# SLOVENSKI STANDARD
# SIST EN 14072:2004

**01-januar-2004**

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**Steklo v pohištvu – Preskusne metode**

Glass in furniture - Test methods

Glas in Möbeln - Prüfverfahren

Verre en ameublement - Méthodes d'essai



**Ta slovenski standard je istoveten z:** **EN 14072:2003**

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**ICS:**

| | | |
|---|---|---|
| 81.040.30 | Izdelki iz stekla | Glass products |
| 97.140 | Pohištvo | Furniture |

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EUROPEAN STANDARD

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# EN 14072

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English version

# Glass in furniture - Test methods

Verre en ameublement - Méthodes d'essai

Glas in Möbeln - Prüfverfahren

This European Standard was approved by CEN on 8 September 2003.

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This European Standard exists 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.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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# Contents

## Foreword

This document (EN 14072:2003) has been prepared by Technical Committee CEN /TC 207, "Furniture", the secretariat of which is held by UNI.

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of an identical text or by endorsement, at the latest by May 2004, and conflicting national standards shall be withdrawn at the latest by May 2004.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and the United Kingdom.

# 1 Scope

This European Standard specifies test methods for horizontal and vertical glass used in furniture. It applies to both flat and curved glass.

The test methods can be applied to furniture in all fields of application from domestic to contract use.

The test methods are designed to represent forces caused by impacts with parts of the human body.

The test methods do not apply to glass shelves nor to glass supported over its entire area, including wall fixed mirrors.

The standard does not apply to testing and classification of the glass itself as covered by EN 12600.The standard does not include any requirements.

# 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 the publication referred to applies (including amendments).



EN ISO 2439, *Flexible cellular polymeric materials — Determination of hardness (indentation technique) (ISO 2439:1997, including Technical Corrigendum 1:1998)*



ISO 7619, *Rubber — Determination of indentation hardness by means of pocket hardness meters*

# 3 General test conditions

## 3.1 Preliminary preparation

Unless otherwise specified in a requirement document, the following conditions apply:

Before any of the tests are commenced, the item 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 manufacturing (or assembly) and testing in the case of glued joints in timber etc.

The furniture shall be tested as delivered. If of knockdown type, it shall be assembled according to the 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. The same is valid for units that can be combined with other units or components.

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

Tighten all assembly fittings before testing.

## 3.2 Tolerances

Unless otherwise stated, the following tolerances apply:

- Masses: ± 0,5 % of the nominal mass;

- Dimensions: ± 1,0 mm of the nominal dimension;

- Angles: ± 2° of the nominal angle.

# 4 Test equipment

## 4.1 Floor surface

The floor surface shall be a rigid, horizontal and flat surface.

## 4.2 Wall surface

The wall surface shall be a rigid, vertical and flat surface.

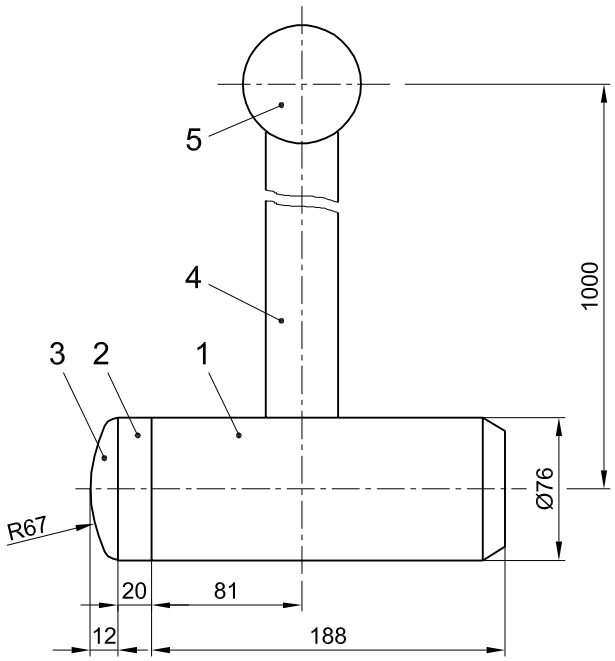
## 4.3 Stops

To prevent the sample from sliding, stops shall not be higher than 12 mm except in cases where the design of the sample necessitates the use of higher stops, in which case the lowest stop that will prevent the sample from sliding shall be used.

## 4.4 Impact hammer for vertical glass (see Figure 1)

A cylindrical pendulum head assembly (1 + 2 + 3) in Figure 1, with a mass of (6,5 ± 0,07) kg, supported from a pivot by a cold drawn seamless steel tube of 38 mm in diameter and with a wall thickness of 2 mm (4 in Figure 1). The mass of the steel tube shall be (2 ± 0,2) kg. The distance between the pivot and the centre of gravity of the pendulum head shall be 1 m. A low friction bearing shall pivot the pendulum arm.

Dimensions in mm




**Key**



1 Pendulum head, steel mass 6,4 kg

2 Hardwood



3 Rubber 50 IRHD (ISO 7619)

4 Pendulum arm, length 950 mm; high tensile steel tube Ø 38 x 2

5 Pivot / low friction bearing

**Figure 1 — Impactor for vertical glass**

## 4.5 Impactor for horizontal glass (see Figure 2)

### 4.5.1 Circular body

The circular body shall be 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 ± 0,1) kg and the whole apparatus, including mass, springs and striking surface, shall have a mass of (25 ± 0,1) kg.

### 4.5.2 Springs

Springs shall be such that the combined spring system has a nominal spring rate of (6,9 ± 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.

#### 4.5.3 Striking surface

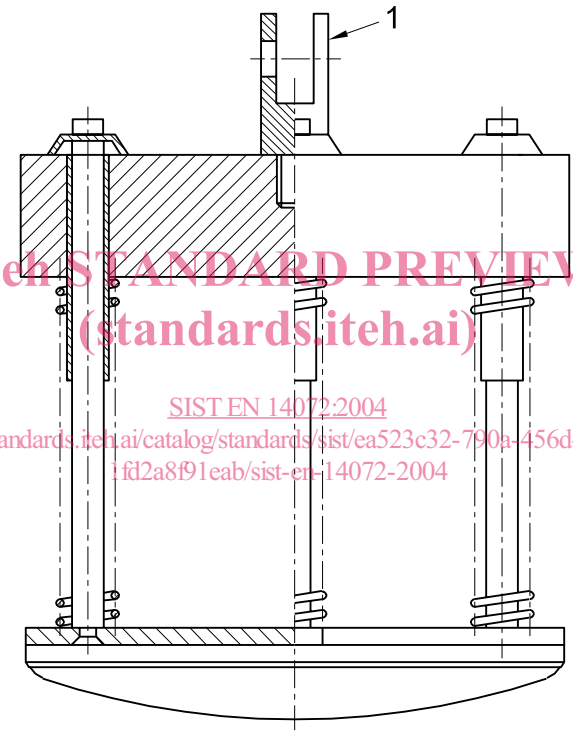
The striking surface shall be a rigid circular object, 200 mm in diameter, the face of which has a convex spherical curvature of 300 mm radius with a 12 mm front edge radius.

### 4.6 Polyurethane foam sheet

The polyether foam sheet shall have a thickness of 100 mm, a bulk density of (30 ± 2) kg/m$^3$ and an indentation hardness index of (170 ± 20) N according to A 40 of EN ISO 2439, with dimensions approximately 200 mm more than the diameter of the impactor (4.5).

### 4.7 Rubber pad

The rubber pad shall be 10 mm thick, minimum 100 mm x 100 mm, with a hardness of 30 IHRD according to ISO 7619.






**Key**

1 Joint of lifting device not inhibiting free fall

**Figure 2 — Impactor for horizontal glass**

## 5 Test method for vertical glass

Place the unit on the floor surface (4.1) or on the wall surface (4.2).

The impact point on the glass surface shall be in the vertical plane. If necessary, the unit shall be tilted.

Face the striking surface of the glass with a 10 mm thick rubber pad (4.7) at the point of impact.

With the arm of the impact hammer hanging vertical and the striking surface touching the rubber pad at the impact position specified in the requirement document. Position free-standing furniture with stops around the feet and with wall mounted units attached to a test wall.