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Shutters - Performance requirements including safety
CONSOLIDATED TEXT

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 13659:2004+A1:2008 sisaldab Euroopa standardi EN 13659:2004+A1:2008 ingliskeelset teksti.</p> <p>Standard on kinnitatud Eesti Standardikeskuse 10.11.2008 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.</p> <p>Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 01.10.2008.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 13659:2004+A1:2008 consists of the English text of the European standard EN 13659:2004+A1:2008.</p> <p>This standard is ratified with the order of Estonian Centre for Standardisation dated 10.11.2008 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.</p> <p>Date of Availability of the European standard text 01.10.2008.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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English Version

Shutters - Performance requirements including safety

Fermetures pour baies équipées de fenêtres - Exigences
de performance y compris la sécurité

Abschlüsse außen - Leistungs- und
Sicherheitsanforderungen

This European Standard was approved by CEN on 2 March 2004 and includes Amendment 1 approved by CEN on 18 August 2008.

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Foreword

This document (EN 13659:2004+A1:2008) 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of an identical text or by endorsement, at the latest by April 2009, and conflicting national standards shall be withdrawn at the latest by December 2009.

NOTE Annex ZB is applicable until December 28th, 2009 and Annex ZC is applicable from December 29th, 2009.

This document supersedes EN 13659:2004.

This document includes Amendment 1, approved by CEN on 2008-08-18.

The start and finish of text introduced or altered by amendment is indicated in the text by tags A1 A1.

This document 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).

A1 For relationship with EU Directive(s), see informative Annexes ZA, ZB and ZC, which are integral parts of this document. A1

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

This standard specifies the requirements for shutters, the levels of performance and the associated classes where applicable.

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

Annexes A and B are informative.

Annex C is normative.

This document includes a Bibliography.

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 every type of shutter (intrinsic performances).

Other performances are only required as a complement (specific performances) and result in specific products. Some of them are described in European Standards (e.g. EN 1522, EN 1523, ENV 1627, ENV 1628, ENV 1629, ENV 1630, EN 13123-1, EN 13124-1, EN 13123-2 and EN 13124-2). Others are described in prEN 14500 and prEN14501 in the process of preparation and deal with important subjects such as thermal comfort, i.e.:

- Solar factor;
- Shading factor;
- Direct solar transmittance;
- Secondary heat transfer factor;
- Solar radiation reduction factor.

and visual comfort, i.e.:

- Light control;
- Night privacy;
- Visual contact with the outside;
- Glare control;
- Rendering of colours.

or with the airborne sound insulation brought by shutters (see prEN 14759).

NOTE 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 VDV screens against glare control and reflected light (see EU Directive 87/391/EEC).

The list of these documents is given in the Bibliography.

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

- Negotiations shall occur between the manufacturer and the purchaser concerning particular conditions for use and places for use such as for nursery schools or for buildings for disabled people which need specific risk analysis;
- The risk analysis carried out in this standard and the corresponding significant hazards listed in annex C suppose 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 performance requirements which shutters shall fulfil when fitted to a building. It deals also with the significant hazards for construction, transport, installation, operation and maintenance of the shutters (see list of significant machine hazards in annex C).

It applies to all shutters as well as similar products whatever their use and nature of the materials used, as follows:

- external Venetian blind, roller shutter, wing shutter, Venetian shutter, flat-closing concertina shutter, concertina shutter or sliding panel shutter, with or without a system of projection.

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

This document is not applicable to shutters which are manufactured before the date of application of this document by CEN.

A1 Noise aspects are not treated in the standard because this is not considered a safety issue. **A1**

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

EN 1050:1996, *Safety of machinery - Principles for risk assessment*.

EN 1070:1998, *Safety of machinery - Terminology*.

EN 1670, *Building hardware - Corrosion resistance - Requirement and test methods*.

EN 1932, *External blinds and shutters - Resistance to wind loads - Method of testing*.

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 12833, *Skylight and conservatory roller shutters - Resistance to snow load - Test method*.

EN 12835, *Airtight shutters - Air permeability test*.

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

EN 13245-1:2004, *Plastics - Unplasticized poly(vinyl chloride) (PVC-U) profiles for building applications – Part 1: Designation of light coloured profiles*.

EN 13330, *Shutters - Hard body impact — Test method*.

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

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

EN 60335-1, *Household and similar electrical appliances - Safety – Part 1: General requirements (IEC 60335-1:2001, modified)*

EN 60335-2-97, *Safety of household and similar electrical appliances – Part 2-97: Particular requirements for drives for rolling shutters, awnings, blinds and similar equipment (IEC 60335-2-97:1998, modified).*

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 10077-1, *Thermal performance of windows, doors and shutters -Calculation of thermal transmittance - Part 1: Simplified method (ISO 10077-1:2000).*

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 and EN 12216:2002 and the following apply.

- 3.1
intrinsic performance**
overall performances of the shutter regardless of its application as opposed to specific performance
- 3.2
specific performance**
performance which may be additional and complementary to the intrinsic performances and refers to a specific product (for example, acoustic, thermic, burglary resistance, etc.)
- 3.3
curtain**
that part of the product which is set in motion by the operating mechanism, and ensures its function
- 3.4
extension/retraction**
movement of the curtain resulting in an increase/decrease the surface area covered
- 3.5
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 slats which can be tilted or adjusted
- NOTE The common parlance uses "open" for retraction and "closed" for extension.
- 3.6
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).