



SLOVENSKI STANDARD

oSIST prEN 581-2:2024

01-oktober-2024

Zunanje pohištvo - Sedežno pohištvo in mize za domačo in javno uporabo ter taborjenje - 2. del: Mehanske varnostne zahteve in preskusne metode za sedežno pohištvo

Outdoor furniture - Seating and tables for camping, domestic and contract use - Part 2: Mechanical safety requirements and test methods for seating

Außenmöbel - Sitzmöbel und Tische für Camping-, Wohn- und Objektbereich - Teil 2: Mechanische Sicherheitsanforderungen und Prüfverfahren für Sitzmöbel

Mobilier d'extérieur - Sièges et tables à usages domestique, collectif et de camping - Partie 2 : Exigences et essais de sécurité mécanique des sièges

Ta slovenski standard je istoveten z: prEN 581-2

<https://standards.iteh.ai/catalog/standards/sist/aba993d3-18d4-4407-9521-f4f2052e167c/osist-pren-581-2-2024>

ICS:

97.140	Pohištvo	Furniture
97.200.30	Oprema za taborjenje in tabori	Camping equipment and camp-sites

oSIST prEN 581-2:2024

en,fr,de

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

DRAFT
prEN 581-2

September 2024

ICS 97.140; 97.200.30

Will supersede EN 581-2:2015

English Version

Outdoor furniture - Seating and tables for camping, domestic and contract use - Part 2: Mechanical safety requirements and test methods for seating

Mobilier d'extérieur - Sièges et tables à usages
domestique, collectif et de camping - Partie 2 :
Exigences et essais de sécurité mécanique des sièges

Außenmöbel - Sitzmöbel und Tische für Camping-,
Wohn- und Objektbereich - Teil 2: Mechanische
Sicherheitsanforderungen und Prüfverfahren für
Sitzmöbel

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.

This draft European Standard was established by CEN 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.

CEN members are the national standards bodies of 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, Türkiye and United Kingdom.

Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

Warning : This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.



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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Contents	Page
European foreword	3
1 Scope	4
2 Normative references	4
3 Terms and definitions	4
4 Testing	7
5 Test equipment	7
6 Determination of the loading points	8
7 Safety, structural safety requirements for loungers	8
7.1 General safety requirements.....	8
7.2 Holes in tubular/rigid components	8
7.3 Shear and compression points.....	8
7.3.1 Shear and compression points when setting up and folding	8
7.3.2 Shear and compression points under influence of powered mechanisms	9
7.3.3 Shear and compression points during use	9
7.4 Stability and structural safety	9
7.4.1 Test sequence and parameters	9
7.4.2 Requirements.....	11
8 Safety, structural safety requirements for other seating	11
8.1 General safety requirements.....	11
8.2 Holes in tubular/rigid components	11
8.3 Shear and compression points.....	11
8.3.1 Shear and compression points when setting up and folding	11
8.3.2 Shear and compression points under influence of powered mechanisms	12
8.3.3 Shear and compression points during use	12
8.4 Stability and structural safety.....	12
8.4.1 Test sequence and parameters	12
8.4.2 Requirements.....	15
9 Information for use	15
9.1 General.....	15
9.2 Marking for loungers	16
10 Test report	16
Annex A (normative) Test methods for finger entrapment and shear and compression	17
Annex B (normative) Test method for deckchair	23
Annex C (informative) Test method for folding lounger	26
Annex D (informative) Purchase information (guidelines)	33

European foreword

This document (prEN 581-2:2024) has been prepared by Technical Committee CEN/TC 297 “Furniture”, the secretariat of which is held by UNI.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 581-2:2015.

prEN 581-2:2024 includes the following significant technical changes with respect to EN 581-2:2015:

- updated seating requirements to take into account new version of EN 1022:2023;
- updated requirements for tables;
- normative Annex A “Forward and sideways stability tests for loungers” has been deleted;
- clarification of the instruction for use;
- precision for rearward stability test for camping use.

iTeh Standards
(<https://standards.iteh.ai>)
Document Preview

[oSIST prEN 581-2:2024](https://standards.iteh.ai/catalog/standards/sist/aba993d3-18d4-4407-9521-f4f2052e167c/osist-pren-581-2-2024)

<https://standards.iteh.ai/catalog/standards/sist/aba993d3-18d4-4407-9521-f4f2052e167c/osist-pren-581-2-2024>

prEN 581-2:2024(E)

1 Scope

This document specifies the minimum requirements for the safety, strength and durability of all types of outdoor seating for adults, without regard to materials, design/construction or manufacturing processes.

It does not apply to street furniture.

It does not include requirements for removable upholstery, including the cover and filling.

It does not include requirements for the durability of castors/wheels and height adjustment mechanisms.

It does not include requirements for electrical safety.

It does not include requirements for the resistance to ageing and degradation caused by light, temperature and moisture.

The test requirements contained within this document are based on use by persons weighing up to 110 kg.

The document has 4 annexes:

- Annex A (normative) Test methods for finger entrapment;
- Annex B (normative) Additional test method for deckchair;
- Annex C (informative) Additional test for folding lounger;
- Annex D (informative) Purchase information (guidelines).

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 1022:2023, *Furniture — Seating — Determination of stability*

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

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/>

3.1

outdoor seating for contract use

outdoor seating intended for non-private use in places with public access

3.2

outdoor seating for domestic use

outdoor seating intended for private use in places use without public access

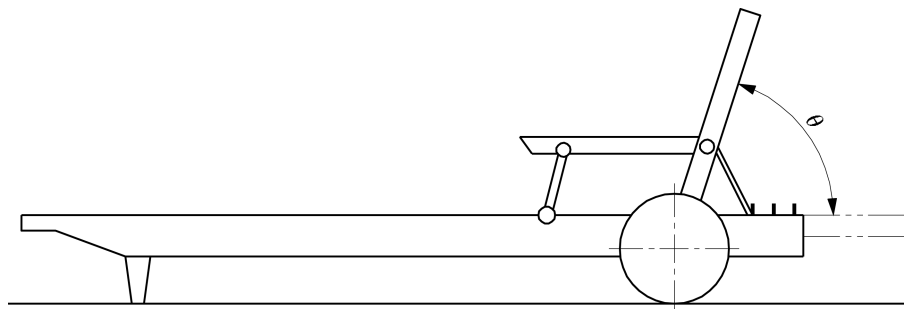
3.3 outdoor seating for camping use

outdoor seating foldable or knock-down and light-weight, intended for use in connection with camping and travelling

3.4 lounger

seating intended for reclined posture with at least one backrest position with an “teta angle” between 0° and 45° and a leg rest which is integral part of the product and which is intended to support the full body weight of a user

Note 1 to entry: Figure 1 shows teta angle in lounger.



Key

θ teta angle

Figure 1 — Teta angle in lounger

3.5 street furniture

outdoor furniture used in public space, permanently fixed to the ground or any structure (e.g. bus stop, wall...) or not able to be manually removed

3.6 deckchair

foldable seating with articulated cross-shaped frame capable of being folded in completely that can be set to one or more predefined positions by means of a locking system at the transverse bar and having a frame which supports a flexible sheet suspended in the upper part of the backrest and the front of the seat

Note 1 to entry: Figure 2 shows an example a typical deckchair.

Note 2 to entry: Figure 3 shows an example of typical locking system.

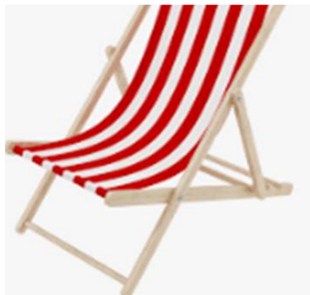
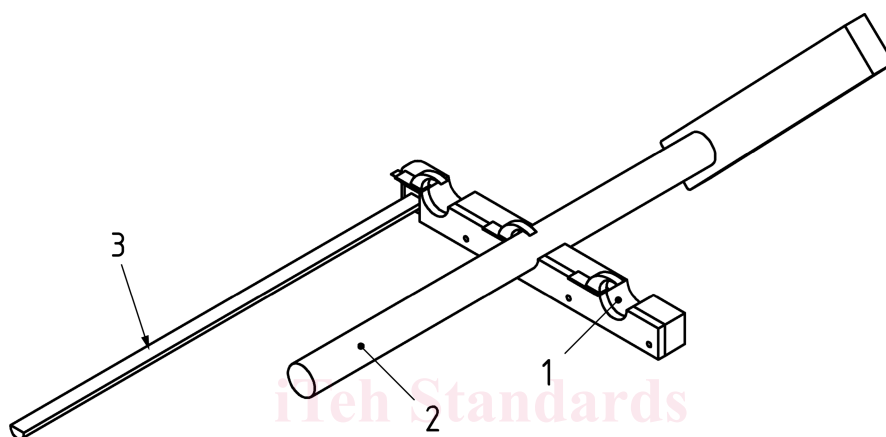


Figure 2 — Example a typical deckchair



Key

- 1 locking position
- 2 locking bar
- 3 lower transverse bar

Figure 3 — Example of typical locking system

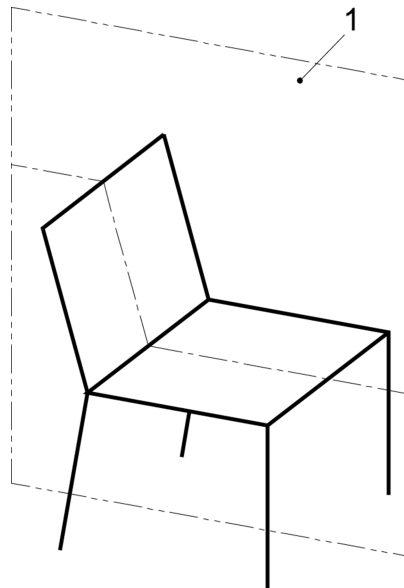
3.7

median plane

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

Note 1 to entry: See Figure 4.

[SOURCE: EN 1335-1:2020+A1:2022, definition 3.9]



Key

1 median plane

Figure 4 — Illustration of the median plane

4 Testing

Testing shall be carried out as specified in EN 1728:2012 and EN 1022:2023.

With the exception of seating with a seat and back made of one piece of flexible material (e.g. textile), attached at the upper and lower edges only, seat and back loading points shall be determined according to EN 1728:2012.

For seating with a frame which supports a flexible sheet suspended in the upper part of the backrest and the front of the seat, the loading point shall be the lowest point when a rolling cylinder (5.2) is placed in the seating.

If the width of flexible sheet is more than 1,1 m, in derogation with EN 1728:2012, the two loading points are located 1/4 of the width of the sheet from each side of the transverse plane.

5 Test equipment

5.1 General

Test equipment is specified in EN 1728:2012 and EN 1022:2023.

5.2 Small cylinder to determinate the loading point for seating with a frame which supports a flexible sheet suspended in the upper part of the backrest and the front of the seat

Cylinder with a mass of $(1 \pm 0,5)$ kg and a diameter of (70 ± 10) mm.

NOTE A suitable length of the cylinder is 200 mm.

6 Determination of the loading points

6.1 General

Seat and back loading points are determined in accordance with EN 1728:2012 and EN 1022:2023 except for seating with a frame which supports a flexible sheet suspended in the upper part of the backrest and the front of the seat.

6.2 Seat loading point for seating with a frame which supports a flexible sheet suspended in the upper part of the backrest and the front of the seat

Place the seat on the floor.

If the seat have several pre-determined positions on inclination, put the product with the backrest in the rearmost inclination.

Place the axis of the seat loading point cylinder (5.2) shall be perpendicular to the median plane of the seat. Let the cylinder roll from the higher part of the top front of the flexible part. Where the cylinder stops the seat load shall be applied.

7 Safety, structural safety requirements for loungers

7.1 General safety requirements

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

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

This requirement is met when:

- a) edges of upper and sideway seating part, front backrest part and armrest in which are directly in contact with the user are rounded or chamfered,
- b) all other edges accessible during intended use are free from burrs and/or sharp edges.

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 lounge 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.

7.2 Holes in tubular/rigid components

There shall be no holes in the ends of tubular components or holes in rigid components in accessible parts between 8 mm and 12 mm, unless the depth of penetration is less than 10 mm. This requirement is fulfilled if there is no hazard present when tested in accordance with A.1.

7.3 Shear and compression points

7.3.1 Shear and compression points when setting up and folding

Unless 7.3.2 or 7.3.3 are applicable, shear and compression 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 compression points shall be as specified in 7.1.

7.3.2 Shear and compression points under influence of powered mechanisms

With the exception of operation of doors, flaps and extension elements, 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. electrical motors, mechanical springs and gas lifts.

This requirement is fulfilled if there is no hazard present when tested in accordance with A.2.2.

7.3.3 Shear and compression points during use

With the exception of operation of doors, flaps and extension elements, there shall be no areas where the distance between two accessible parts moving relative to each other can be less than 18 mm, and more than 8 mm in any position that could present a risk of injury to the user, created by loads applied during normal use.

The loads used for durability tests within Table 1 are considered representative of normal use.

This requirement is fulfilled if there is no hazard present when tested in accordance with A.2.3.

7.4 Stability and structural safety

7.4.1 Test sequence and parameters

The lounge shall be tested following the order listed in Table 1 and in accordance with intended use as defined in 3.1 to 3.3.

NOTE The intended use of a folding products is the relevant use as defined by the manufacturer in line with the definitions 3.1 to 3.3.

The stability tests defined in Table 1 are not applicable to loungers which have both a seat height < 200 mm and a mass < 5 kg. The height shall be determined by measuring from the floor to the upper surface of the seating area at the geometrical centre of the lounge loaded with 600 N applied vertically downward using the seat loading pad.

In the case of seating which might not fulfil the stability requirements before carrying out any tests, the applicable stability tests may be carried out before starting the sequence of tests specified in this table.