

**DUŠIKABIINID. FUNKTSIONAALSED NÕUDED JA  
KATSEMEETODID**

Shower enclosures - Functional requirements and test methods

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

|   |  |
|---|--|
| See Eesti standard EVS-EN 14428:2015 sisaldab Euroopa standardi EN 14428:2015 ingliskeelset teksti.                 | This Estonian standard EVS-EN 14428:2015 consists of the English text of the European standard EN 14428:2015.                      |
| Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas   | This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation. |
| Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 27.05.2015. | Date of Availability of the European standard is 27.05.2015.   |
| Standard on kättesaadav Eesti Standardikeskusest.   | The standard is available from the Estonian Centre for Standardisation.  |

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile [standardiosakond@evs.ee](mailto:standardiosakond@evs.ee).

ICS 91.140.70

Standardite reprodutseerimise ja levitamise õigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonsesse süsteemi või edastamine ükskõik millises vormis või millisel teel ilma Eesti Standardikeskuse kirjaliku loata on keelatud.

Kui Teil on küsimusi standardite autorikaitse kohta, võtke palun ühendust Eesti Standardikeskusega:

Aru 10, 10317 Tallinn, Eesti; koduleht [www.evs.ee](http://www.evs.ee); telefon 605 5050; e-post [info@evs.ee](mailto:info@evs.ee)

The right to reproduce and distribute standards belongs to the Estonian Centre for Standardisation

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without a written permission from the Estonian Centre for Standardisation.

If you have any questions about copyright, please contact Estonian Centre for Standardisation:

Aru 10, 10317 Tallinn, Estonia; homepage [www.evs.ee](http://www.evs.ee); phone +372 605 5050; e-mail [info@evs.ee](mailto:info@evs.ee)

English Version

## Shower enclosures - Functional requirements and test methods

Parois de douche - Prescriptions fonctionnelles et  
méthodes d'essaiDuschabtrennungen - Funktionsanforderungen und  
Prüfverfahren

This European Standard was approved by CEN on 19 March 2015.

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 CEN-CENELEC 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 CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



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

**CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels**

# Contents

Page

|  |    |
|--|----|
| Foreword.....  | 4  |
| 1 Scope .....  | 5  |
| 2 Normative references .....   | 5  |
| 3 Terms and definitions .....  | 5  |
| 4 Requirements .....   | 6  |
| 4.1 General.....   | 6  |
| 4.2 Cleanability.....  | 6  |
| 4.3 Impact resistance/shatter properties.....                          | 6  |
| 4.3.1 General.....   | 6  |
| 4.3.2 Thermally toughened safety glass.....                            | 6  |
| 4.3.3 Laminated safety glass .....                                     | 6  |
| 4.3.4 Plastics materials.....  | 6  |
| 4.4 Durability .....   | 6  |
| 4.4.1 General.....   | 6  |
| 4.4.2 Corrosion resistance.....  | 7  |
| 4.4.3 Resistance to chemicals and stains .....                         | 7  |
| 4.4.4 Resistance to wet and dry cycling.....                           | 7  |
| 4.4.5 Endurance .....  | 7  |
| 4.4.6 Stability .....  | 7  |
| 4.4.7 Water retention.....   | 7  |
| 4.5 Dangerous substances .....   | 7  |
| 5 Test methods.....  | 8  |
| 5.1 Impact resistance/shatter properties.....                          | 8  |
| 5.1.1 General.....   | 8  |
| 5.1.2 Test specimens for curved glass .....                            | 8  |
| 5.1.3 Procedure .....  | 8  |
| 5.1.4 Assessment of fragmentation .....                                | 9  |
| 5.2 Impact behaviour of plastic sheets.....                            | 13 |
| 5.2.1 Apparatus .....  | 13 |
| 5.2.2 Procedure .....  | 13 |
| 5.3 Resistance to chemicals and stains .....                           | 21 |
| 5.3.1 Reagents.....  | 21 |
| 5.3.2 Apparatus .....  | 22 |
| 5.3.3 Test specimens.....  | 24 |
| 5.3.4 Procedure .....  | 24 |
| 5.3.5 Expression of results .....                                      | 24 |
| 5.4 Resistance to wet and dry cycling.....                             | 24 |
| 5.4.1 Test specimens.....  | 24 |
| 5.4.2 Procedure .....  | 24 |
| 5.4.3 Results .....  | 25 |
| 5.5 Endurance .....  | 25 |
| 5.6 Stability .....  | 25 |
| 5.7 Water retention.....   | 27 |
| 6 Marking .....  | 31 |
| 7 Assessment and verification of constancy of performance - AVCP ..... | 32 |
| 7.1 General.....   | 32 |
| 7.2 Type testing.....  | 32 |
| 7.2.1 General.....   | 32 |

|   |  |           |
|---|--|-----------|
| 7.2.2   | Samples, testing and compliance criteria.....  | 33        |
| 7.3   | Factory production control.....  | 33        |
| 7.3.1   | General .....  | 33        |
| 7.3.2   | Equipment .....  | 33        |
| 7.3.3   | Raw materials and components .....   | 34        |
| 7.3.4   | Product testing and assessment.....  | 34        |
| 7.3.5   | Non-conforming products .....  | 34        |
| 7.3.6   | Corrective action .....  | 34        |
| <b>Annex ZA (informative) Clauses of this European Standard addressing the provisions of the EU</b> |  |           |
|   | <b>Construction Products Regulation.....</b>   | <b>35</b> |
| ZA.1  | Scope and relevant characteristics .....   | 35        |
| ZA.2  | Procedure for assessment and verification of constancy of performance (AVCP) of<br>shower enclosures ..... | 35        |
| ZA.2.1  | System of AVCP .....   | 35        |
| ZA.2.2  | Declaration of performance (DoP) .....   | 36        |
| ZA.2.2.1  | General.....   | 36        |
| ZA.2.2.2  | Content.....   | 36        |
| ZA.2.2.3  | Example of DoP.....  | 37        |
| ZA.3  | CE marking and labelling.....  | 41        |
|   | Bibliography.....  | 43        |

## Foreword

This document (EN 14428:2015) has been prepared by Technical Committee CEN/TC 163 “Sanitary appliances”, 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 November 2015, and conflicting national standards shall be withdrawn at the latest by February 2017.

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 14428:2004+A1:2008.

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 the EU Construction Products Regulation.

For relationship with EU Construction Products Regulation, see informative Annex ZA, which is an integral part of this document.

The main technical change is the deletion of the Impact resistance/shatter properties clause and its replacement by a reference to the new edition of EN 12150-1. The other significant change is the updating of the AVCP clause and Annex ZA to the new format.

According to the CEN/CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

## 1 Scope

This European Standard specifies requirements for shower enclosures for domestic purposes which ensure that the product, when installed in accordance with the manufacturer's installation instructions, gives satisfactory performance when used as intended.

This European Standard does not apply to shower cabinets or curtains and does not specify aesthetic and dimensional requirements.

NOTE For the purposes of this document the term “domestic purposes” includes use in hotels, accommodation for students, hospitals and similar buildings, except when special medical provisions are required.

## 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

prEN 12150-1:2013, *Glass in building — Thermally toughened soda lime silicate safety glass — Part 1: Definition and description*

EN 14449, *Glass in building - Laminated glass and laminated safety glass - Evaluation of conformity/Product standard*

EN ISO 2409, *Paints and varnishes - Cross-cut test (ISO 2409:2013)*

EN ISO 7599, *Anodizing of aluminium and its alloys - General specifications for anodic oxidation coatings on aluminium (ISO 7599:2010)*

EN ISO 9227, *Corrosion tests in artificial atmospheres - Salt spray tests (ISO 9227:2012)*

EN ISO 12543-2, *Glass in building - Laminated glass and laminated safety glass - Part 2: Laminated safety glass (ISO 12543-2:2011)*

ISO 7892:1988, *Vertical building elements — Impact resistance tests — Impact bodies and general test procedures*

## 3 Terms and definitions

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

### 3.1

#### **shower enclosure**

arrangement of panel(s) and/or door(s) (i.e full or half-height access door(s)) erected on or around a drained shower place, shower tray or bath in conjunction with one or more walls of the main building structure to provide a water retaining area for the purpose of showering

### 3.2

#### **shower cabinet**

prefabricated but not necessarily preassembled unit for the purpose of showering comprising a shower tray or bath and rigid water resistant enclosing wall(s), with or without a roof and with an entry capable of being closed to provide a fully enclosed compartment