SLOVENSKI STANDARD
SIST EN 15706:2010

01-januar-2010

Pohištveno okovje - Trdnost in trajnost vodil za drsna in rolo vrata

Hardware for furniture - Strength and durability of slide fittings for sliding doors and roll fronts

Möbelbeschläge - Festigkeit und Dauerhaltbarkeit von Beschlägen für Schiebetüren und Rollläden

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Quincaillerie d'ameublement - Résistance mécanique et endurance des éléments de coulissement pour portes coulissantes et rideaux coulissants

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ICS:

97.140	Pohištvo	Furniture

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EUROPEAN STANDARD

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English Version

Hardware for furniture - Strength and durability of slide fittings for sliding doors and roll fronts

Quincaillerie d'ameublement - Résistance mécanique et endurance des éléments de coulissement pour portes coulissantes et rideaux coulissants

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Foreword

This document (EN 15706:2009) 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of an identical text or by endorsement, at the latest by October 2009, and conflicting national standards shall be withdrawn at the latest by October 2009.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

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Introduction

The aim of this draft European Standard is to provide furniture manufacturers, designers and developers with comparable information regarding the performance of all types of slide fittings and their components for sliding doors and roll fronts.

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1 Scope

This European Standard EN 15706 specifies test methods and requirements for the strength and durability of all types of slide fittings for all types of sliding doors and roll fronts sliding horizontally and vertically and their components for all fields of application.

The tests consist of the application of loads, forces and velocities simulating normal functional use, as well as misuse, that might reasonably be expected to occur.

With the exception of the corrosion test in Clause 8, the tests are designed to evaluate properties without regard to materials, design/construction or manufacturing processes.

The strength and durability tests only relate to the fittings and the parts used for the attachment.

The strength and durability tests are carried out in a test frame with specified properties. The test results can only be used as a guide to the performance of a piece of furniture.

The test results are only valid for the fittings tested. These results may be used to represent the performance of production models provided that the tested model is representative of the production model.

With the exception of the corrosion test in Clause 8, ageing and influences of heat and humidity are not included.

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Annex A (normative): Product information system.

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Annex B (normative): Test parameters.

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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.

EN 320:1993, *Fibreboards — Determination of resistance to axial withdrawal of screws*

EN 323:1993, *Wood-based panels — Determination of density*

EN ISO 6270-2, *Paints and varnishes — Determination of resistance to humidity — Part 2: Procedure for exposing test specimens in condensation-water atmospheres (ISO 6270-2:2005)*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
catch device
device, which keeps or pulls a sliding door/roll front in place, but does not require a second action in order to release it, e.g. a magnetic catch or a self-closing or self-opening mechanism

3.2
damper
mechanism which stops the movement of a sliding door/roll front gently

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3.3
loading capacity
M
mass in kg, as specified by the manufacturer, for which the slide fitting will fulfil the strength and durability requirements. The loading capacity includes the weight of the sliding door/roll front and load on it, e.g. mirrors

3.4
horizontal sliding door
one or more front elements, which can be moved in the horizontal direction

3.5
vertical sliding door
one or more front elements, which can be moved in the vertical direction

3.6
horizontal roll front
front element usually consisting of many narrow parts, which can be moved in the horizontal direction

3.7
vertical roll front
front element usually consisting of many narrow parts, which can be moved in the vertical direction

4 General test conditions

4.1 Preliminary preparation

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The fittings shall be assembled/mounted according to the manufacturer's instructions supplied with the product.

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If mounting, adjustment or assembly instructions are not supplied, the most adverse configuration shall be used and the mounting or assembly method shall be recorded in the test report. Fittings shall be tightened before testing and shall not be re-tightened unless specifically required in the manufacturer's instructions. If the configuration must be changed to produce the worst-case conditions, this shall be recorded in the test report.

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

Fittings which include structural hardware parts made of hygroscopic plastic materials, e.g. polyamide shall be conditioned at (23 ± 5) °C and a relative humidity of (50 ± 5) % for at least 7 days before testing.

In the case of designs not addressed in the test procedures, the tests shall be carried out as far as possible as described, and deviations from the test procedure recorded in the test report.

Before beginning the testing, visually inspect the fittings and components thoroughly. Record any defects so that they are not assumed to have been caused by the tests. Carry out measurements if specified.

4.2 Test equipment

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

The equipment shall not inhibit deflection of the test door/roll front, i.e. it shall be able to move so that it will allow the deflection of the test sliding door/roll front during testing.

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All loading pads (if included) 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.

4.3 Application of forces

The forces in the static load tests shall be applied sufficiently slowly to ensure that negligible dynamic force is applied. Unless otherwise specified, each force shall be maintained for not less than 10 s and not more than 15 s.

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

The forces may be replaced by masses. The relation 10 N = 1 kg shall be used for this purpose.

4.4 Tolerances

Unless otherwise stated, the following tolerances are applicable:

Forces: ± 5 % of the nominal force;

Velocities: ± 5 % of the nominal velocity;

Masses: ± 1 % of the nominal mass;

Dimensions: ± 1 mm of the nominal dimension;

Angle ± 2° of nominal angle.

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The accuracy for the positioning of loading pads shall be ± 5 mm.

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4.5 Sequence of testing

The tests shall be carried out in the same sequence as the clauses are numbered in this standard. If the clause sequence is not followed, the sequence shall be recorded in the test report.

4.6 Inspection and assessment of results

Before and after completion of each test, carry out the inspection as specified, after removing any loads and after using adjustment devices, if applicable.

Record any changes that have taken place since the initial inspection.

The inspection shall include at least the following:

a) fracture of any component or joint;

b) loosening of any joint intended to be rigid, which can be demonstrated by hand pressure;

c) deformation or wear of any part or component such that its functioning is impaired;

d) loosening of any means of fixing components;

e) any impaired function of a component or part.

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5 Test apparatus

5.1 Masses

Masses shall be designed so that they do not reinforce the structure or re-distribute the stresses.

5.2 Test frame

The tests specified in 6.2, 6.3, 7.2 and 7.3 shall be carried out in a test frame (see an example in Figure 1), which is so constructed that the deformation under the applied loads and in the direction of the applied loads is no more than 2 %.

Unless otherwise specified by the manufacturer, fittings shall be mounted on particle board as specified in 5.3.

Fittings for other materials, e.g. glass, metal or plastic shall be mounted according to the manufacturer's instructions.

The position of fittings and components on the sliding door/roll front and the test frame as well as the size and weight of the sliding door/roll front shall be as specified by the manufacturer, see Annex A (normative).

The tests shall be carried out using the standard door sizes specified in Annex B (normative), except in cases where the sliding door/roll front parameters (e.g. height, width, mass) are specified by the manufacturer.

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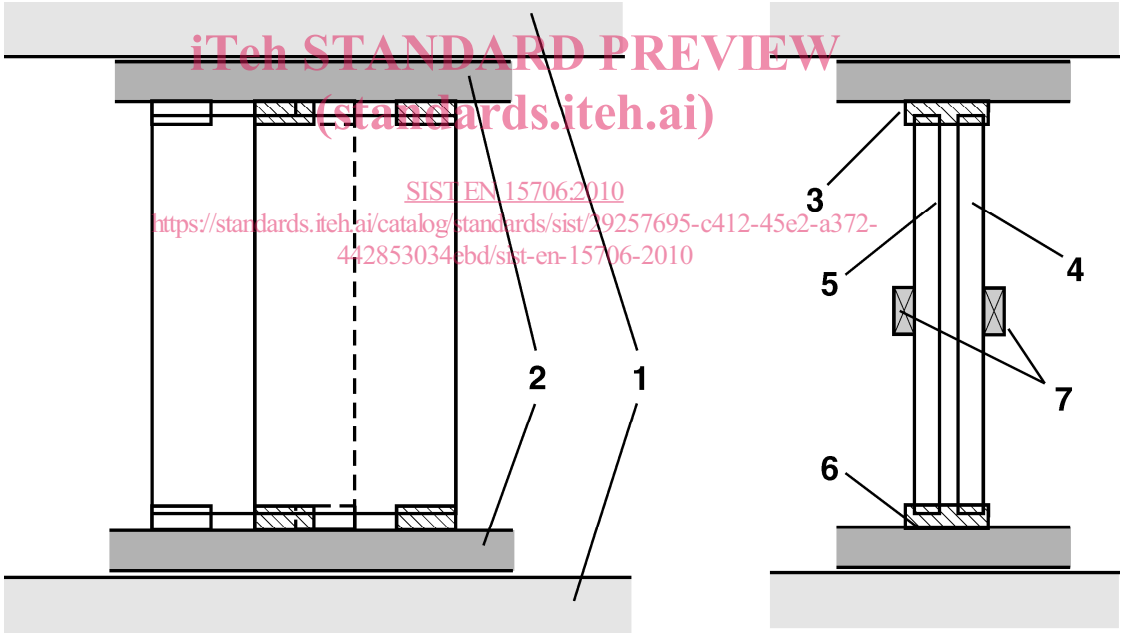

Key

1 Test frame
2 Particle board
3 Top runner/guide
4 Front door
5 Rear door
6 Lower runner/guide
7 Additional load

Figure 1a — Example of test frame for horizontal sliding doors