SLOVENSKI STANDARD
SIST EN 198:2009

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Sanitarna oprema - Kopalne kadi iz litih akrilnih ploġļ - Zahteve in preskusne metode

Sanitary appliances - Baths made from crosslinked cast acrylic sheet - Requirements and test methods

Sanitärausstattungsgegenstände - Badewannen hergestellt aus vernetzten gegossenen Acrylplatten - Anforderungen und Prüfverfahren

Appareils sanitaires - Baignoires en feuilles d'acrylique réticulées coulées - Exigences et méthodes d'essai

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91.140.70	Sanitarne naprave	Sanitary installations

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Sanitary appliances - Baths made from crosslinked cast acrylic sheets - Requirements and test methods

Appareils sanitaires - Baignoires en feuilles d'acrylique réticulées coulées - Exigences et méthodes d'essai

Sanitärausstattungsgegenstände - Badewannen hergestellt aus vernetzten gegossenen Acrylplatten - Anforderungen und Prüfverfahren

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Foreword

This document (EN 198:2008) 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of an identical text or by endorsement, at the latest by February 2009, and conflicting national standards shall be withdrawn at the latest by February 2009.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 198:1987.

Annex B provides details of significant technical changes between this European Standard and the previous edition.

This revised version includes a limitation of the scope to baths made from crosslinked cast acrylic sheet conforming to the requirements of EN 263, *Sanitary appliances - Crosslinked cast acrylic sheets for baths and shower trays for domestic purposes*

Attention is drawn to EN 14516, *Baths for domestic purposes*, which has been prepared under the Mandate M/110 "Sanitary Appliances" which was given to CEN by the European Commission and the European Free Trade Association and supports the Essential Requirements to allow CE marking under the Construction Products Directive (89/106/EEC).

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.

1 Scope

This European Standard specifies requirements for baths for domestic purposes made from crosslinked cast acrylic sheet conforming to EN 263 with the aim of ensuring that the product, when installed in accordance with the manufacturer's instructions, will provide satisfactory performance in use.

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

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 232, *Baths – Connecting dimensions*

EN 263, *Sanitary appliances – Crosslinked cast acrylic sheets for baths and shower trays for domestic purposes*

3 Terms and definitions

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

3.1
domestic purposes
use in homes, hotels, accommodation for students, hospitals and similar buildings, except when special medical provisions are required

4 Requirements

4.1 General

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

The bath shall be free from sharp edges that would be exposed after the installation of the bath in accordance with the manufacturer’s instructions.

4.2 Material

The bath shall be manufactured from crosslinked cast acrylic material in accordance with EN 263.

4.3 Surface appearance

When the bath is visually inspected under strong and oblique illumination there shall be no evidence of cracks, chips, or other surface defects, such as unexpected changes in colours, etc., which will impair the appearance or performance of the bath.

4.4 Waste outlet hole

The bath shall have at least one outlet hole. The dimensions of the waste outlet hole and the clearance around the waste outlet hole shall either be in accordance with the requirements of EN 232 or the manufacturer shall supply or recommend a suitable waste outlet fitting.

4.5 Overflow hole

When the bath is provided with an overflow hole the dimensions of the overflow hole and the clearance around the overflow hole shall either be in accordance with the requirements of EN 232 or the manufacturer shall supply or recommend a suitable overflow fitting.

4.6 Hole edges

The edges of any holes in the bath shall not show evidence of chips, cracks, or any other defects that may impair the appearance or performance of the bath.

4.7 Bath-mounted tapware

When the bath is intended to accommodate bath-mounted tapware the space and area provided shall either comply with the requirements of EN 232 or the manufacturer shall supply or recommend suitable tapware.

4.8 Handgrips

When a handgrip(s) is fitted it shall be tested in accordance with Annex A and the bath and the handgrip shall be free from any permanent deformation or other defects that will impair the functioning and/or the appearance of the bath.

If not pre-fitted by the manufacturer, the manufacturer's instructions shall indicate how and where the handgrips are fitted.

4.9 Dimensional deviations

The dimensions of baths shall not deviate from the size quoted by the manufacturer by more than ± 5 mm.

If the manufacturer states two sizes (e.g. both a work size and a nominal size), the manufacturer shall state to which size the permitted deviations apply.

For round baths, length and width correspond to the diameter.

4.10 Geometric deviations

4.10.1 General

The straight sides or edges of the bath that might abut independent surroundings or supporting structures shall comply with the requirements of 4.10.2 to 4.10.4 and all baths shall comply with 4.10.5. These requirements are not applicable to sides or edges that are purposely designed as curves or slopes.

4.10.2 Squaring

When tested in accordance with A.2.2, the deviation from square, Δq, shall be less than or equal to 5 mm.

4.10.3 Straightness of the rim sides

When tested in accordance with A.2.3, the deviation from straightness of the rim sides, Δs, shall be less than or equal to 5 mm.

4.10.4 Straightness of the bottom edge of the rim

When tested in accordance with A.2.4, the total deviation from straightness of the bottom edge of the rim, Δr, shall be less than or equal to 5 mm.

4.10.5 Flatness of the top surface of the rim

When tested in accordance with A.2.5, the deviation from flatness of the top surface of the rim, *c*, shall be less than or equal to 5 mm.

4.11 Bottom of the bath

When the bath is installed in accordance with the manufacturer's instructions and the waste outlet hole is open, all water shall empty from the bath unless prevented by surface tension.

4.12 Resistance to temperature changes

When tested in accordance with A.3, baths shall show no evidence of distortion or other defects that impair the appearance or functioning of the bath and any deflection shall be less than or equal to 4 mm.

4.13 Resistance to impact

When tested in accordance with A.4, the bottom and the rim of the bath shall show no evidence of distortion or other defects that impair the appearance or functioning of the bath.

4.14 Permitted deflections

When tested in accordance with A.5, the deflections shall be less than or equal to the values given in Table 1.

Table 1 - Permitted deflections

Test method	Maximum deflections[a] under load and permitted residual deflections for installation methods[b] (mm)				
	a)	b)	c)	d)	e)
A.5.5	≤ 1 on the four free rims ≤ 2 on the bottom	≤ 1 on the three free rims ≤ 0,5 on the fixed rim ≤ 2 on the bottom	≤ 1 on the two free rims ≤ 0,5 on the two fixed rims ≤ 2 on the bottom	≤ 1 on the free rim ≤ 0,5 on the three fixed rims ≤ 2 on the bottom	≤ 0,5 on all rims ≤ 2 on the bottom
A.5.6	≤ 2 on the four free rims ≤ 3 on the bottom	≤ 2 on the three free rims ≤ 0,5 on the fixed rim ≤ 3 on the bottom	≤ 2 on the two free rims ≤ 0,5 on the two fixed rims ≤ 3 on the bottom	≤ 2 on the free rim ≤ 0,5 on the three fixed rims ≤ 3 on the bottom	≤ 0,5 on all rims ≤ 3 on the bottom
A.5.7	≤ 4 on the rim ≤ 0,3 residual	≤ 4 on the rim ≤ 0,3 residual	≤ 4 on the rim ≤ 0,3 residual	≤ 4 on the rim ≤ 0,3 residual	Not applicable
A.5.8	≤ 4 on the rim ≤ 0,3 residual	≤ 4 on the rim ≤ 0,3 residual	≤ 4 on the rim ≤ 0,3 residual	Not applicable	Not applicable

[a] Values in addition to any deflection of the test rig (see A.5.2).

[b] See a) to e) in A.5.3.

4.15 Bath rims

When a bath incorporating a nominally flat top surface of the rim is installed in accordance with the manufacturer's instructions, the rim shall not encourage water to drain away from the inside of the bath. Roll top rims and rims incorporating special features, e.g. headrests, are not subject to this requirement.

5 Marking

Baths shall be legibly marked with the following information:

a) reference to this European Standard (EN 198);

b) name or trademark of the manufacturer or supplier.

Annex A
(normative)

Bath test methods

A.1 Sequence of tests

The tests shall be carried out on one bath of each type in the sequence A.2, A.3, A.5, A.4 and A.6.

A.2 Geometric deviations

A.2.1 Test apparatus

A.2.1.1 **Length measuring device with an accuracy of 0,5 mm.**

A.2.1.2 **Reference plane surface with flatness tolerance of 0,5 mm.**

A.2.1.3 **Fixed square, fixed to the reference plane surface,** at least 25 mm deeper than the depth of the rim side to be measured, one arm at least 300 mm longer than the length to be measured and the other arm at least as long as the width to be measured.

A.2.1.4 **Movable square,** at least 25 mm deeper than the depth of the rim side to be measured, one side at least 300 mm long and the other side at least as long as the width to be measured.

A.2.1.5 **Thickness comparator or gauge** with an accuracy of ± 0,1 mm.

A.2.1.6 **Spacing rollers made of metallic materials,** at least 25 mm deeper than the depth of the rim side to be measured and with a diameter D_{sr} with a tolerance of ± 0,25 mm.

A.2.1.7 **Thickness wedge** with a thickness of $5\ ^{0}_{-0,1}$ mm.

A.2.2 Squaring

Place the bath upside down on the reference plane surface as shown in Figure A.4, compensating for any design features, e.g. headrests

Position sides AB and AD adjacent to the fixed square and place three spacing rollers with diameter D_{sr} each in at a distance of r + 15 mm from the corners A and B, as shown in Figure A.1, where r is the radius of the corners. Measure the distance x as shown in Figure A.1 and calculate Δq as the difference $D_{sr} - x$.

Position the movable square along the side BC and place a fourth spacing roller at a distance of r + 15 mm from the corner B. Measure the distance y as shown in Figure A.1 and calculate Δq as the difference $D_{sr} - y$

Turn the bath through 180° and check the distances x and y at corners A and B respectively.

Record the deviation.

Dimensions in millimetres