

## **Shutters - Hard body impact - Test method**

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## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 13330:2003 sisaldab Euroopa standardi EN 13330:2002 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 19.03.2003 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 13330:2003 consists of the English text of the European standard EN 13330:2002.</p> <p>This document is endorsed on 19.03.2003 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p><b>Käsitlusala:</b></p> <p>This European Standard specifies tests to be done for determining behaviour, under conventional hard body impact, of the shutters, these are:-external venetian blind, roller shutter, venetian shutter, flat closing concertina shutter, concertina shutter, wing shutter, sliding panel shutter. The requirements relate only to the preservation of performances of shutters, namely functioning and appearance</p>	<p><b>Scope:</b></p> <p>This European Standard specifies tests to be done for determining behaviour, under conventional hard body impact, of the shutters, these are:-external venetian blind, roller shutter, venetian shutter, flat closing concertina shutter, concertina shutter, wing shutter, sliding panel shutter. The requirements relate only to the preservation of performances of shutters, namely functioning and appearance</p>
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**Võtmesõnad:** aircraft equipment, common areas, impact, impact stress, impact testing, impact tests, loading, physical strength, protection devices, resistance, roller shutters, shock resistance, test methods, test pieces, testing, testing conditions, venetian blinds, wings

ICS 91.060.50

English version

## Shutters - Hard body impact - Test method

Fermetures - Chocs de corps dur - Méthode d'essai

Abschlüsse außen - Aufprall eines harten Stoßkörpers -  
Prüfverfahren

This European Standard was approved by CEN on 16 October 2002.

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 Management Centre or to any CEN member.

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.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION  
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## Foreword

This document (EN 13330:2002) 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 June 2003, and conflicting national standards shall be withdrawn at the latest by June 2003.

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

The test method is linked to performance requirements for shutters specified in prEN 13659.

Annex A is informative.

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, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

## 1 Scope

This European Standard specifies tests to be done for determining behaviour, under conventional hard body impact, of the shutters, these are:

- external venetian blind, roller shutter, venetian shutter, flat closing concertina shutter, concertina shutter, wing shutter, sliding panel shutter.

The requirements relate only to the preservation of performances of shutters, namely functioning and appearance.

## 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 12216:2002, *Shutters, external blinds, internal blinds - Terminology, glossary and definitions*.

prEN 13659:1999, *Shutters - Requirements and classification*.

## 3 Terms and definitions

For the purposes of this European Standard, the terms and definitions given in EN 12216:2002 and prEN 13659:1999 apply.

## 4 Equipment

### 4.1 Test rig

It consists of a frame in which the shutter is mounted in the vertical position, according to the installation instructions of the manufacturer. It allows, if necessary, the locking of the curtain. The frame is sufficiently rigid that it does not change the energy absorbed during impact.

### 4.2 Principle of the test

Hard body is made of a plain steel spherical ball of 50 mm diameter with a link-bolt, of  $0,5^{+0,02}_0$  kg mass, which is designated as *D* 0,5.

The impact is provided by pendulum action of the hard body *D* 0,5. The device used to achieve the action is shown in Figure 1.

The steel ball bearing is suspended by its link to a cable C arranged in such a way that:

- in the resting position, the steel ball-bearing is tangential to the test specimen at the predicted point of impact;
- in the test position, cable C is stretched perpendicular to the curtain in the horizontal position, at the anticipated drop height *Z*. The horizontal position is specified within the tolerance  $^{+20}_0$  mm.

The cable C shall ensure a pendulum movement of the ball when released.