



SLOVENSKI STANDARD
oSIST prEN 1022:2022

01-marec-2022

Pohištvo - Sedežno pohištvo - Ugotavljanje stabilnosti

Furniture - Seating - Determination of stability

Möbel - Sitzmöbel - Bestimmung der Standsicherheit

Mobilier - Sièges - Détermination de la stabilité

Ta slovenski standard je istoveten z: prEN 1022

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ICS:

97.140

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English Version

Furniture - Seating - Determination of stability

Mobilier - Sièges - Détermination de la stabilité

Möbel - Sitzmöbel - Bestimmung der Standsicherheit

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 207.

If this draft becomes a European Standard, 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.

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prEN 1022:2022 (E)**European foreword**

This document (prEN 1022:2022) has been prepared by Technical Committee CEN/TC 207 “Furniture”, the secretariat of which is held by UNI.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 1022:2018.

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

- The scope has been amended to specifically exclude products that require the user to actively affect stability.
- The definition of arm rest has been improved.
- The standard has been aligned with other standards to refer to single column seating, rather than swivelling seating.
- A modified seat loading template has been introduced.
- The sideways stability test for seating with raised side edges has been improved.
- Rearwards stability tests for loungers have been introduced.
- Requirements for single column seating with reclining backrests and foot/leg rests added.

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1 Scope

This document specifies test methods and requirements for the determination of the stability of all types of seating for adults weighing up to 110 kg, without regard to use, materials, design/construction or manufacturing process.

The test methods described can be used for seating for children and heavier adults by modifying test loads and loading points.

This document does not apply to seating for sitting, perching or leaning that requires an action from the user in order to keep the body posture in a stable position.

This document does not apply to children's highchairs, table mounted chairs and bath seats which are covered by other European Standards.

This standard contains two annexes:

Annex A (normative) – Seat loading pad data

Annex B (normative) – Test parameters

2 Normative references

There are no normative references in this document.

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:

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

3.1

arm rest

part of the seating able to support the arms of the user when seated, with a height above the seat loading point of at least 100 mm, but not greater at any point in the horizontal plane than 400 mm above the seat loading point, extending horizontally forward at least 175 mm from the back loading point

3.2

back rest

element that supports the back of the user higher than 100 mm above the height of the seat loading point

3.3

foot rest

part intended to support the feet of the user which assists the user getting on or off an item of seating

Note 1 to entry: A foot rest can or cannot be permanently attached to the structure of the item of seating.

3.4

leg rest

extension of the seat area intended to support the legs of the user

Note 1 to entry: A leg rest can or cannot be permanently attached to the structure of the item of seating, and may not be suitable for use as an item of seating itself.

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3.5

load bearing structure

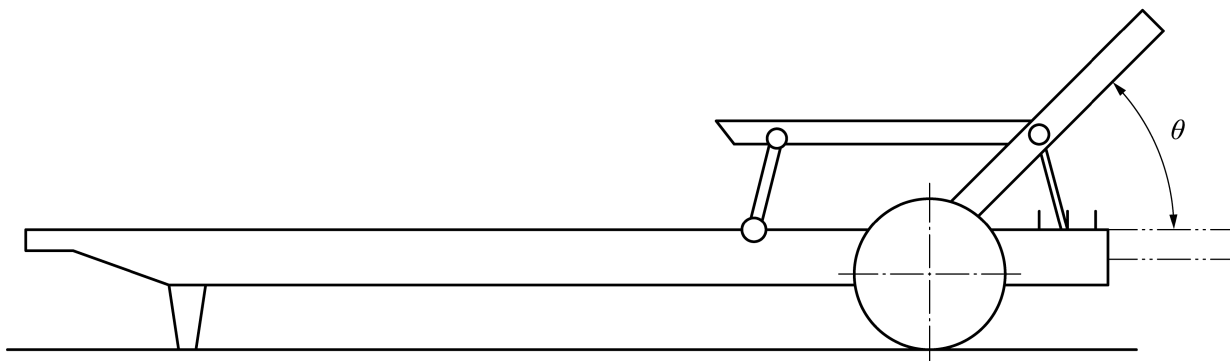
load bearing parts of the item of seating such as the frame, seat, back and arm supports and suspension

3.6

lounger

item of seating intended for reclined posture with at least one back rest position such that back rest angle is 45 degrees or less to the horizontal, and a leg rest which is an integral part of the product and intended to support the full body weight of a user

Note 1 to entry: See Figure 1.

**Key**

θ back rest angle

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Figure 1 — Example of Lounger
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3.7

median plane

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

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

Note 2 to entry: See Figure 2.

3.8

overturning

when an item of seating pivots to a position beyond which the item continues to fall

3.9

raised side edge

side edge of the item of seating, higher than 50 mm above the height of the seat loading point

3.10

stability

ability to withstand forces that tend to cause the loaded seating to overturn

3.11

supporting point

foot of a leg, castor or glide

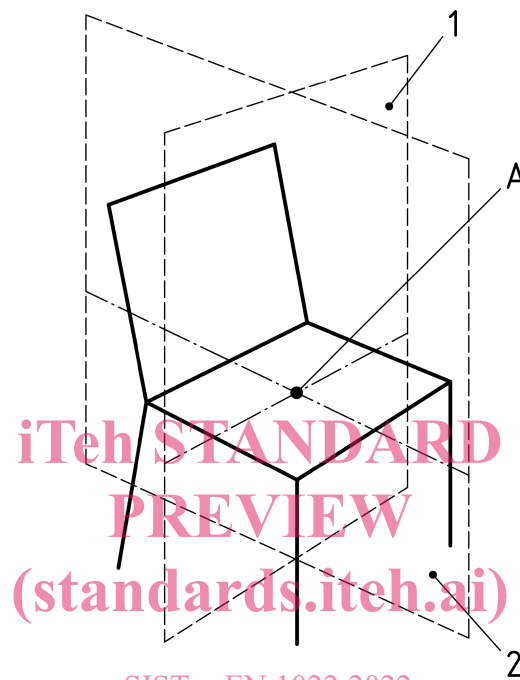
3.12**single column seat**

item of seating, whose upper part, which includes the seat, is mounted on a single support with a diameter of up to 120 mm at its narrowest point

3.13**transverse plane**

vertical plane perpendicular to the median plane passing through the seat loading point

Note 1 to entry: See Figure 2.



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Key

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- 1 transverse plane
 - 2 median plane
 - A seat loading point

Figure 2 — Transverse and median plane

3.14**work chair**

swivelling chair, with or without arm rests, for use by one adult in the office, whose upper part, which includes the seat and back is supported on a single column and can rotate in the horizontal plane and is at least adjustable in height

4 General test conditions

4.1 General

The furniture shall be tested as delivered. Knock-down furniture shall be assembled according to the instructions supplied with it. Knock-down fittings shall be tightened before testing.

If the furniture can be assembled or combined in different ways, the most adverse configuration shall be used for each 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 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.

4.2 Application of forces

The test forces shall be applied sufficiently slowly to ensure that negligible dynamic load is applied.

Unless otherwise stated, overturning forces shall be maintained for (5 ± 2) s.

For rearwards stability tests defined in 7.4.2, 7.4.3, and 7.4.4, the loading discs shall be maintained in position for (120 ± 60) s.

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

The weight of the loading pad and any associated equipment shall be considered when applying the test load.

4.3 Tolerances

Unless otherwise stated the following tolerances are applicable:

- forces: $\pm 5 \%$ of the nominal force;
- masses: $\pm 1 \%$ of the nominal mass;
- dimensions: all dimensions less than 300 mm shall have a tolerance of ± 1 mm of the nominal dimension, all other dimensions shall have a tolerance of $\pm 0,5 \%$ of the nominal dimension;
- angles: $\pm 2^\circ$ of the nominal angle.

The accuracy for the positioning of loading pads 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

5.1 General

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.

All loading pads shall be capable of pivoting in relation to the direction of the applied force. The pivot point shall be as close as practically possible to the load surface.

If a loading pad tends to slide use a slip resistant material between the loading device and the item of seating.

Unless otherwise specified, the tests may be applied by any suitable device because results are dependent only upon correctly applied forces and not upon the apparatus.

5.2 Loading point template

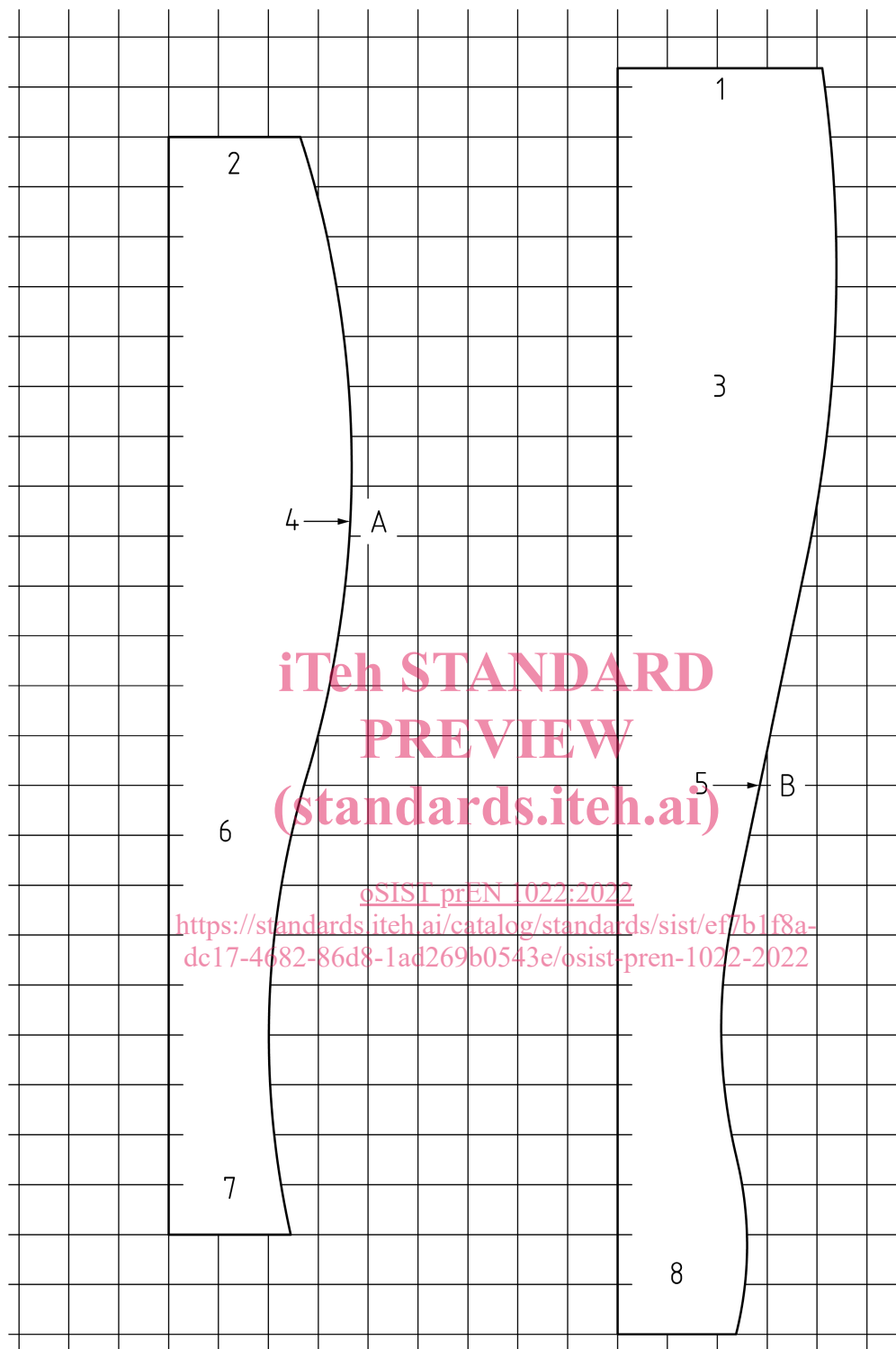
Consisting of two shaped members (see Figure 3) fastened together by a pivot at one end. The contours of the shaped surfaces are so devised as to sink into the upholstery. A semi-circular section is fitted to the seat portion, such that the arc of the semi-circular section is in line with the back template when set to 90° (see Figure 4). For this purpose the loading point template, with an additional mass applied at the seat loading point, shall be 20_0^{+1} kg.

The apparatus is marked as shown in Figure 5.

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Dimensions in millimetres



Scale: 1 square = 20 mm

Key

- | | |
|----------------|--|
| 1 top | 6 seat portion |
| 2 rear | 7 front |
| 3 back portion | 8 bottom |
| 4 seat load | A seat loading point (all seating except stools) |
| 5 back load | B back loading point (all seating except stools) |

Figure 3 — Loading surface curves for seat and back loading point template

Dimensions in millimetres

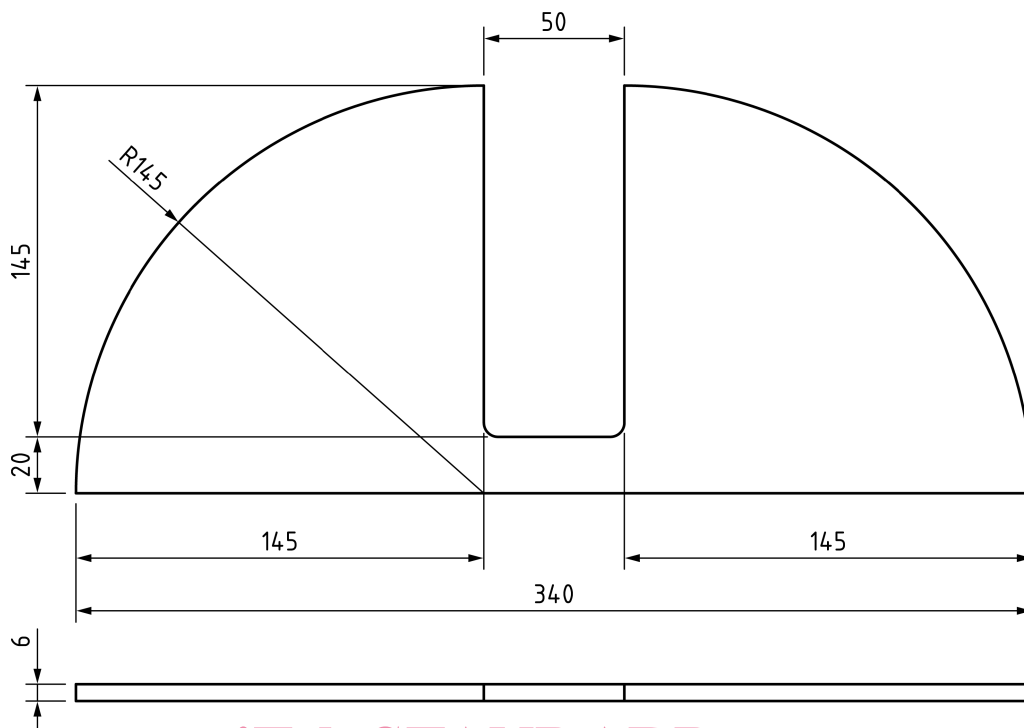


Figure 4 — Semi-circular section

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