

# SLOVENSKI STANDARD

## SIST EN 581-2:2016

01-februar-2016

Nadomešča:  
SIST EN 581-2:2010

---

**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

**iTeh STANDARD PREVIEW**

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

SIST EN 581-2:2016

Mobilier d'extérieur - Sièges et tables à usages domestique, collectif et de camping - Partie 2: Exigences de sécurité, de résistance et de durabilité pour les sièges

**Ta slovenski standard je istoveten z: EN 581-2:2015**

---

**ICS:**

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

**SIST EN 581-2:2016**

**en,fr,de**

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

[SIST EN 581-2:2016](#)

<https://standards.iteh.ai/catalog/standards/sist/9e1e42d5-2d50-4355-bfb6-167d7047ba12/sist-en-581-2-2016>

EUROPEAN STANDARD

**EN 581-2**

NORME EUROPÉENNE

EUROPÄISCHE NORM

November 2015

ICS 97.140; 97.200.30

Supersedes EN 581-2:2009

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 de sécurité, de résistance et de durabilité  
pour les sièges

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

This European Standard was approved by CEN on 12 September 2015.

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. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

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.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



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

**CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels**

<b>Contents</b>	<b>Page</b>
European foreword.....	3
<b>1 Scope</b> .....	<b>4</b>
<b>2 Normative references</b> .....	<b>4</b>
<b>3 Terms and definitions</b> .....	<b>4</b>
<b>4 Testing</b> .....	<b>5</b>
<b>5 Test equipment</b> .....	<b>5</b>
<b>6 Safety, strength and durability requirements for loungers</b> .....	<b>5</b>
6.1 General.....	5
6.2 Stability, strength and durability .....	5
6.2.1 Test sequence and parameters .....	5
6.2.2 Requirements .....	6
<b>7 Safety, strength and durability requirements for other seating</b> .....	<b>7</b>
7.1 General.....	7
7.2 Stability, strength and durability .....	7
7.2.1 Test sequence and parameters .....	7
7.2.2 Requirements .....	8
<b>8 Information for use</b> .....	<b>8</b>
8.1 General.....	8
8.2 Marking for loungers .....	8
9 Test report.....	9
<b>Annex A (normative) Forward and sideways stability tests for loungers</b> .....	<b>10</b>
A.1 Test procedure .....	10
<b>Annex B (informative) Purchase information (guidelines)</b> .....	<b>12</b>

ITC STANDARD PREVIEW  
 (standards.iteh.ai)

SIST EN 581-2:2016

<https://standards.iteh.ai/catalog/standards/sist/9c1e42d5-2d50-4355-b1b6-167d7047ba12/sist-en-581-2-2016>

## European foreword

This document (EN 581-2:2015) 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 May 2016, and conflicting national standards shall be withdrawn at the latest by May 2016.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 581-2:2009.

Compared to the current version, the main modifications are:

- new requirements for tests, and loungers are no longer in an annex but in the standard, which is a simplification of the standard (requirements and clauses harmonized with the Clause 7 of the standard);
- a simplification of chapters has been made; test equipment;
- a modification of reference (EN 1728:2012) has been made

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

**EN 581-2:2015 (E)****1 Scope**

This European Standard 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 apply to removable upholstery and covering.

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 standard are based on use by persons weighing up to 110 kg.

**2 Normative references**

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 581-1, *Outdoor furniture — Seating and tables for camping, domestic and contract use — Part 1: General safety requirements*

EN 1022:2005, *Domestic 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.

**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

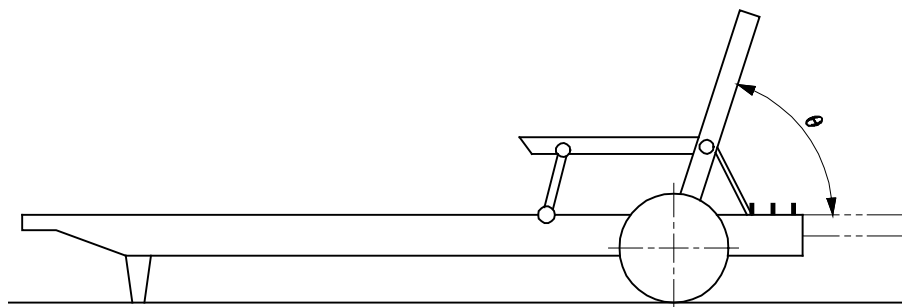
**3.3****outdoor seating for camping use**

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**

$\theta$  teta anfla

**Figure 1 — Teta angle in lounger**

**3.5****street furniture**

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

**4 Testing**

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

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.

For seating with a seat and back made of one piece of flexible material (e.g. textile), attached at the upper and lower edges only, the loading point shall be the lowest point when a rolling cylinder (Clause 5) is placed in the seating.

**5 Test equipment**

In derogation to EN 1728 and EN 1022, the loading position template for seating with seat and back made of one suspended or hanging piece of flexible material (e.g. textile) shall be a cylinder with a mass of  $(1 \pm 0,5)$  kg and a diameter of  $(70 \pm 10)$  mm.

Axis of the cylinder 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.

NOTE A suitable length of the cylinder is 200 mm.

**6 Safety, strength and durability requirements for loungers****6.1 General**

Before and after the strength, durability and stability tests are carried out, the EN 581-1 requirements shall be fulfilled.

**6.2 Stability, strength and durability****6.2.1 Test sequence and parameters**

The lounger shall be tested following the order listed in Table 1.

Table 1 — Test sequence and test parameters for loungers

Test	References	Test parameters			
			Camping	Domestic	Contract
1. Seat and back static load test <sup>a</sup>	EN 1728:2012, 8.2	Specified seat load, N Specified backrest load, N Minimum specified force F2 (back), N Cycles Additional cycle 30 min ± 10 s	1 100 - - 10 1	1 600 410 360 10 1	2 000 560 500 10 1
2. Additional seat and leg rest static load test	EN 1728:2012, 8.3	Seat load on loading point, N Force applied on D-E point, N	750 600	750 900	750 900
3. Seat and back durability test	EN 1728:2012, 8.4.1	Specified seat load, N Specified backrest load, N Minimum specified force F4 (back), N Cycles	750 250 220 12 500	1 000 333 300 25 000	1 000 333 300 50 000
4. Additional seat durability test	EN 1728:2012, 8.4.2	Specified force, N Cycles	750 5 000	1 000 10 000	1 000 20 000
5. Durability test on back rest mechanism	EN 1728:2012, 8.5	Specified force, N Seat load, N Cycles	190 1 000 5 000	250 1 000 10 000	250 1 000 20 000
6. Arm rest static load test	EN 1728:2012, 8.6	Vertical specified Force, N	-	700	900 <sup>b</sup>
7. Arm rest durability test	EN 1728:2012, 8.7	Specified force, N Cycles	400 5 000	400 10 000	400 30 000
8. Impact test	EN 1728:2012, 8.8	Drop height, mm Cycles	140 10	180 10	240 10
9. Lifting test for mobile loungers	EN 1728:2012, 8.9	Load, N Cycles	1 000 500	1 000 1 000	1 000 2 000
10. Forward stability <sup>c, d</sup>	A.1.2 <a href="https://standards.iteh.ai/catalog/standards/sist/9e1e42d5-2d50-4355-bfb6-467476d7ba12?from=581-2:2016">https://standards.iteh.ai/catalog/standards/sist/9e1e42d5-2d50-4355-bfb6-467476d7ba12?from=581-2:2016</a>				
11. Rearward stability <sup>c</sup>	EN 1022:2005, 6.6 for upright position and 7.5 for most reclined position				
12. Sideways stability <sup>c, d</sup>	A.1.1				

<sup>a</sup> If seat and back are of one piece of flexible material (e.g. textile), only the tests on seat shall be carried out.

<sup>b</sup> If armrest is less than 15 mm wide, carry out test with 700 N.

<sup>c</sup> 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.

<sup>d</sup> This test is not applicable for seating with a seat height < 200 mm and a mass < 5 kg. The height shall be determined by measuring from the floor to the upper seating area on the geometrical centre of the unloaded seat.

## 6.2.2 Requirements

The safety, strength and durability requirements are fulfilled after testing in accordance with Table 1 when:

- there are no fractures of any joint, member or component,
- there is no loosening of joints intended to be rigid,
- the lounger fulfils its function after removal of the test loads,
- the product shall not overturn when subjected to the stability tests.



## 7 Safety, strength and durability requirements for other seating

### 7.1 General

Before and after the strength, durability and stability tests are carried out, the requirements of EN 581-1 shall be fulfilled.

### 7.2 Stability, strength and durability

#### 7.2.1 Test sequence and parameters

The seating shall be tested for strength, durability and stability following the order listed in Table 2.

**Table 2 — Test sequence and test parameters for other seating**

Test	Reference	Test parameters			
			Camping	Domestic	Contract
1. Seat static load and back static load test <sup>a</sup>	EN 1728:2012, 6.4	Specified seat load, N	1 100	1 600	2 000
		Load applied on seat not being tested, N	750	750	750
		Specified backrest load, N	-	410	560
		Minimum specified force F2 (back), N	-	360	500
		Cycles	10	10	10
		Additional cycle 30 min ± 10 s	1	1	1
2. Seat front edge static load	EN 1728:2012, 6.5	Specified force, N	1 100	1 300	1 300
		Seat load, N	750	750	750
		Cycles	10	10	10
3. combined Seat and back durability test <sup>a</sup>	EN 1728:2012, 6.17	Specified seat load, N	1 000	1 000	1 000
		Seat load, N	750	750	750
		Specified backrest load, N	250	333	333
		Minimum specified force F4 (back), N	220	300	300
		Cycles	12 500	25 000	50 000
4. Durability test on seating with a multi-position back rest	EN 1728:2012, 6.19	Seat load, N	750	750	750
		Specified force, N	190	250	250
		Cycles	5 000	10 000	20 000
5. Arm rest static load test	EN 1728:2012, 6.11	Vertical specified Force, N	-	700	900 <sup>b</sup>
6. Arm rest durability test	EN 1728:2012, 6.20	Specified force, N	400	400	400
		Cycles	5 000	10 000	30 000
7. Leg forward static load test	EN 1728:2012, 6.15	Seat load, N	750	1 000	1 000
		Horizontal specified forces, N	250	300	400
		Minimum specified force, N	150	175	250
		Cycles	10	10	10
8. Leg sideways static load test	EN 1728:2012, 6.16	Seat load, N	750	1 000	1 000
		Horizontal specified forces, N	200	300	300
		Minimum specified force, N	150	175	200
		Cycles	10	10	10
9. Seat impact test <sup>c</sup>	EN 1728:2012, 6.24	Drop height, mm	140	180	240
		Cycles	10	10	10
10. Foot rest static test <sup>d</sup>	EN 1728:2012, 6.8	Vertical specified force, N	-	1 000	1 200
		Cycles	10	10	10
11. Forward stability <sup>e,f</sup>	EN 1022				
12. Rearward stability <sup>f</sup>	EN 1022				
13. Sideways stability <sup>e,f</sup>	EN 1022				