SLOVENSKI STANDARD
kSIST FprEN 12520:2015

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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

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

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

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Foreword

This document (FprEN 12520:2015) 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 Unique Acceptance Procedure.

This document will supersede EN 12520:2010.

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 European Standards 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 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 1022, *Domestic furniture — Seating — Determination of stability*

EN 1728, *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 part
part 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
part accessible during setting up and folding
part to which access can only be gained when setting up and folding the furniture

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

4 Test sequence

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

5 Constructional requirements

5.1 General requirements

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

These requirements are met when:

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

b) 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

With the exception of tipping seats there shall be no shear and squeeze points created by parts of the seating under powered mechanisms e.g. springs and gas lifts.

NOTE Electrically operated seating is covered by EEC Directives for EMC, Machinery, Low Voltage or Medical Devices.

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.

Shear and squeeze points are not acceptable if a hazard is 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 Strength and durability

5.4.1 General

Seating shall be tested for strength and durability according to and in the order given in Table 1 and in accordance with the test conditions contained in EN 1728.

Table 1 — Tests and test sequence

Test	Reference	Test parameters	
1. Seat static load and back static load test	EN 1728:2012, 6.4	Seat force F_1, N Back force F_2, N Minimum back force, N Load applied to seats not being tested, N Cycles	1 300 450 410 750 10
2. Seat front edge static load test	EN 1728:2012, 6.5	Force, N Load applied to seats not being tested, N Cycles	1 300 750 10
3. Foot rest static load test[a]	EN 1728:2012, 6.8	Force, N Minimum seat force, N Cycles	1 000 750 10
4. Arm rest sideways static load test	EN 1728:2012, 6.10	Force, N Cycles	300 10
5. Arm rest downwards static load test	EN 1728:2012, 6.11	Force, N Cycles	700 10
6. Combined seat and back durability test[e]	EN 1728:2012, 6.17	Seat force F_3, N, Back force F_4, N Load applied to seats not being tested, N Cycles	1 000 300 750 25 000
7. Seat front edge durability test[d]	EN 1728:2012, 6.18	Force, N Cycles	800 20 000
8. Arm rest durability test	EN 1728:2012, 6.20	Force, N Cycles	400 10 000
9. Leg forward static load test	EN 1728:2012, 6.15	Force, N (max.) Seat load, N Cycles	400 1 000 10
10. Leg sideways static load test	EN 1728:2012, 6.16	Force, N (max.) Seat load, N Cycles	300 1 000 10
11. Seat impact test	EN 1728:2012, 6.24	Drop height, mm Cycles	180 10
12. Backward fall test[b]	EN 1728:2012, 6.28	Number of impacts	5
13. Back impact test[c]	EN 1728:2012, 6.25	Height of fall, mm or angle,° Cycles	120 28 10

[a] This test is only applicable to seating with a seat height greater than 600 mm.

[b] 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 30 N.

[c] This test is for all seating not tested in accordance with Test 12.

[d] In derogation of EN 1728 the loading points shall be 80 mm from the relevant edges of the seat.

[e] The minimum back force is the force that just prevents rearward overturning.