SLOVENSKI STANDARD
SIST EN 13120:2009

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Notranja senļila - Zahtevane lastnosti, vkljuļno z varnostjo

Internal blinds - Performance requirements including safety

Abschlüsse innen - Leistungs- und Sicherheitsanforderungen

Stores intérieurs - Exigences de performance y compris la sécurité

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ICS:

91.060.50	Vrata in okna	Doors and windows

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EUROPEAN STANDARD

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English Version

Internal blinds - Performance requirements including safety

Stores intérieurs - Exigences de performance y compris la sécurité

Abschlüsse innen - Leistungs- und Sicherheitsanforderungen

This European Standard was approved by CEN on 22 November 2008.

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

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Contents

Foreword

This European Standard (EN 13120:2008) has been prepared by Technical Committee CEN/TC 33 “Doors, windows, shutters, building hardware and curtain walling”, the secretariat of which is held by AFNOR.

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of an identical text or by endorsement, at the latest by July 2009, and conflicting national standards shall be withdrawn at the latest by July 2009.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.

This document supersedes EN 13120:2004.

This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annexes ZA and ZB, which are integral parts of this document.

This European Standard is part of a series of standards dealing with internal blinds and shutters for buildings as defined in EN 12216.

This European Standard specifies the requirements for internal blinds, the levels of performance and, where applicable, the associated classes.

It is completed by test standards as well as by the standards referring to specific performance requirements.

Annex A and C are informative. Annex B is normative.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, 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 the United Kingdom.

Introduction

The performances given in this European Standard, which illustrate suitability for use, are required for internal blinds detailed in the scope (intrinsic performances).

Other performances are only required as a complement (specific performances) for specific products and are described in other European Standards. Some important specific performances relating to thermal and visual aspects are described in EN 14501. These standards state classifications and test methods for the following properties:

- for thermal comfort:
  - solar factor (see Clause 11 of the present standard);
  - secondary heat transfer factor;
  - direct solar transmittance;
- for visual comfort:
  - glare control;
  - night privacy;
  - visual contact with the outside;
  - opacity control;
  - daylight utilisation;
  - rendering of colours.

NOTE 1 Health and Safety regulations require that the workplace receives as much natural light as is reasonably practical (see EU Directive 89/654/EEC) and protection of operators working with VDU screens against glare and reflected light (see EU Directive 89/391/EEC).

NOTE 2 Reaction to fire of internal blinds is not covered by this standard. The performance of the products shall be evaluated according to the relevant standards (e.g. EN 13772). Minimal performance may be required by national regulations.

A list of these documents is given in the Bibliography.

This European Standard is a type C standard as stated in EN ISO 12100.

The machinery concerned and the extent to which hazards, hazardous situations and events are covered are indicated in the scope of this document.

When provisions of this type C standard are different from those which are stated in type A or B standards, the provisions of this type C standard take precedence over the provisions of the other standards, for machines that have been designed and built according to the provisions of this type C standard.

With the aim of clarifying the intentions of the standard and avoiding doubts on reading, the following assumptions were made related to power operated products:

— negotiations occur between the manufacturer and the purchaser concerning particular conditions for use and places for use such as nursery schools or buildings for disabled people which need specific risk analysis;

— the risk analysis carried out in this European Standard and the significant hazards listed in Annex B presume a normal use or normally predictable use e.g. which excludes deliberate and conscious risks taken by the user (see Interpretative Document “Safety in use” of EU Construction Products Directive).

1 Scope

This European Standard specifies the requirements which internal blinds shall fulfil when fitted to a building. It deals also with the significant machinery hazards relating to construction, transport, installation, operation and maintenance of the internal blinds (see list of significant hazards in Annex B).

It applies to the internal blinds, whatever their design and nature of the materials used, as listed below:

— venetian internal blind: free hanging, guided, non-retractable;

— roller internal blind: free hanging, side guided, with tensioned fabric;

— vertical internal blind: free hanging, with top and bottom track, and sloping headrail;

— pleated internal blind: free hanging and guided.

These products may be operated manually, with or without compensating springs, or by means of electric motors (power operated products).

This standard does not apply to Roman Shades, Austrian, Festoon, Pinoleum, laterally moving pleated internal blinds, insect screens or internal blinds in sealed glazed units.

Noise aspects are not treated in this standard because this is not considered a safety issue.

This standard is not applicable to internal blinds which are manufactured before the date of publication of this standard.

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 1050:1996, *Safety of machinery — Principles for risk assessment*

EN 1070:1998, *Safety of machinery — Terminology*

EN 1670, *Building hardware — Corrosion resistance — Requirements and test methods*

EN 12045, *Shutters and blinds power operated — Safety in use — Measurement of the transmitted force*

EN 12194, *Shutters, external and internal blinds — Misuse — Test methods*

EN 12216:2002, *Shutters, external blinds, internal blinds — Terminology, glossary and definitions*

EN 12280-2:2002, *Rubber-or plastic-coated fabrics — Accelerated ageing tests — Part 2: Physical ageing: effect of light or weathering*

EN 13125, *Shutters and blinds — Additional thermal resistance — Allocation of a class of air permeability to a product*

EN 13527, *Shutters and blinds — Measurement of the operating force — Test methods*

EN 14201, *Blinds and shutters — Resistance to repeated operations (mechanical endurance) — Methods of testing*

EN 14500, *Blinds and shutters –Thermal and visual comfort – Test and calculation methods*

EN 14501, *Blinds and shutters –Thermal and visual comfort – Performance characteristics and classification*

EN 20105-A02:1994, *Textiles — Tests for colour fastness — Part A02: Grey scale for assessing change in colour (ISO 105-A02:1993)*

EN 60335-1, *Household and similar electrical appliances – Safety — Part 1: General requirements*

EN 60335-2-97, *Household and similar electrical appliances – Safety – Part 2-97: Particular requirements for drives for rolling shutters, awnings, blinds and similar equipment*

EN 61310-1, *Safety of machinery – Indication, marking and actuation – Part 1: Requirements for visual, auditory and tactile signals (IEC 61310-1:1995)*

EN ISO 1421, *Rubber-or plastics-coated fabrics — Determination of tensile strength and elongation at break (ISO 1421:1998)*

EN ISO 105-B04, *Textiles — Tests for colour fastness —- Part B04: Colour fastness to artificial weathering: Xenon arc fading lamp test (ISO 105-B04:1994)*

EN ISO 12100-2:2003, *Safety of machinery - Basic concepts, general principles for design - Part 2: Technical principles (ISO 12100-2:2003)*

ISO 9227, *Corrosion tests in artificial atmospheres — Salt spray tests*

3 Terms and definitions

For the purposes of this European Standard, the terms and definitions given in EN 1070:1998, EN 12216:2002 and the following apply.

3.1
internal blind
blind fitted in front of or on a window or in between glazings or anywhere within the internal surface of the building

3.2
intrinsic performance
overall performances of the internal blind regardless of its application as opposed to specific performance

3.3
specific performance
performance which may be additional and complementary to the intrinsic performances and refers to a specific product

3.4
curtain
part of the product which is set in motion by the operating mechanism and ensures its function

3.5
extension/retraction
movement of the curtain resulting in an increase/decrease in the surface area covered

3.6
opening/closing
terms used to describe the increase in light (opening) or reduction of light (closing) in an extended position for products with slats or louvres which can be tilted or adjusted

3.7
rough operation
sharp action on the operating mechanism or directly on the curtain, resulting in excessive speed at the beginning and a sudden stop at the end

NOTE Rough operation is only possible if the moving part has significant inertia (mass and speed).

3.8
forced operation
excessive force exerted on the operating mechanism or directly on the curtain with the aim of causing movement in spite of resistance to the travel of the curtain

3.9
reversed operation
extension or retraction of the curtain occurring in the opposite direction to that intended without use of abnormal force

3.10
winch handle
operating mechanism consisting of a reel rotated by an operating handle which allows accumulation of a cord, cable or chain

3.11
gear with crank handle
operating mechanism consisting of a gear attached to an axle, a drive shaft, a universal joint, a rotating rod and a crank handle

3.12
one direction movement of the operating mechanism
operating mechanism operated by a single cord, tape, etc., extension/retraction being effected by relying on gravity or the potential energy stored up during retraction/extension (respectively)

3.13
endless movement of the operating mechanism
operating mechanism operated by a loop, movement in one direction extends the curtain (or tilts the slats or louvres), and in the reverse retracts the curtain (or tilts the slats or louvres) in the opposite direction

3.14
monocommand
single operating mechanism which achieves both opening/closing and extension/retraction

3.15
determination of performance
means of verification of the performance relating to the corresponding requirement

4 Operating effort

4.1 General

Does not apply in the case of power operated products.

The operating effort F_M necessary to extend, retract, open or close the internal blind depends on the type of operation.

4.2 Determination

Shall be in accordance with the test methods specified in EN 13527.

4.3 Performance requirement

The operating effort F_M shall not exceed the values in Table 1.

Table 1 — Maximum values F_M for operating force

TYPES OF OPERATION		F_M N	
		Class 1	Class 2
Crank or winch handle [a, c], wand		30	15
Tape, cord or chain [a, b, c]		90	50
Rod, or	vertical plane	90	50
Hand	horizontal or sloping plane	50	30

NOTE 1 For spring loaded systems, 1,5 F_M may be reached for locking in the fully extended or retracted position.

NOTE 2 An internal blind belongs to Class 2 if both the operations of moving the curtain and tilting the slats or louvres belong to Class 2. Otherwise the internal blind is Class 1.

[a] Operation mechanism shall also fulfil the requirements in Clause 5.

[b] One direction movement and endless movement of the operating mechanism.

[c] Monocommand.

5 Design of the operating mechanism – Diagrams HPV ("human pull value")

5.1 General

Geometrical characteristics of operating mechanisms taking into account the comfort factor.

5.2 Performance requirement

5.2.1 Gear operation

Gear with crank or winch handle shall have:

— a handle R of length less or equal to 0,20 m ($R \leq 0{,}20$ m);

— a reduction ratio r of the gear less than 1:10 (average or mean reduction ratio when, for the same gear, several reductions exist).

NOTE A reduction ratio of 1:10 means it is necessary to make ten turns of the crank to achieve one rotation of the roller tube or axle.

5.2.2 Tape, cord or chain operation

Operating mechanisms shall have minimal dimensions as given in the HPV diagrams (see Figures 1 and 2).