SLOVENSKI STANDARD
SIST EN 14516:2015

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Nadomešča:
SIST EN 14516:2006+A1:2010

Kopalne kadi za domačo uporabo

Baths for domestic purposes

Badewannen für den Hausgebrauch

Baignoires à usage domestique

Ta slovenski standard je istoveten z: EN 14516:2015

ICS:

91.140.70	Sanitarne naprave	Sanitary installations

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EUROPEAN STANDARD

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English Version

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Baignoires à usage domestique

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This European Standard was approved by CEN on 20 August 2015.

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

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

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European foreword

This document (EN 14516:2015) 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of an identical text or by endorsement, at the latest by March 2016, and conflicting national standards shall be withdrawn at the latest by June 2017.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 14516:2006+A1:2010.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports basic requirements for construction works of Regulation (EU) No. 305/2011 on construction products.

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

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, 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, test methods and procedures for evaluation of conformity for baths used for domestic purposes and personal hygiene, which ensure that the product, when installed and maintained in accordance with the manufacturer's instructions, will satisfy requirements for cleanability and durability.

This European Standard is applicable to all sizes and shapes of baths.

This European Standard does not cover baths for use with medical provisions.

NOTE 1 For the purpose of this standard the term “domestic purposes” includes use in hotels, accommodation for students, hospitals and similar buildings.

NOTE 2 Annex A lists characteristics of materials commonly used for manufacturing baths.

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.

EN 232, *Baths — Connecting dimensions*

EN ISO 28706-1:2011, *Vitreous and porcelain enamels — Determination of resistance to chemical corrosion — Part 1: Determination of resistance to chemical corrosion by acids at room temperature (ISO 28706-1:2008)*

EN ISO 28706-2:2011, *Vitreous and porcelain enamels — Determination of resistance to chemical corrosion — Part 2: Determination of resistance to chemical corrosion by boiling acids, boiling neutral liquids and/or their vapours (ISO 28706-2:2008)*

EN ISO 28706-3:2011, *Vitreous and porcelain enamels — Determination of resistance to chemical corrosion — Part 3: Determination of resistance to chemical corrosion by alkaline liquids using a hexagonal vessel (ISO 28706-3:2008)*

3 Terms and definitions

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

3.1
bath
sanitary appliance used for partial immersion and washing of the human body or parts of it, and for directing water to a waste outlet after use

3.2
cleanability
characteristics which allow the surface intended to come into contact with water to be non-absorbent and readily kept visually free from dirt and/or stains when subject to a maintenance regime which may include, when appropriate, specific instructions for use and care specified by the manufacturer

3.3
durability
attributes of materials and their surfaces intended to come into contact with water, which allow the anticipated working life of the product

4 Classification

— Class 1: Products complying with the requirements of Clause 5.

— Class 2: Products complying with the requirements of Clause 6.

5 Requirements for class 1 products

5.1 General

The manufacturer shall provide instructions with each bath covering installation and care.

NOTE Annex B gives advice which manufacturers can include in their instructions.

5.2 Cleanability

5.2.1 Appearance of surface

When a bath is inspected under strong and oblique illumination, the surfaces intended to come into contact with water shall be visibly smooth, non-absorbent and free from inaccessible corners that would impair the cleanability.

NOTE Surfaces with cracks, chips, crazing and other similar defects are not considered to be smooth.

5.2.2 Drainage of water

Baths shall have at least one waste outlet hole. The dimensions of the waste outlet hole shall comply with the requirements of EN 232. Other dimensions are permissible, if the manufacturer provides or recommends a suitable waste fitting.

All water shall empty from the bath unless prevented by surface tension.

5.3 Durability

5.3.1 General

Conformance with the requirements of 5.3.2 to 5.3.4 give an assurance of durability.

5.3.2 Stability of bottom

When tested in accordance with 8.1, there shall be no permanent distortion or other defects, e.g. cracks, such that the requirements of 5.2.2 are not satisfied.

5.3.3 Resistance to chemicals and staining agents

5.3.3.1 General

When baths, other than those made from the materials specified in 5.3.3.2, are tested in accordance with 8.2, the surface finish shall be unaffected by the chemicals and staining agents specified in Table 1, except for superficial surface changes which are removable with water or with water and the specified abrasive agent.

Table 1 — Chemicals and staining agents

Family	Product
Acids	Acetic acid (CH_3COOH), 10 % V/V
Alkalines	Sodium hydroxide (NaOH), 5 % m/m
Alcohols	Ethanol (C_2H_5OH), 70 % V/V
Bleaches	Sodium hypochlorite (NaOCI), 5 % active chlorine (CI_2) [a]
Staining agents	Methylene blue, 1 % m/m
[a] The specified bleach may be replaced by sodium percarbonate ($2Na_2CO_3 \cdot 3H_2O_2$) prepared as follows: Dissolve 1 g of a commercial available powdery bleach based on sodium percarbonate containing 15 % to 30 % of the active component in 100 ml deionized water at room temperature.	

5.3.3.2 Particular requirements for baths made of enamelled steel and enamelled cast iron

Baths made from enamelled steel and enamelled cast iron shall comply with the requirements given in Table 2.

Table 2 — Requirements for baths made of enamelled steel and enamelled cast iron

Requirement	Parameter	Test method
Resistance to boiling water	< 10 g/m²	EN ISO 28706-2:2011, Clause 13
Resistance to cold citric acid	Class A+	EN ISO 28706-1:2011, Clause 9
Resistance to boiling citric acid	< 5 g/m²	EN ISO 28706-2:2011, Clause 10
Resistance to cold sulphuric acid	Class A+	EN ISO 28706-1:2011, Clause 10
Resistance to alkali solutions	< 8 g/m²	Testing in accordance with EN ISO 28706-2:2011, Clause 14 Test solution in accordance with EN ISO 28706-3:2011, Clause 9 Duration of test: 2,5 h

5.3.4 Resistance to temperature changes

When tested in accordance with 8.3, all baths shall show no evidence of distortion or other defects, e.g. crazing, which will impair their cleanability.

Experience has shown that baths manufactured from the stainless steel grades listed in Annex A, enamelled steel, enamelled cast iron and glazed ceramics comply with this requirement.

6 Requirements for class 2 products

6.1 General

The manufacturer shall provide instructions with each bath covering installation and care.

NOTE Annex B gives advice which manufacturers can include in their instructions.

6.2 Cleanability

6.2.1 Appearance of surface

When a bath is inspected under strong and oblique illumination, the surfaces intended to come into contact with water shall be visibly smooth, non-absorbent and free from inaccessible corners that would impair the cleanability.

NOTE Surfaces with cracks, chips, crazing and other similar defects are not considered to be smooth.

6.2.2 Drainage of water

Baths shall have at least one waste outlet hole. The dimensions of the waste outlet hole shall comply with the requirements of EN 232. Other dimensions are permissible, if the manufacturer provides or recommends a suitable waste fitting.

All water shall empty from the bath unless prevented by surface tension.

6.3 Durability

6.3.1 General

Baths shall be readily cleanable for their anticipated working life when normal cleaning and maintenance is carried out.

6.3.2 Materials

Experience has shown that baths made from plastics materials, enamelled steel, enamelled cast iron, stainless steel, glazed ceramics or glass and their surfaces intended to come into contact with water have the properties described in 6.3.1.

7 Dangerous substances

National regulations on dangerous substances may require verification and declaration on release, and sometimes content, when construction products covered by this standard are placed on those markets. In the absence of European harmonised test methods, verification and declaration on release/content should be done taking into account national provisions in the place of use.

NOTE An informative database covering European and national provisions on dangerous substances is available at the Construction web site on EUROPA and can be accessed through: http://ec.europa.eu/growth/tools-databases/cp-ds/.

8 Test methods

8.1 Stability of the bottom of the bath

8.1.1 Test apparatus

— adequate number of reinforced cloth bags each with dimensions of approximately 500 mm x 200 mm filled with lead shot, iron shot or sand of a mass of 25 $^{+0,5}_{0}$ kg or 12,5 $^{+0,5}_{0}$ kg.

8.1.2 Determination of the load

The load to be applied for the test shall comprise:

— adequate number of cloth bags (see 8.1.1) equating to 100 kg for each user intended to use the bath at the same time;

— adequate number of cloth bags (see 8.1.1) to simulate the mass of water that can be contained in the bath.

The load shall equate to the volume of water with an accuracy of $^{+25}_{0}$ kg, if 25 kg bags are used, or $^{+12,5}_{0}$ kg, if 12,5 kg bags are used, when the bath is filled to the overflow. If no overflow is provided the volume to the overspill level shall be used. The volume can be determined by measurement, or values declared in the manufacturer's docuemnts can be used.

8.1.3 Procedure

a) Install the bath in accordance with the manufacturer's installation instructions.

b) Position the bags to simulate the mass of water that can be contained along the bottom of the bath as shown in Figure 1.

c) Position the adequate number of bags for each user that can use the bath at the same time in separate piles, as shown in Figure 1.

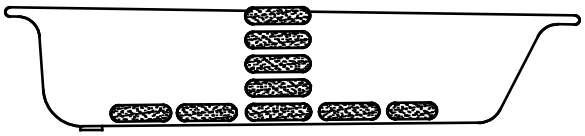


Figure 1 — Load application (for each user)

d) Leave the total load for 10 $^{+1}_{0}$ min.

e) Without moving the bags representing the mass of water that can be contained, move the pile(s) of bags representing a user(s) to a different position(s) along the bottom of the bath and leave again for 10 $^{+1}_{0}$ min. When a bath has a clearly indicated position for a user to stand or to sit, e.g. a slip resistant feature or a seating area, carry out one loading test with a pile of bags representing a user, at the approximate centre of any such feature.

f) On completion of the tests remove all the bags.

g) After 10 $^{+1}_{0}$ min verify that the bath complies with 5.3.2 by pouring copious amounts of water coloured in contrast with the colour of the bath around all the inner surface of the sides of the bathing area.

8.2 Resistance to chemicals and staining agents

8.2.1 Principle

The test is intended to give an indication of the effect of commonly used household chemicals and cleansing agents.

8.2.2 Test apparatus and chemicals

8.2.2.1 Chemicals and staining agents:

A list of chemicals and staining agents to be used is specified in Table 1. Each chemical solution shall be prepared immediately before use with deionized water, and it shall be applied at a temperature (23 ± 5) °C.

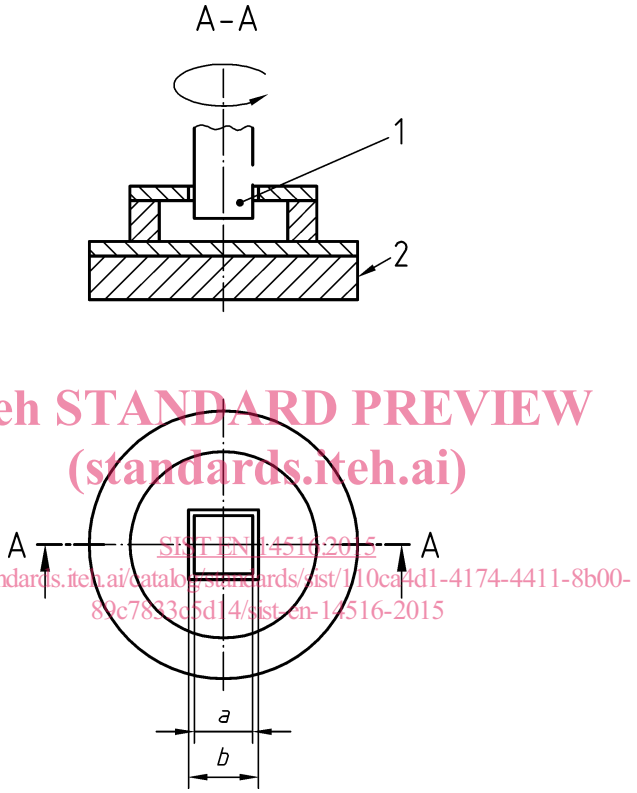
8.2.2.2 Borosilicate watch glasses: 40 mm nominal diameter.

8.2.2.3 Pipettes.

8.2.2.4 Cleaning device:

A typical cleaning device is shown in Figure 2. It consists of a disc of 75 mm diameter, faced with synthetic flexible open cell foam 15 mm in thickness. The device is driven by means of a square axle which fits loosely into the device. Any device having a mass of (1 000 ± 50) g can be used.

8.2.2.5 Abrasive comprising 12 h-alumina (suspension of aluminium oxide in water)[1)].



Key

1 square axle ($a = b - 1$ mm)

2 disc faced with foam

Figure 2 — Cleaning device

8.2.3 Test specimens

Carry out the tests on the bottom, and on a flat part of the wall of the bath or on test specimens cut from these areas.

8.2.4 Procedure

a) Select an area to be tested.

1) A suitable product is available from MERCK Eurolab-Prolabo, 54 rue Roger Salengro, 94126 Fontenay sous Bois CEDEX, France, as DURMAX™ under product description N° 20993. This information is given for the convenience of users of this standard and does not constitute an endorsement by CEN of these products.