



SLOVENSKI STANDARD SIST EN 17191:2021

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Pohištvo za otroke - Sedežno pohištvo - Varnostne zahteve in preskusne metode

Children's Furniture - Seating for children - Safety requirements and test methods

Kindermöbel - Kindersitzmöbel - Sicherheitstechnische Anforderungen und Prüfverfahren

Mobilier de puériculture et pour enfants - Sièges pour enfants - Exigences de sécurité et méthodes d'essai

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ICS:

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|--------|----------------|------------------------|
| 97.140 | Pohištvo | Furniture |
| 97.190 | Otroška oprema | Equipment for children |

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Children's Furniture - Seating for children - Safety requirements and test methods

Mobilier de puériculture et pour enfants - Sièges pour enfants - Exigences de sécurité et méthodes d'essai

Kindermöbel - Kindersitzmöbel - Sicherheitstechnische Anforderungen und Prüfverfahren

This European Standard was approved by CEN on 30 May 2021.

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European foreword

This document (EN 17191:2021) 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of an identical text or by endorsement, at the latest by January 2022, and conflicting national standards shall be withdrawn at the latest by January 2022.

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 has been prepared under a standardization request given to CEN by the European Commission and the European Free Trade Association and supports essential requirements of EU Directive 2001/95/CE.

For relationship with EU Directive 2001/95/CE, see informative Annex ZA, which is an integral part of this document.

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.

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.

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EN 17191:2021 (E)**1 Scope**

This document specifies safety requirements and test methods for seating specifically intended for children who are able to walk and sit by themselves.

It applies to seating intended to be placed on the floor for domestic and non-domestic use including in day care centres and for indoor and outdoor use.

NOTE 1 Seating includes but is not limited to chairs, benches, stools, bean bags, *deckchairs*, rocking chairs, reclining chairs, armchairs, foldable chairs and swivel chairs.

It applies to the seating function only. If the seating has additional functions or can be converted into other products, the relevant European Standards could, in addition, apply. (See B.2).

It does not apply to children's highchairs, childcare articles such as reclined cradles and seating in educational institutions for which other European Standards exist.

NOTE 2 Seating in educational institutions are covered by the European Standards EN 1729-1 and EN 1729-2.

It does not apply to swing chairs, wheelchairs, electrical safety or seating for children with special needs.

The document contains 4 annexes as follows:

- Annex A (informative) - Dimensional guidance for designing seating for children;
- Annex B (informative) - Rationale for the inclusion of the safety requirements;
- Annex C (informative) - Guidance for applicable tests according to seating size;
- Annex ZA (informative) - Relationship between this European Standard and the safety requirements of Directive 2001/95/EC aimed to be covered.

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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 71-1:2014+A1:2018, *Safety of toys - Part 1: Mechanical and physical properties*

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 1728:2012,¹ *Furniture - Seating - Test methods for the determination of strength and durability*

EN 1729-2:2012+A1:2015, *Furniture - Chairs and tables for educational institutions - Part 2: Safety requirements and test methods*

EN 14988:2017+A1:2020, *Children's high chairs - Requirements and test methods*

¹ As impacted by EN 1728:2012/AC:2013.

EN ISO 13936-2:2004, *Textiles - Determination of the slippage resistance of yarns at a seam in woven fabrics - Part 2: Fixed load method (ISO 13936-2:2004)*

3 Terms and definitions

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

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

- IEC Electropedia: available at <https://www.electropedia.org/>;
- ISO Online browsing platform: available at <https://www.iso.org/obp>.

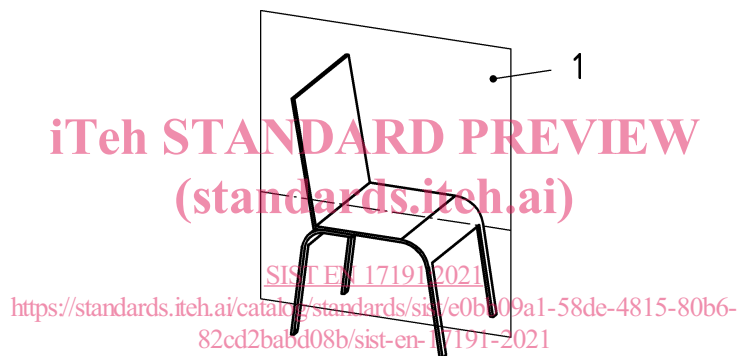
3.1

median plane

vertical plane running from front to rear through the centre of the seat, dividing the seating into two parts

Note 1 to entry: In most instances the two parts are symmetrical.

Note 2 to entry: See Figure 1.



Key

- 1 Median plane

Figure 1 — Median plane

3.2

seat height

vertical distance in the *median plane* between the floor, or the highest point of the footrest in case of *tall chairs*, and the highest point on the front of the seat

Note 1 to entry: See 4.5.

3.3

tall chair

chair where the height of seat from the floor is higher than the *seat height* specified in the size mark and with a footrest

Note 1 to entry: See 4.5 and Figure 2.

Note 2 to entry: Size marks are specified in Table A.1.

EN 17191:2021 (E)**3.4
deckchair**

foldable seating that can be set to one or more positions by means of a locking system at the transverse bar and which has a suspended, flexible seat/back

Note 1 to entry: Figure 13 shows an example of a typical *locking mechanism* of a deckchair.

Note 2 to entry: Refer to B.14.

**3.5
locking device**

component that maintains part(s) of the product in the position of use

EXAMPLES Latch, hook, over-centre lock.

[SOURCE: EN 14988:2017+A1:2020, 3.6]

**3.6
locking mechanism**

assembly consisting of one or more *locking device(s)* and one or more *operating device(s)*

[SOURCE: EN 14988:2017+A1:2020, 3.9]

**3.7
automatic locking device**

mechanism which engages without the guidance of the user

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**3.8
operating device**

part of the *locking mechanism(s)* designed to be activated by the carer by one or more action(s)

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[SOURCE: EN 14988:2017+A1:2020, 3.7]

**3.9
soft seating**

seating with no internal support or frame, composed of a fabric, vinyl, leather or similar cover, over a soft filling (such as foam, air, or polystyrene beads)

Note 1 to entry: Bean bags, and inflatable and foam seating are considered to be soft seating.

**3.10
surface flash**

rapid spread of flame over the surface of a material without ignition of its base structure at the same time

**3.11
seat width**

horizontal distance between vertical lines through the side edges of the seat surface at a distance equal to half of the seat depth (t_4)

Note 1 to entry: See Figure A.2.

4 General requirements and test conditions

4.1 General (See B.3)

Size 1 seating as specified in 4.5 that allows a child to be elevated to the height of a dining table shall also fulfil the requirements of EN 14988:2017+A1:2020 or shall be clearly sold as not intended for children less than 3 years old.

NOTE Words in *italics* in Clause 4 are defined in Clause 3 (Terms and definitions).

4.2 Preliminary preparation

The seating shall be tested as delivered. Knock-down – ready to assemble / flat pack seating shall be assembled according to the manufacturer's instructions. If the instructions allow the seating to be assembled or combined in different configurations, 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. If the configuration has to be changed to produce the worst-case conditions, this shall be recorded in the test report.

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.

Before beginning the testing, visually inspect the unit thoroughly. Record any defects so that they are not assumed to have been caused by the tests.

4.3 Application of forces (standards.iteh.ai)

The test forces in durability and static load tests (9.4) 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 forces shall be maintained for (10 ± 2) s;
- durability forces shall be maintained for (2 ± 1) s.

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

4.4 Tolerances

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

- Forces: $\pm 5 \%$ of the nominal force;
- Velocities: $\pm 5 \%$ of the nominal velocity;
- Masses: $\pm 1 \%$ of the nominal mass;
- Dimensions: $\pm 1 \text{ mm}$ 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 $\pm 5 \text{ mm}$.

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

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4.5 Seating sizes

The seating shall be tested with reference to the *seat height* (3.2), see Table 1.

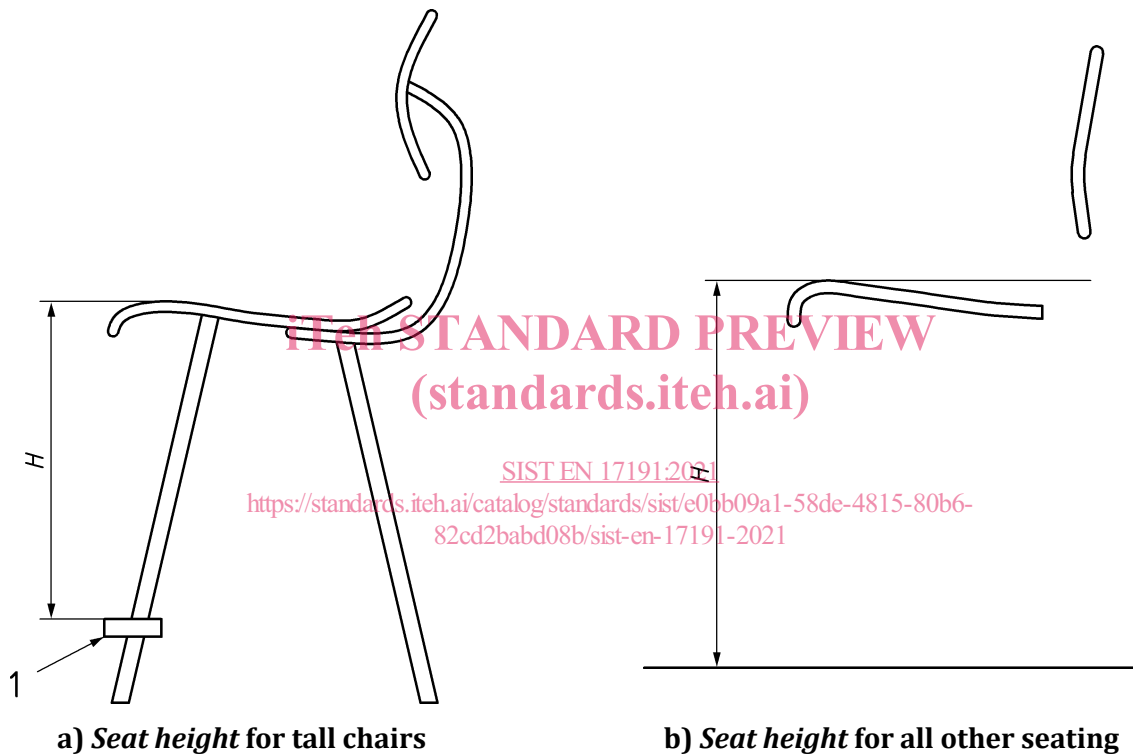
Dimensions in millimetres

Table 1 — Seating sizes

| Size | Size 1 seating | Size 2 seating | Size 3 seating |
|------------------------|----------------|--------------------|----------------|
| <i>Seat height</i> (H) | $H \leq 270$ | $270 < H \leq 360$ | $H > 360$ |

NOTE Annex A includes dimensional guidance for designing seating for children.

Seat height is measured according to 3.2 and Figure 2.



Key

- H Seat height
- 1 The footrest

Figure 2 — Seat height

The *seat height* shall be measured with the seat (and footrest if any) unloaded. For seating where it is not possible to determine a size (e.g. bean bags), it shall be tested as size 1 seating for all tests, except the strength and durability tests (according to 9.4) for which it shall be tested as size 3 seating.

4.6 Accessibility

For the purpose of this document, all parts of the fully assembled seating are considered accessible to the child.

4.7 Testing range of seating

If seating in a range of sizes is manufactured with identical construction details, it is only necessary to carry out the complete strength, durability and stability tests on the largest size in the range, plus additional stability tests on the smallest size in the range. In the event of failure of any seating in the above test programme, the complete test programme shall be carried out on each seating size mark individually.

4.8 Testing seating adjustable in height

If the height of the seating can be adjusted, it is necessary to carry out the complete strength, durability and stability tests with the seating in its highest position, plus additional stability tests with the seating in its lowest position.

5 Test equipment

5.1 Entrapment test probes

5.1.1 Finger probes with hemispherical end

Probes with hemispherical ends made of plastics or other hard, smooth material, mounted on a force-measuring device, see Figure 3.

Dimensions in millimetres

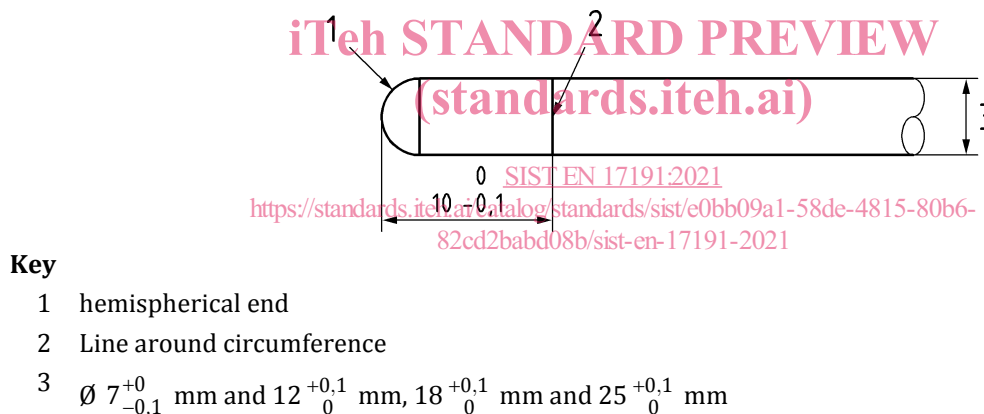


Figure 3 — Finger probe with hemispherical end

5.1.2 Finger probe for mesh

A probe with a diameter of $7^{+0}_{-0,1}$ mm, mounted on a force-measuring device, with the end as specified in Figure 4, made of plastics or other hard, smooth material. The end radius shall be $(2,8 \pm 0,2)$ mm.

Dimensions in millimetres

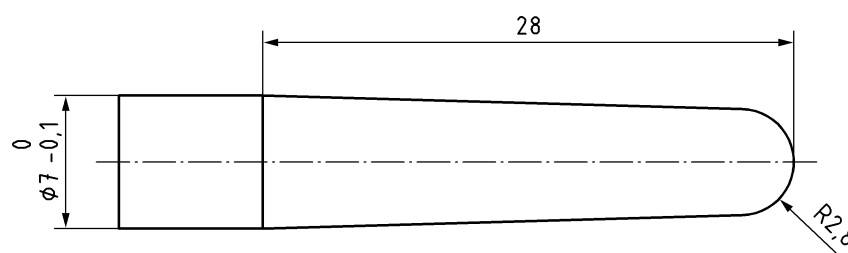


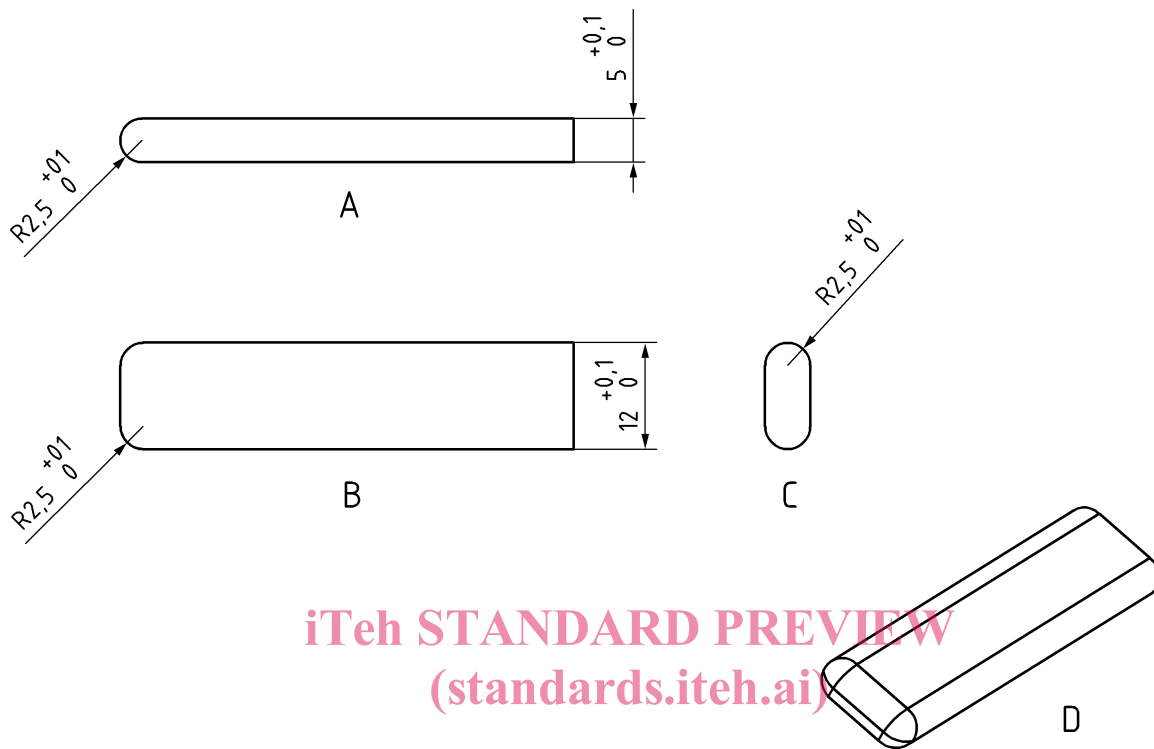
Figure 4 — Finger probe for mesh

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5.1.3 Shape assessment probe

Probe made of plastics or other hard, smooth material with the dimensions shown in Figure 5.

Dimensions in millimetres



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Key

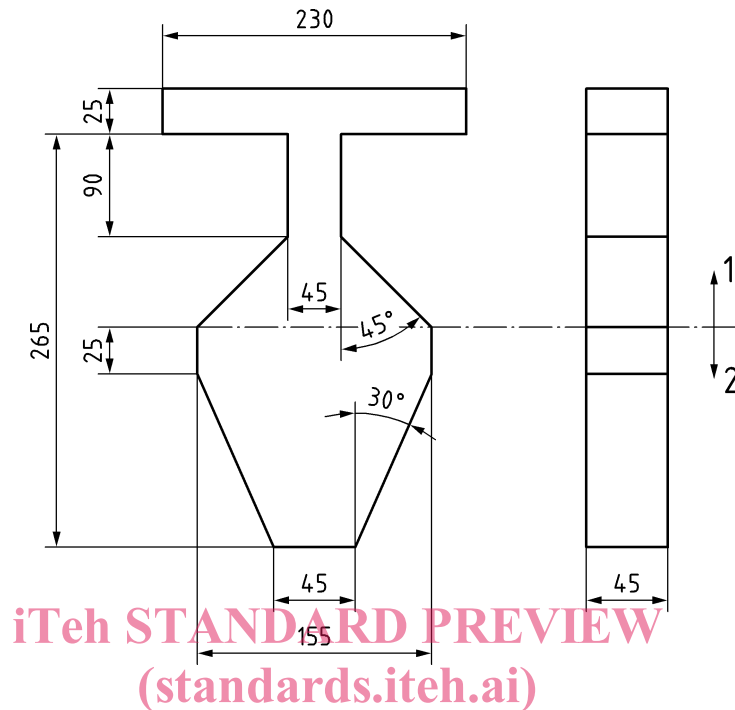
- A side view
- B top view
- C face view
- D isometric view

Figure 5 — Shape assessment probe

5.2 V and irregular shaped template

Template made from plastics or other hard, smooth material with the dimensions given in Figure 6.

Dimensions in millimetres



Key

- 1 B portion
- 2 A portion

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Figure 6 — V and irregular shaped template

5.3 Small parts cylinder

Cylinder having the dimensions as shown in Figure 7.

Dimensions in millimetres

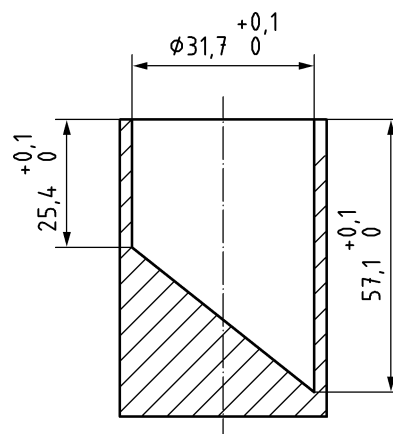


Figure 7 — Small parts cylinder