



SLOVENSKI STANDARD

SIST EN 1129-2:1996

01-april-1996

Pohištvo - Sklopne postelje - Varnostne zahteve in preskušanje - 2. del: Preskusne metode

Furniture - Foldaway beds - Safety requirements and testing - Part 2: Test methods

Möbel - Klappbetten - Sicherheitstechnische Anforderungen und Prüfverfahren - Teil 2: Prüfverfahren

Ameublement - Lits rabattables - Exigences de sécurité et essais - Partie 2: Méthodes d'essai

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97.140

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EUROPEAN STANDARD

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English version

Furniture - Foldaway beds - Safety requirements and testing - Part 2: Test methods

Ameublement - Lits rabattables - Exigences de
sécurité et essais - Partie 2: Méthodes d'essai

Möbel - Klappbetten - Sicherheitstechnische
Anforderungen und Prüfverfahren - Teil 2:
Prüfverfahren

This European Standard was approved by CEN on 1995-01-02. 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.

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CEN

European Committee for Standardization
Comité Européen de Normalisation
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Foreword

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

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of an identical text or by endorsement, at the latest by August 1995, and conflicting national standards shall be withdrawn at the latest by August 1995.

According to 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, United Kingdom.

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0 Introduction

This part of EN 1129 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 the EN 1129 describes test methods that assess the safety of foldaway beds (hereafter referred to as "beds") for domestic use.

Folding beds, camping beds, convertible bed/chairs or settees are not covered by this standard.

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

NOTE : 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

This European Standard incorporates, by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references, the latest edition of publication referred applies.

EN 1129-1:1995	Furniture - Foldaway beds - Safety requirements and testing - Part 1 : Safety requirements.
ISO 554	Standard atmospheres for conditioning and/or testing - Specifications.
ISO 2439	Polymeric materials, cellular flexible - Determination of hardness (indentation technique).

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3 General

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

Before any of the tests described in this standard are commenced, the bed shall be old enough to ensure that it has developed its full strength. At least four weeks in normal indoor conditions shall have elapsed between manufacture and testing in the case of glued joint 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 $(50 \pm 5) \%$ in accordance with ISO 554.

The bed shall be tested as delivered. If of knock-down type, it shall be assembled in accordance with instructions supplied with the furniture. If the furniture 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.

In the case of beds with adjustable characteristics, the test shall be carried out at both ends of the adjustment range.

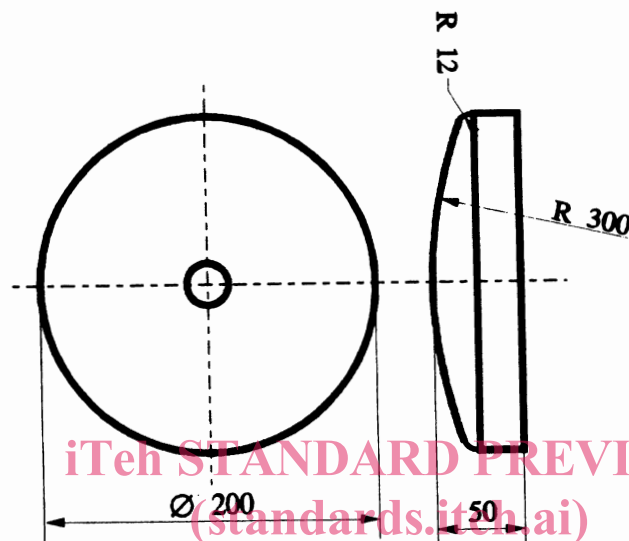
4 Test equipment

NOTE : 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.

4.1 Loading pad

Rigid circular object 200 mm in diameter, the face of which has a convex spherical curvature of 300 mm radius with a 12 mm edge radius (see figure 1).

Dimensions in millimeter



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Figure 1: Loading pad

4.2 Test mattress

Flexible polyether foam sheet with a thickness of 100 mm, a bulk density of $(30 \pm 2) \text{ kg/m}^3$ and an indentation hardness index of $(170 \pm 20) \text{ N}$ at 40 % indentation in accordance with ISO 2439, at least 800 mm x 800 mm in area, but not larger than the mattress base of the bed under test. The test mattress shall have no cover.

4.3 Stops

Stops shall be used to prevent the bed from sliding but not tilting and shall be 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 sliding.

4.4 Floor surface

Horizontal and flat.

5 Testing procedures

5.1 Assembly and inspection before test

Assemble the bed in accordance with the manufacturer's instructions. Prior to the test, inspect the bed visually for defects.

5.2 Inspection of workmanship

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

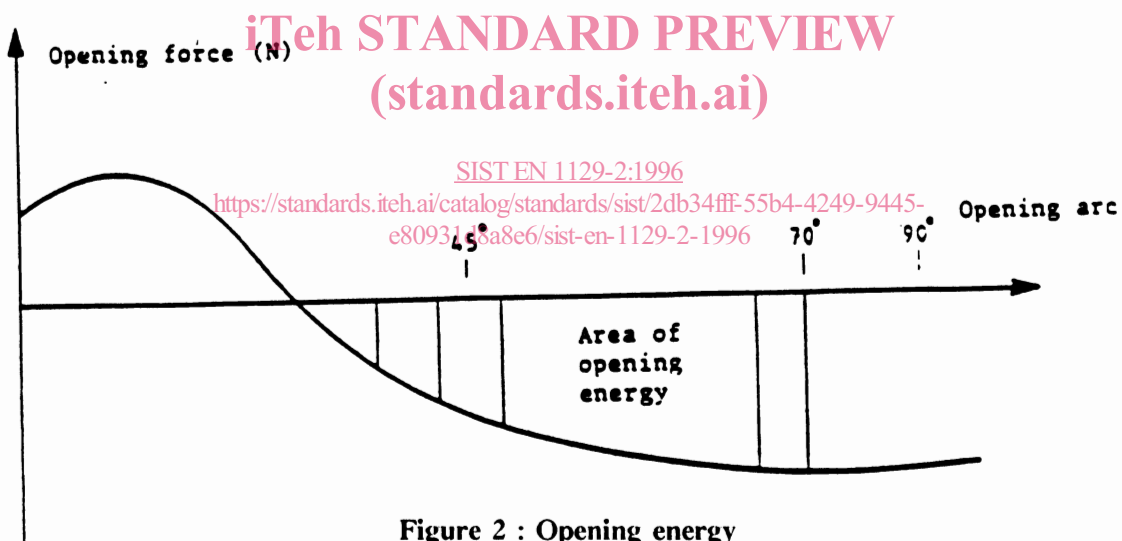
5.3 Opening and closing

Measure the opening and closing force at a slow constant rate of movement in order to eliminate dynamic forces.

Plot the opening and closing forces throughout the arc of opening of the bed. Take the results for both opening the bed and closing it and with the bed fitted with a mattress of the maximum and minimum weight stated in the instruction.

Calculate the opening energy from the opening arc under the appropriate part of the resultant diagram (see figure 2).

Determine the maximum load occurring on each mounting point by measurement during the procedure or by calculation from the results.



5.4 Folding fittings

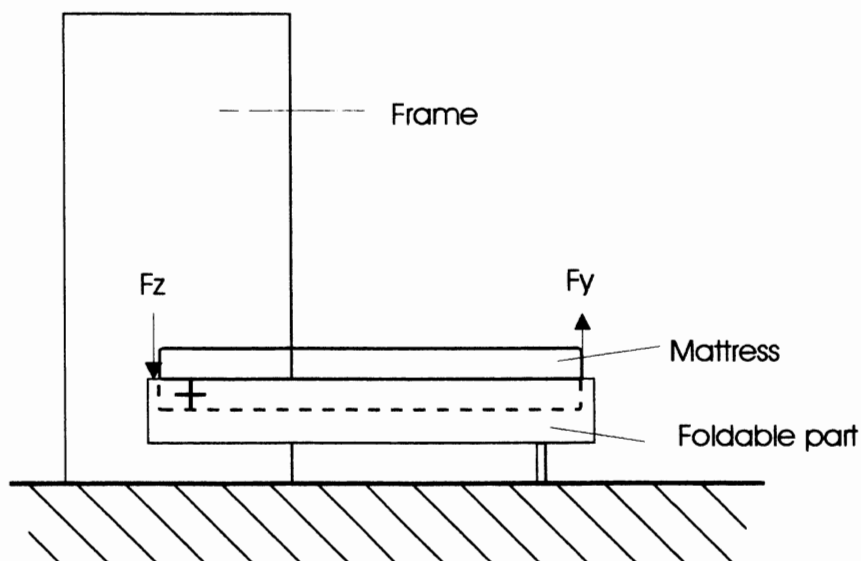
Prior to the test, pull the foldable part of the bed once down to the floor without swinging out the supporting devices.

NOTE : This does not apply to beds having supports that swing out automatically.

Determine the resisting force F_y (see figure 3) in opening or closing after 100 cycles and after 10 000 cycles.

Open and close the bed completely at a rate of three cycles (openings and closings) per minute. The apparatus for opening and closing the bed shall be constructed so as to ensure that no unspecified forces act upon the bed.

Record whether or not the fasteners used to fasten the folding fittings to the foldable part as well as to the frame, have loosened or if there are any cracks.



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Figure 3 : Resistance force F_y
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5.5 Strength and durability

5.5.1 Strength and durability of the foldable part

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Apply a vertical force of 1 000 N downwards using the loading pad shown in figure 1. Apply the load 10 000 times at each of the three positions shown in figure 4 at a rate of not more than 24 times per minute.

The loading points shall be positioned as shown in figure 4.