SLOVENSKI STANDARD
oSIST prEN 12520:2008

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Pohištvo - Trdnost, trajnost in varnost - Zahteve za sedežno pohištvo za domačo uporabo

Furniture - Strength, durability and safety - Requirements for domestic seating

Möbel - Festigkeit, Dauerhaltbarkeit und Sicherheit - Anforderungen an Sitzmöbel für den Wohnbereich

Meubles - Résistance, durabilité et sécurité - Exigences relatives aux sièges à usage domestique

Ta slovenski standard je istoveten z: **prEN 12520**

ICS:

97.140	Pohištvo	Furniture

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EUROPEAN STANDARD

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English Version

Furniture - Strength, durability and safety - Requirements for domestic seating

Meubles - Résistance, durabilité et sécurité - Exigences relatives aux sièges à usage domestique

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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Foreword

This document (prEN 12520:2008) 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 ENV 12520:2000.

1 Scope

This European standard specifies the minimum requirements for the safety, strength and durability of all types of domestic seating for adults.

It does not apply to ranked seating, seating for non-domestic use, office work chairs, office visitors chairs, chairs for educational institutions, outdoor seating and to links for linked seating for which EN standards or drafts exist.

It does not include requirements for the durability of upholstery materials, castors, reclining and tilting mechanisms and seat height adjustment mechanisms.

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

It does not include requirements for electrical safety.

It does not include requirements for the resistance to ageing, degradation, flammability and ergonomics.

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 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
accessible parts
parts to which access can easily be gained by the user when the seating is in its intended configuration of use and for which the probability of unintentional user contact is high

3.2
parts accessible during setting up and folding
parts to which access can only be gained when setting up and folding the furniture

3.3
shear and squeeze points
shear and squeeze points exist if the distance between two accessible parts moving relative to each other can be less than 18 mm or more than 7 mm in any position during movement

3.4
castor type H
castors with rigid wheels, i.e. hard treads. The wheel is of one colour over the entire surface

NOTE These castors are suitable for carpeted floors.

3.5
castor type W
castors with resilient tyred wheels, i.e. soft treads. This is of clearly different colour to the wheel centre

NOTE These castors are suitable for hard stone, wooden or tiled floors or those featuring non-textiled covering.

4 Test sequence

The tests shall be carried out in the order in which they are listed in this Standard.

5 Safety requirements

5.1 General

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

These requirements are met when:

1) the edges of the seat, back rest and arm rests, which are in contact with the user when sitting in the seating shall be rounded or chamfered. All other edges accessible during use shall be free from burrs and/or sharp edges;

2) the ends of hollow components are closed or capped.

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 seating 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.

5.2 Shear and squeeze points

5.2.1 Shear and squeeze points when setting up and folding

Unless 5.2.2 or 5.2.3 are applicable, shear and squeeze points, as defined in 3.3, that are created only during setting up and folding, including tipping seat, 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 squeeze points shall be as specified in 5.1.

5.2.2 Shear and squeeze points under influence of powered mechanisms

If the item of seating is not fitted with an automatic stopping device such that the movement of the chair ceases if an opening or closing force greater than 70 N is reached, all accessible gaps shall be less than or equal to 7 mm or more than or equal to 230 mm.

5.2.3 Shear and squeeze points during use

There shall be no shear and squeeze points created by loads applied during normal use.

The loads applied during normal use can be found in Table 1.

There shall be no shear and squeeze points created by the weight of the user during normal movements and actions, e.g. attempting to move the seating by lifting the seat or by adjusting the backrest.

NOTE This hazard is best prevented by the use of automatic locking mechanisms.

5.3 Stability

The seating shall fulfil the relevant requirements of EN 1022.

5.4 Rolling resistance of the unloaded chair

This clause is only applicable to single seating units fitted with castors or wheels.

The unloaded seating shall not roll unintentionally.

This requirement is met when:

The rolling resistance is ≥ 15 N with castor type H or ≥ 12 N with castor type W when tested in accordance with Annex A.1. The castors shall all be of identical construction.

5.5 Construction

The following tests described in Clause 6, Table 1 are considered safety requirements:

Test No.: 1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 12

Seating is considered to satisfy the safety requirements if, on completion of the tests, the chair satisfies requirements 1 & 4 of Clause 6.2.

6 Strength and durability

6.1 General

Seating shall be tested for strength and durability according to Table 1 and following the order listed in Table 1.

Table 1 — Tests and test sequence

Test	Reference	Loading	
1. Seat and back static load test	EN 1728, 6.2.1 &6.3	Seat: force N Back: force N 10 times	1300 450
2. Seat front edge static load test	EN 1728, 6.2.2	Force, N 10 times	1300
3. Foot rail static load test	EN 1728, 6.4	Force, N 10 times	1000
4. Arm sideways static load test	EN 1728, 6.5	Force, N 10 times	300
5. Arm downwards static load test	EN 1728, 6.6	Force, N 10 times	700
6. Seat and back fatigue test	EN 1728, 6.7 & 6.9	Cycles Seat: 1000 N Back: 300 N	25000
7. Seat front edge fatigue test	EN 1728, 6.8	Cycles Force: 800 N	25000
8. Arm fatigue test	EN 1728, 6.10	Cycles Force: 400 N	10000
9. Leg forward static load test	EN 1728, 6.12	Force, N (max.) Seat load, N 10 times	400 1000
10. Leg sideways static load test	EN 1728, 6.13	Force, N (max.) Seat load, N 10 times	300 1000
11. Seat impact test	EN 1728, 6.15	Drop height, mm, 10 times	140
12. Backwards fall\test [a]	Annex A.2	Number of impacts	5
13. Back impact test [b]	EN 1728, 6.16	Height of fall, mm/^{0} 10 times	120/28
[a] This test is only for single seating units where the back will be the first part of the structure to strike the floor and the force used to overturn the chair rearwards is less than 300 N [b] This test is for all seating not tested in accordance with test 13			

6.2 Strength and durability requirements

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

1) there are no fractures of any member, joint or component,

2) there are no loosening of joints intended to be rigid,

3) the seating fulfils its functions after removal of the test loads,

4) the seating fulfils the stability requirements.

7 Information for use

Information for use shall be available in the language of the country in which it will be delivered to the end user. It shall contain at least the following details:

a) assembly instructions, where applicable;

b) instruction for the care and maintenance of the seating;

c) if a single seating unit is fitted with castors: information on the suitability of the castors in relation to the floor surface;

d) if the seating is fitted with seat height adjustments with energy accumulators, an additional note is required pointing out, that only trained personnel may replace or repair seat height adjustment components with energy accumulators.

8 Test report

The test report shall include at least the following information:

a) a reference to this European Standard;

b) the piece of furniture tested e.g. description of item, specification, drawings, photographs;

c) details of defects observed before testing;

d) any variation from the specified temperature range;

e) the test results;

f) details of any deviations from this European Standard;

g) the name and address of the test facility;

h) the date of test.

Annex A
(normative)

Tests for special types of seating and components

A.1 Rolling resistance

A.1.1 Test surface for testing rolling resistance

A.1.1.1 For testing type W castors

A horizontal smooth steel surface.

A.1.1.2 For testing type H castors

A surface covered with textile having characteristics specified in Table A.1.

Table A.1 — Textile floor covering

Requirements for	Characteristic
Production method	Tufted
Upper surface	Loop pile
Nap count per m^2	100 000 to 130 000
Backing material	Synthetic latex
Raw material used for loop pile	100 % polymide
Yarn type	Filament yarn
Pile thickness of trimmed sample	3,5 mm
Pile weight of trimmed sample	450 g/m^2

Before test values are measured the chair shall be pushed/pulled five times over the area of the covering which will be used for the test.

A.1.2 Testing of rolling resistance of the unloaded chair

The chair shall be placed on the test surface and shall be pushed or pulled over a distance of at least 550 mm. A speed of (50 ± 5) mm/s shall be maintained over the measuring distance. The force shall be applied at a height of (200 ± 50) mm above the floor surface.

The mean value of the forces measured over the distance from 250 mm to 500 mm is the rolling resistance.