



SLOVENSKI STANDARD

SIST EN 747-2:1996

01-april-1996

Pohištvo - Pogradi za domačo uporabo - 2. del: Preskusne metode

Furniture - Bunk beds for domestic use - Part 2: Test methods

Möbel - Etagenbetten für den Wohnbereich - Teil 2: Prüfverfahren

Meubles - Lits superposés a usage domestique - Partie 2: Méthodes d'essai

Ta slovenski standard je istoveten z: EN 747-2:1993

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ICS:

97.140 Pohištvo Furniture

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EUROPEAN STANDARD

EN 747-2:1993

NORME EUROPÉENNE

EUROPÄISCHE NORM

March 1993

UDC 645.421.6:684.422:620.1

Descriptors: Furnishings, children furniture, beds, superposed furniture elements, specifications, safety, accident prevention, tests

English version

**Furniture - Bunk beds for domestic use - Part 2:
Test methods**Meubles - Lits superposés à usage domestique -
Partie 2: Méthodes d'essaiMöbel - Etagenbetten für den Wohnbereich - Teil
2: Prüfverfahren**STANDARD PREVIEW**
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This European Standard was approved by CEN on 1993-02-26. 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 Central Secretariat or to any CEN member.

The European Standards exist 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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CENEuropean Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

Contents list

	Page
	2
	3
0 Introduction	3
1 Scope	3
2 Normative references	4
3 General test requirements	4
4 Test equipment	4
4.1 General	4
4.2 Measuring cone	5
4.3 Bed base impactor	6
4.4 Loading pad	6
4.5 Test mattress	6
4.6 Test load	6
4.7 Stops	7
4.8 Floor surface	7
4.9 Treads impact test	7
5 Test procedures	7
5.1 Assembly and inspection before test	7
5.2 Inspection of workmanship	7
5.3 Measuring the clearance between side slats and between the bed base and sides	7
5.4 Strength tests	9
5.5 Durability test of frame and fastenings	10
5.6 Ladder	11
5.7 Stability test	12
5.8 Fastening of the upper bed to the lower bed	12
6 Test report	12

Foreword

This European Standard was prepared by the Technical Committee CEN/TC 207 "Furniture", of which the secretariat is held by IBN.

This standard is part of a series of standards on requirements and test methods for children's and nursery furniture.

The standard is based on ISO/DIS 9098-2. Some modifications, however, had to be introduced, due to the results of the PQ-procedure.

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 September 1993, and conflicting national standards shall be withdrawn at the latest by September 1993.

The standard was approved in accordance with the CEN/CENELEC Internal Regulations, the following countries are bound to implement this European Standard: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

0 Introduction

This part of EN 747 describes a number of tests consisting of the application, to various parts of the item, of loads or forces simulating normal functional use, as well as misuse that can reasonably be expected to occur.

The tests are designed to evaluate properties without regard to materials, design/construction or manufacturing processes.

1 Scope

This part of EN 747 specifies test methods that assess the safety of bunk beds for domestic use. It is in particular intended to minimize the risk of accidents happening to children. Only the sleeping function is considered.

This standard also applies to single beds for use at a height of the bed base of 800 mm or more above floor level, irrespective of the use to which the space below is put.

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

The test results are only valid for the article tested. When the test results are intended to be applied to other similar articles, the test specimen should be representative of the production model.

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

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this European Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this European Standard are encouraged to investigate the possibility of applying the most recent editions of the standards listed below.

EN 747-1	Furniture - Bunk beds for domestic use - Part 1: Safety requirements
ISO 2439:1980	Polymeric materials, cellular flexible - Determination of hardness (indentation technique)

3 General test requirements

For tolerances, all forces shall have an accuracy of $\pm 5\%$, all masses an accuracy of $\pm 0,5\%$ and all dimensions an accuracy of $\pm 0,5\text{ mm}$.

Before any of the tests described in this part of EN 747 are commenced, the bed shall be old enough to ensure that it has been developed its full strength. At least four weeks in normal indoor conditions shall have elapsed between manufacture and testing in the case of glued joints in timber and the like.

Immediately before testing, the bed shall be stored for at least one week in a standardized atmosphere with a temperature of $23 \pm 2^\circ\text{C}$ and a relative humidity of $(50 \pm 5)\%$.

The bed shall be tested as delivered. If a knockdown type it shall be assembled according to instructions supplied with the bed. If the bed can be assembled or combined in different ways, the most adverse combination shall be used for each test.

Knock-down fittings shall be tightened before testing.

The test shall be carried out on the same specimen and in the same order as listed in this part of EN 747.

4 Test equipment

4.1 General

The test forces may, unless otherwise stated, be applied by any suitable device because results are dependent only upon correctly applied forces and loads and not upon the apparatus.

4.2 Measuring cone

Cone made of plastics or other hard, smooth material mounted on a force-measuring device (see figure 1). Three cones shall be used with the diameter of 25, 60 and 75 mm.

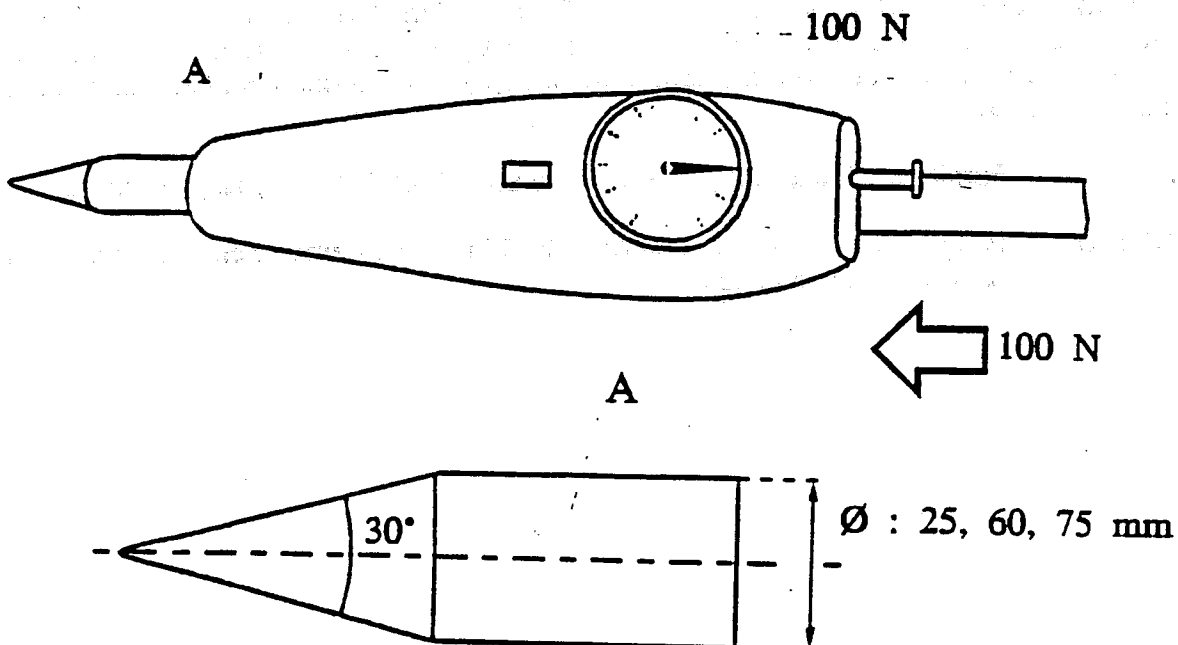


Figure 1 - Example of measuring cone

4.3 Bed base impacter (see figure 2)

4.3.1 Circular body, approximately 200 mm in diameter separated from the striking surface by helical compression springs and free to move relative to it on a line perpendicular to the plane of the central area of the striking surface.

The body and associated parts minus the springs shall have a mass of $17 \pm 0,1$ kg and the whole apparatus, including mass, springs and striking surface, shall have a mass of $25 \pm 0,1$ kg.

4.3.2 Springs, which shall be such that the combined spring system has a normal spring rate of $6,9 \pm 1$ N/mm and the total friction resistance of the moving parts is between 0,25 N and 0,45 N.

The spring system shall be compressed to an initial load of 1040 ± 5 N (measured statically) and the amount of spring compression movement available from the initial compression point to the point where the springs become fully closed shall be not less than 60 mm.

4.3.3 Striking surface, approximately flat leather pad containing fine dry sand.

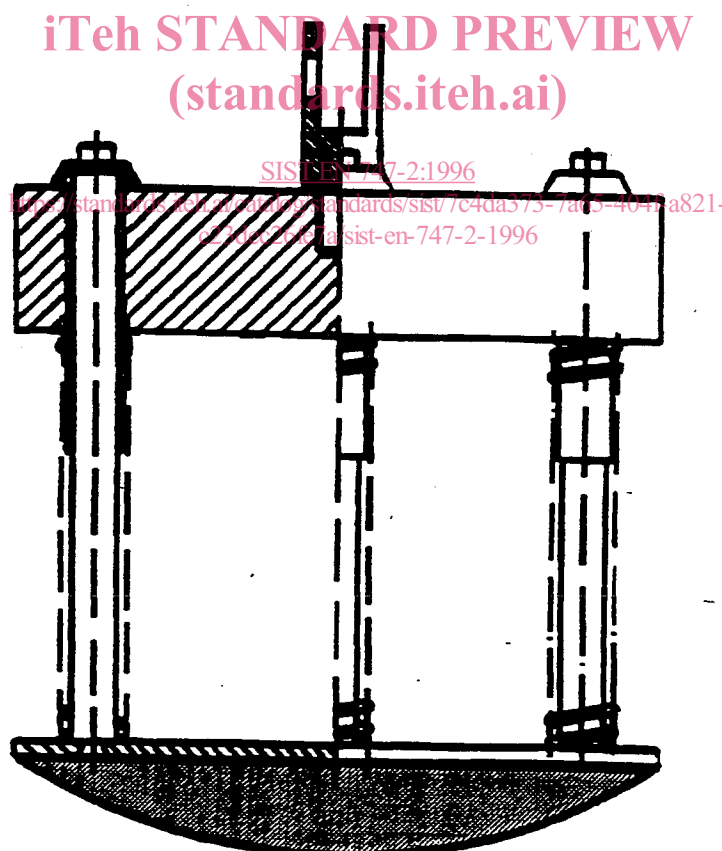
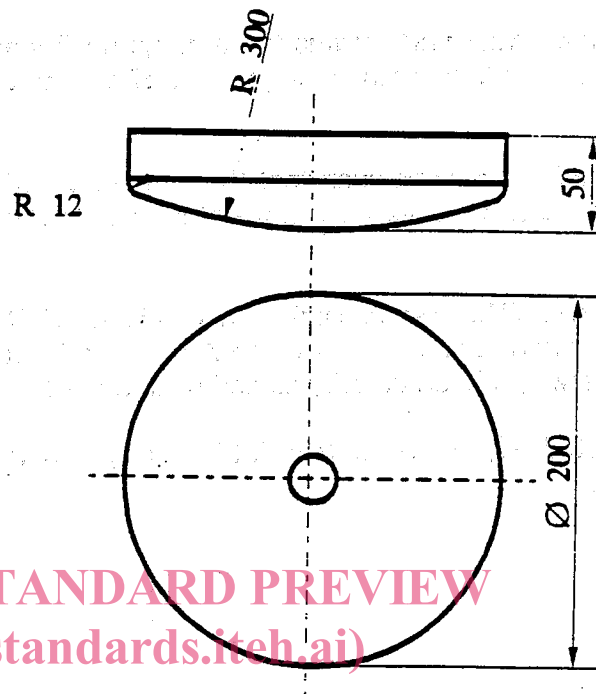


Figure 2: Bed base impacter

4.4 Loading pad (see figure 3)

Rigid circular object 200 mm in diameter, the face of which has a convex spherical curvature of 300 mm radius with a 12 mm front edge radius (see figure 3).



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Figure 3: Details of loading pad

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4.5 Test mattress

Soft polyether foam sheet with a thickness of 100 mm, a bulk density of (30 ± 2) kg/m³ and an indentation hardness index of (170 ± 20) A 40 according to ISO 2439:1980, with dimensions more or less the same as those of the bed base tested. The test mattress shall not have any cover.

The same part of the test mattress should not be re-used within two hours and the mattress should be replaced after 20 tests.

4.6 Test load

A mass of 75 kg distributed over an area of approximately 300 mm x 300 mm or a diameter of approximately 340 mm.

4.7 Stops

Stops, to prevent the bed from sliding but not tilting, no higher than 12 mm except in cases where the design of the bed necessitates the use of higher stops, in which case the lowest that will prevent the bed from moving shall be used.

4.8 Floor surface

Horizontal and flat.

4.9 Treads impact test

Apparatus as described in figure 8.

5 Test procedures

5.1 Assembly and inspection before test

The bed shall be assembled in accordance with the manufacturer's instructions. Prior to the test, inspect the bed visually for defects.

5.2 Inspection of workmanship

Inspect the specimen to determine whether exposed edges, screws, bolts, zips and other fittings are rounded or chamfered and free of burr and sharp edges.

5.3 Measuring of the clearance between side slats and between the bed base and sides (safety barriers)

Check all gaps according to Part 1 of this standard as follows:

Part 1, clause	Loaded/unloaded	Test equipment
4.3	loaded unloaded	60 and 75 mm cones appropriate gauges
4.5	loaded	25 mm cone
4.6	loaded unloaded	60 and 75 mm cones appropriate gauges

The measuring cones (4.2) shall be used for gaps smaller than 25 mm and for gaps larger than or equal to 60 mm and smaller than 75 mm.

All other gaps shall be measured with appropriate gauges.

When carrying out cone tests press the cone into the gap with a force of 100 N. Note whether or not the cone can pull through the gap.

After removal of the force, measure the residual deflection of all components which have been loaded by the cones.

5.4 Strength tests

5.4.1 Positioning of the bed

Position the bed on the floor with all legs against stops (4.7).