



# SLOVENSKI STANDARD SIST EN 581-2:2010

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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 sicherheitstechnische Anforderungen und Prüfverfahren für Sitzmöbel

[SIST EN 581-2:2010](#)

Mobilier d'extérieur - Sieges et tables a usages domestique, collectif et de camping -  
Partie 2: Exigences et essais de sécurité mécanique des sieges

**Ta slovenski standard je istoveten z: EN 581-2:2009**

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**SIST EN 581-2:2010**

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EUROPEAN STANDARD  
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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 den Camping-, Wohn- und Objektbereich - Teil 2: Mechanische sicherheitstechnische Anforderungen und Prüfverfahren für Sitzmöbel

This European Standard was approved by CEN on 28 February 2009.

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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 Management Centre has the same status as the official versions.

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## Foreword

This document (EN 581-2:2009) 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of an identical text or by endorsement, at the latest by October 2009, and conflicting national standards shall be withdrawn at the latest by October 2009.

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 ENV 581-2:2000

This text is one part of a general standard concerning safety and performance requirements for outdoor seating and tables.

The work programme of CEN/TC 207/WG4 includes the following parts:

- |              |   |
|--------------|---|
| EN 581-1     | Outdoor furniture – Seating and tables for camping, domestic and contract use – Part 1: General safety requirements   |
| EN 581-3     | Outdoor furniture – Seating and tables for camping, domestic and contract use – Part 3: Mechanical safety requirements and test methods for tables                              |
| CEN/TR 581-4 | Outdoor furniture – Seating and tables for camping, domestic and contract use – Part 4: Requirements and test methods for durability under the influence of climatic conditions |

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, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

**EN 581-2:2009 (E)****1 Scope**

This part of EN 581 specifies the mechanical safety requirements and test methods of outdoor seating for camping, domestic and contract use for adults, without regard to materials, design/construction or manufacturing processes.

This document does not apply to outdoor furniture for severe contract use, where higher requirements may be necessary nor to removable upholstery and coverings, permanently fixed furniture and street furniture.

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

Information regarding ageing and degradation caused by light, temperature and moisture has not been included.

Annex A (normative) specifies additional test methods for seating with multi-position back rests.

Annex B (normative) specifies test methods for loungers.

Annex C (informative) specifies guidelines for purchase information.

**2 Normative references**

The following referenced documents are indispensable for the application 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 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 1728:2000, *Domestic 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, such as restaurants, open-air swimming pools, beaches, vocational and leisure sites

**3.2 outdoor seating for domestic use**  
outdoor seating intended for private use in places use without public access such as gardens, winter gardens, terraces, balconies etc.

**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****stool**

seating without back rest, or with the top of the back rest less than 100 mm from the seat

**3.5****multi-position chair**

chair with a back rest adjustable in inclination and with fixed or adjustable seat

**3.6****bench**

multi-place seating with or without back rest, with or without arm rests

**3.7****lounger**

seating without wheels intended for reclined posture

**3.8****mobile lounger**

lounger supplied with wheels and possibly handles

**3.9****foot rest**

part intended to support the feet of the sitter

NOTE A foot rest may be permanently attached to the structure of the seating.

**3.10****leg rest**

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

NOTE A leg rest may be permanently attached to the seat.

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**4 General test conditions**

The preliminary preparation shall be as specified in EN 1728 with the exception of conditioning time which shall be at least 24 h, instead of one week.

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 (5.1) is placed in the chair.

The tests are described in terms of the application of forces. Masses can however be used. The relationship  $10\text{ N} = 1\text{ kg}$  may be used for this purpose.

**5 Test equipment and apparatus****5.1 Rolling cylinder**

For seating with seat and back made of one piece of flexible material (e.g. textile) the loading position template shall be a cylinder with a mass of  $(1 \pm 0,5)\text{ kg}$  and a diameter of  $(70 \pm 10)\text{ mm}$ .

NOTE For example a suitable length of the cylinder is 200 mm.

**EN 581-2:2009 (E)****5.2 Test floor**

Horizontal, flat and rigid with a smooth surface.

NOTE Some examples of test floor complying with the definition: plastics laminate, bakelite board, steel.

**6 Test methods and requirements****6.1 Testing, general**

The tests shall be carried out in the order in which they are presented in Table 1 of this standard.

The additional test method for multi-position back rests is specified in Annex A.

Test methods and requirements for loungers are specified in Annex B.

**6.1.1 Stability**

Carry out the applicable tests according to EN 1022 (see Table 1).

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## 6.1.2 Test sequence and test parameters

Table 1 — Test sequence and test parameters

Test and sequence		Reference	Test parameters			
				Camping	Domestic	Contract
1	Seat and back static load test <sup>a</sup>	EN 1728:2000, 6.2.1	Seat: force, N 10x10 s (±2s) + 1x30 min (±10 s) Back: force, N 10x10 s (±2s) + 1x30 min (±10 s)	1100 -	1600 410	2000 560 max
2	Seat front edge static load test	EN 1728:2000, 6.2.2	Force, N 10x10 s (±2) + 1x30 min (±10 s)	1100	1300	1300
3	Seat and back fatigue test for seating <sup>a</sup>	EN 1728:2000, 6.7	Cycles Seat: force, N Back: bending moment, N.m	12 500 1000 75 max	25 000 1000 100 max	50 000 1000 100 max
4	Fatigue test on back rest mechanism	See Annex A	Cycles Seat load, kg Force, N Back: bending moment, N.m	5 000 100 190 75	10 000 100 250 100	20 000 100 250 100
5	Arm downwards static load test	EN 1728:2000, 6.6	Vertical force, N	-	700	900 <sup>b</sup>
6	Arm fatigue test	EN 1728:2000, 6.10	Cycles Force, N	5 000 400	10 000 400	30 000 400
7	Leg forward static load test	EN 1728:2000, 6.12	Seat load, kg Horizontal force, N	75 250	75 300	100 400
8	Leg sideways static load test	EN 1728:2000, 6.13	Seat load, kg Horizontal force, N	75 200	75 300	100 300
9	Seat impact test <sup>c</sup>	EN 1728:2000, 6.15	Drop height, mm 10 times	140	180	180
10	Foot rail static test for high seating	EN 1728:2000, 6.4	Vertical force, N	-	1000	1200
11	Forward stability <sup>d e</sup>	EN 1022				
12	Rearward stability <sup>d</sup>	EN 1022				
13	Sideways stability <sup>d e</sup>	EN 1022				

<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 arm rest is less than 15 mm wide, carry out test with 700 N for contract use.

<sup>c</sup> The application point shall be at least 100 mm from the front edge. This test shall not be carried out on seating with a seat height > 600 mm.

<sup>d</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>e</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.

**EN 581-2:2009 (E)****6.2 Requirements****6.2.1 General safety requirements**

The general safety requirements specified in EN 581-1 shall be fulfilled.

**6.2.2 Stability requirements**

The stability requirements specified in EN 1022 shall be fulfilled.

**6.2.3 Mechanical safety requirements**

The requirements are fulfilled during and after testing in accordance with Table 1 when:

- a) there are no fractures of any joint, member or component;
- b) there is no loosening of joints intended to be rigid;
- c) the seating fulfils its function after removal of the test loads.

**7 Instruction for use****7.1 General**

Instruction for use shall be provided in the language(s) of the country where the tables are sold. These instructions shall be headed "IMPORTANT, RETAIN FOR FUTURE REFERENCE: READ CAREFULLY" in letters no less than 5 mm high.

These instructions shall include at least the following:

- a) name and address of the producer (manufacturer or supplier);
- b) information regarding maintenance;
- c) conditions for use of the product (camping, domestic or contract).

**7.2 Marking for mobile loungers**

All mobile loungers not intended to be lifted and moved under the load specified in Table B.1 shall be marked with a pictogram as an example is shown in Figure 1.

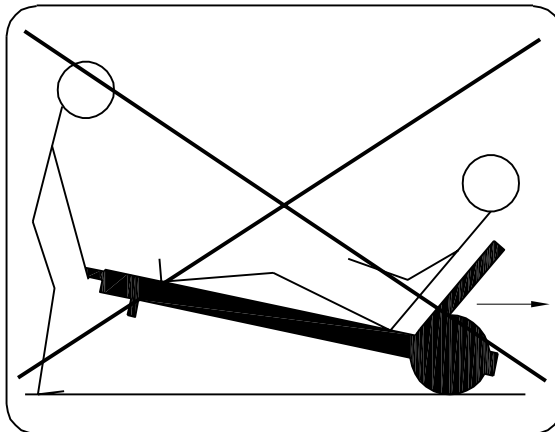


Figure 1 — Example of pictogram for mobile loungers not intended to be moved when loaded

## 8 Test report

The test report shall include the following information:

- a) reference to this part of the European Standard;
- b) details of piece of furniture tested;
- c) use of the product (Camping, Domestic or Contract);
- d) any defects observed before testing;
- e) test results according to the applicable clauses;
- f) compliance with the requirements;
- g) details of any deviations from this European standard;
- h) name and address of the test facility;
- i) date of test.