

c) 6.7 – Hazards from enclosures

d) Clause 8 – Fire and thermal hazards

Verification shall be provided that all accessible textile materials do not produce surface flash when tested according to EN 71-2:2020, 5.5.1 and 5.5.2.

e) Clause 11 – Product information.

5.3 Additional safety requirements for chairs sizemarks 0 and 1

Chairs sizemark 0 to 1 (according to EN 1729-1) shall also fulfil the requirements of the clauses of EN 17191:2021 as listed below:

a) 6.4 – Hazards caused by folding of chairs

b) 6.6 – Hazards from moving parts

c) 6.8 – Hazards from entanglement

d) 6.9 – Choking and ingestion hazards

e) 6.10 – Suffocation hazards

f) Clause 7 – Chemical requirements.

Verification shall be provided that the migration of heavy metals in the surfaces of any material used that are accessible to the mouth of the child fulfil the requirements of EN 71-3:2019+A1:2021.

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