



SLOVENSKI STANDARD
oSIST prEN 716-2:2006

01-december-2006

Dc\ jýhj c '! CIfcý_Y'dcghY^Y]b'n`cý`^j Y'dcghY^]W'nUXca U c'i dcfUvc '! '&'XY.
DfYg_i gbY'a YrcXY

Furniture - Children's cots and folding cots for domestic use - Part 2: Test methods

Möbel - Kinderbetten und Reisekinderbetten für den Wohnbereich - Teil 2: Prüfverfahren

Meubles - Lits a nacelle fixes et pliants a usage domestique pour enfants - Partie 2 :
Méthodes d'essai

Ta slovenski standard je istoveten z: EN 716-2:2008

ICS:

97.140	Pohištvo	Furniture
97.190	Otroška oprema	Equipment for children

oSIST prEN 716-2:2006

en

October 2006

ICS 97.140; 97.190

Will supersede EN 716-2:1995

English Version

Furniture - Children's cots and folding cots for domestic use - Part 2: Test methods

Möbel - Kinderbetten und Reisekinderbetten für den
Wohnbereich - Teil 2: Prüfverfahren

This draft European Standard is submitted to CEN members for second 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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, 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 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

Management Centre: rue de Stassart, 36 B-1050 Brussels

Contents

Page

Foreword.....	4
1 Scope	5
2 Normative references	5
3 General test conditions	5
3.1 Preliminary preparation	5
3.2 Test equipment	6
3.3 Application of forces	6
3.4 Tolerances	6
3.5 Test sequence	6
3.6 Prevention of movement during test	6
4 Test apparatus	6
4.1 Measuring probes	6
4.2 Bottom impactor	7
4.3 Test mattress.....	8
4.4 Side impactor	8
4.5 Loading pad.....	9
4.6 Stops	9
4.7 Floor surface	10
4.8 Test chain	10
4.9 Small parts cylinder.....	10
4.10 Test mass	11
4.11 Bite test apparatus.....	11
4.12 Retaining block	12
4.13 Foothold template.....	13
4.14 Head probes	13
4.14.1 Small head probe	13
4.14.2 Large head probe.....	14
4.15 Test equipment for V-shaped openings	14
4.16 Feeler gauge.....	15
4.17 Test dummy.....	16
4.18 Test beam	16
5 Test procedures	16
5.1 Assembly and inspection	16
5.2 Footholds.....	16
5.2.1 Determination of a foothold	16
5.2.2 Tests for footholds	18
5.2.3 Measurement of distance between footholds and/or top of cot sides and ends	21
5.2.4 Flexible materials.....	21
5.3 Measurements.....	21
5.3.1 Holes, gaps and openings inside the cot.....	21
5.3.2 Holes, gaps and openings on the outside of the cot	22
5.4 Small parts.....	24
5.4.1 Tension test.....	24
5.4.2 Torque test	24
5.5 Bite test.....	25
5.6 Strength of cot base (impact test).....	25
5.7 Strength of sides and ends.....	26
5.7.1 Static load test of side slats (bending test)	26
5.7.2 Strength of sides or side slats (impact test).....	26

5.7.3	Strength of corners (impact test).....	28
5.7.4	Strength of mesh and flexible sides and ends (static load test)	28
5.8	Strength of frame and fastenings	29
5.8.1	Vertical static load test	29
5.8.2	Durability test.....	30
5.9	Snag points	31
5.10	Stability.....	31
5.11	Locking mechanisms	32
5.11.1	Durability	32
5.11.2	Strength.....	32
5.11.3	Cots folding inwards	32
6	Test report.....	32

iTeh STANDARD PREVIEW (standards.iteh.ai)

SIST EN 716-2:2008

<https://standards.iteh.ai/catalog/standards/sist/779664d3-b149-49ac-bef1-fe1ddf4c7300/sist-en-716-2-2008>

Foreword

This document (prEN 716-2:2006) 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 second CEN Enquiry.

This document will supersede EN 716-2:1995.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 716-2:2008

<https://standards.iteh.ai/catalog/standards/sist/779664d3-b149-49ac-bef1-fe1ddf4c7300/sist-en-716-2-2008>

1 Scope

This part of prEN 716 specifies test methods that assess the safety of children's cots and folding cots for domestic use.

It applies to children's cots and folding cots with an internal length between 900 mm and 1 400 mm.

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.

prEN 716-1 *Children's cots and folding cots for domestic use — Part 1: Safety requirements*

ISO 7619-2:2004 *Rubber, vulcanized or thermoplastic — Determination of indentation hardness — Part 2: IRHD pocket meter method*

ISO 2439:2000 *Flexible cellular polymeric materials — Determination of hardness (indentation technique)*

iTeh STANDARD PREVIEW
(standards.iteh.ai)

3 General test conditions

3.1 Preliminary preparation

SIST EN 716-2:2008

<https://standards.iteh.ai/catalog/standards/sist/779664d3-b149-49ac-bef1->

The tests are designed to be applied to a cot that is fully assembled and ready for use.

The test unit shall be stored in indoor ambient conditions for at least one week immediately prior to testing. Any deviation from this procedure shall be stated in the test report.

Before testing, any fabrics intended to be removable shall be cleaned or washed twice in accordance with the manufacturer's instructions. If no instructions are supplied, the manner of washing/cleaning shall be stated in the test report.

The tests shall be carried out in indoor ambient conditions, but if during a test the atmospheric temperature is outside the range 15 °C to 25 °C, the maximum and/or minimum temperature shall be recorded in the test report.

The cot shall be tested as delivered. If of knock down type it shall be assembled according to the manufacturer's instructions supplied with the cot. If the cot can be assembled, combined or adjusted in different ways, the most adverse combination shall be used for each test.

Knock-down fittings shall be tightened before testing. Further re-tightening shall not take place unless this is specifically required by the manufacturer.

In the case of designs not catered for in the test procedures, the tests shall be carried out as far as possible as described, and a list made of the deviations from the test procedures.

3.2 Test equipment

Unless otherwise specified, the tests may be applied by any suitable device because results are dependent only upon correctly applied forces and loads and not upon the apparatus.

The equipment shall not inhibit the deformation of the cot during testing. It shall be able to move so that it can follow the deformation of the cot during testing, so that the loads are always applied at the specified point and in the specified direction.

All loading pads shall be capable of pivoting in relation to the direction of the applied force. The pivot point shall be as close as practically possible to the load surface.

3.3 Application of forces

The forces in the static load tests shall be applied sufficiently slowly to ensure that negligible dynamic force is applied.

The forces in durability tests shall be applied at a rate to ensure that excessive heating does not occur.

3.4 Tolerances

Unless otherwise stated, the following tolerances apply:

- Forces: $\pm 5\%$ of the nominal force;
- Masses: $\pm 0,5\%$ of the nominal mass;
- Dimensions: $\pm 1,0$ mm of the nominal dimension;
- Angles: $\pm 2^\circ$ of the nominal angle;
- Positioning of loading pads: ± 5 mm;
- Duration of forces: (2 ± 1) s for durability tests
(10 ± 2) s for static load tests

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.

3.5 Test sequence

The tests shall be carried out in the order laid down in this standard and on the same cot.

3.6 Prevention of movement during test

If the cot tends to slide or roll during the tests specified in clause 5, it shall be restrained by stops (4.6).

4 Test apparatus

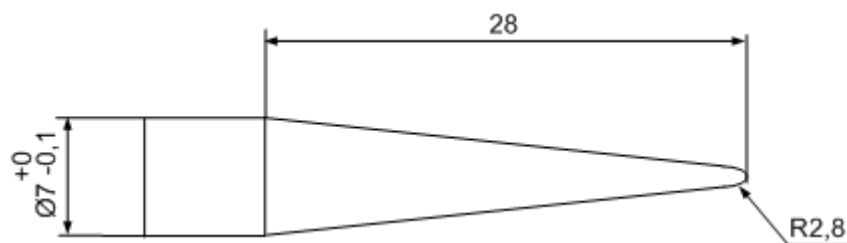
4.1 Measuring probes

Probes made of plastics or other hard, smooth material mounted on a force-measuring device (Figure 1).

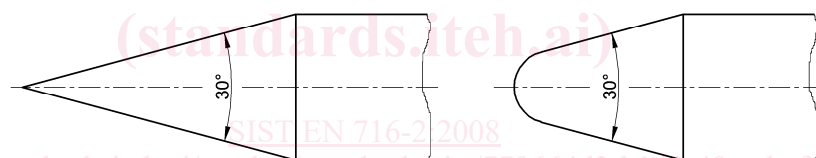
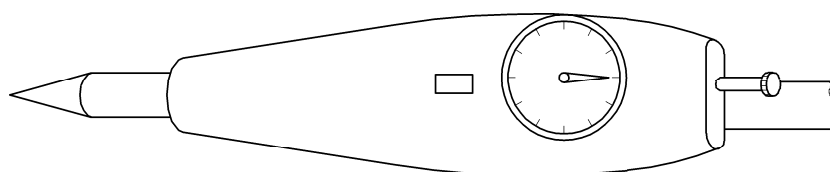
There shall be 1 probe having diameter 7 mm (-0,1/+0 mm), see Figure 1A.

There shall be 5 probes with an angle of $30^\circ \pm 0,5^\circ$ having diametres 25 mm (0/+0,1 mm), 45 mm (0/+0,1 mm), 60 mm (0/+0,1 mm), 65 mm (0/+0,1 mm) and 85 mm (0/+0,1 mm) with conical ends, see Figure 1B.

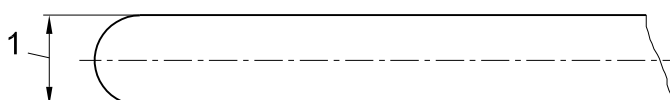
There shall be 4 cylindrical probes having diameters 5 mm (-0,1/+0 mm), 7 mm (-0,1/+0 mm), 12 mm (0/+0,1 mm) and 18 mm (0/+0,1 mm) with hemispherical ends, see Figure 1C.



A)



B)



C)

Key

1 Ø 5 mm (-0,1/+0 mm), Ø 7 mm (-0,1/+0 mm), Ø 12 mm (0/+0,1 mm), Ø 18 mm (0/+0,1 mm)

Figure 1 — Measuring probes

4.2 Bottom impactor

An impactor with a total mass of 10 kg of hardwood or equivalent material with hemispherical end and with dimensions in accordance with Figure 2.

The impactor shall be guided so that it is kept upright and always falls on the impact point.

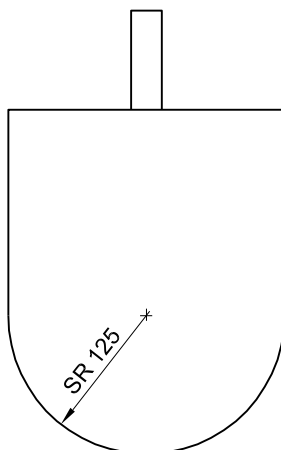


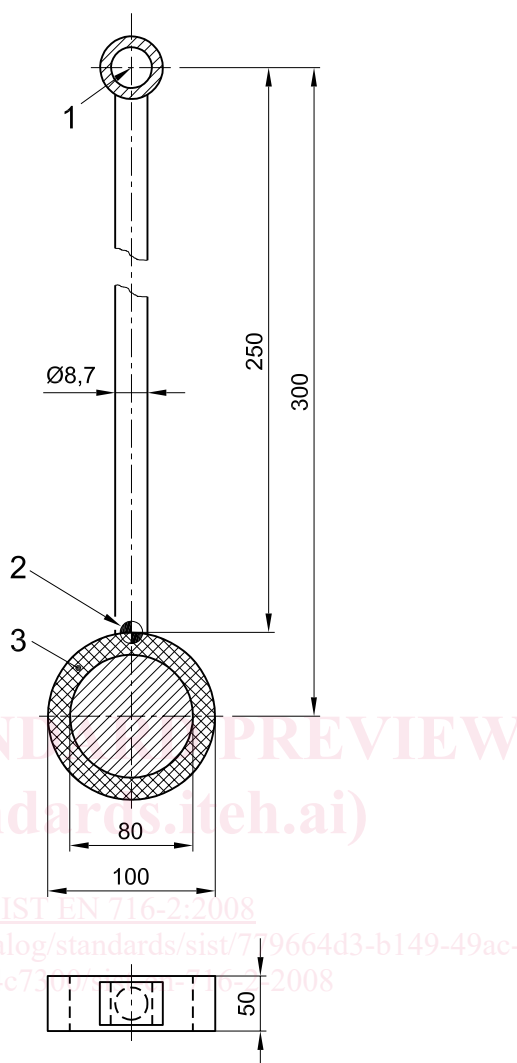
Figure 2 — Bottom impactor

4.3 Test mattress

A PUR foam sheet with a thickness of 60 mm, a bulk density of $(35 \pm 2) \text{ kg/m}^3$ and an indentation hardness index of $(170 \pm 20) \text{ N}$ in accordance with A 40 of ISO 2439:2000 and being at least $400 \text{ mm} \times 800 \text{ mm}$ in area but not larger than the mattress base of the cot under test. The test mattress shall have a cotton cover with a mass per unit area of 100 g/m^2 to 120 g/m^2 .

4.4 Side impactor

A pendulum with a cylindrical head made of steel (Figure 3). The head of the pendulum shall be surrounded by a 10 mm thick layer of rubber of hardness 76 to 78 IRHD in accordance with ISO 7619-2:2004. The total mass shall be 2 kg.

**Key**

- 1 Pivot point
- 2 Centre of gravity
- 3 Rubber 76 to 78 IRHD

Figure 3 — Side impactor**4.5 Loading pad**

A rigid cylindrical object, 100 mm in diameter, having a smooth hard surface and rounded edge with radius of 12 mm.

4.6 Stops

Stops which prevent the article from sliding but not tilting, not higher than 12 mm except in cases where the design of the item necessitates the use of higher stops, in which case the lowest that will prevent the item from sliding shall be used.

4.7 Floor surface

Rigid, horizontal and flat surface.

4.8 Test chain

Ball chain with a ball diameter of 3,2 mm and a distance between ball centres of 4,0 mm (Figure 4), fixed to a 2,5 kg spherical weight with a diameter of 115 mm forming a loop in accordance with Figure 5;

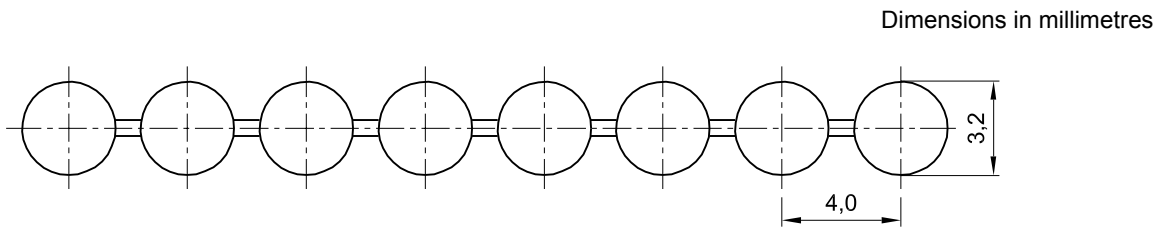
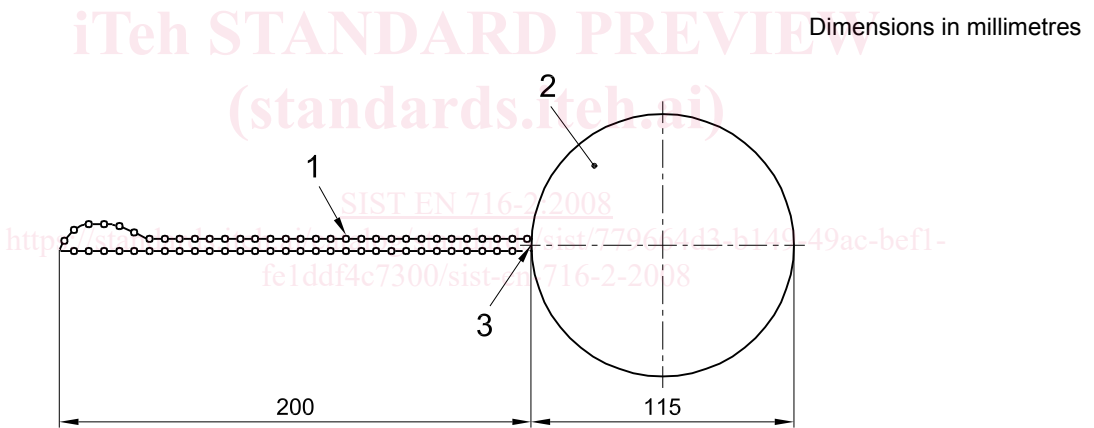


Figure 4 — Ball chain



Key

- 1 Ball chain
- 2 Weight, mass 2,5 kg
- 3 Fixing point

Figure 5 — Loop

4.9 Small parts cylinder

For assessment of small components, having dimensions in accordance with Figure 6.

NOTE The cylinder is identical to the one used in EN 71-1