

# Test report

Test Report No. : 16001882 001

Page 1 of 25

**Applicant** Foshan Topbath Sanitary Ware Co.,Ltd  
Booth B406, 4<sup>th</sup> Floor, China Ceramic City,Foshan,Guangdong, China

**Type of Appliance** Solid Surface bathtub/Cast Acrylic Bathtub

**Type or Model No.** See page 2 **Trademark** : None

**Sample No.** None **Serial No.** None

**Date** 10-04-2010

**Place of Testing** Union Safety Certification Service  
17F,No.276.Zhongshan Dadao Zhong, Guangzhou, China

**Standard** EN14516:2006, EN232:2003

**Test Result** The a.m. product passed

**Tested by :** William Luo

**checked by :** Michael Lau

10-04-2010 William Luo  
Date, Signature



Other aspects:

Abbreviations: P = O.K.  
F = failed  
N = not applicable

This test report relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts.

EN14516 &amp; EN232

Cl.	Requirement – Test	Result	Verdict
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## Testing

Date of receipt of test item .....: 08-03-2010

Date(s) of performance of test .....: 09-03-2010

## General remarks

This report shall not be reproduced except in full without the written approval of the testing laboratory.

The test results presented in this report relate only to the item(s) tested.

"(see remark #)" refers to a remark appended to the report.

"(see Annex #)" refers to an annex appended to the report.

Throughout this report a comma is used as the decimal separator.

Model No. :

**TC-S01,TC-S02,TC-S03,TC-S04,TC-S05,TC-S06,TC-S07,  
TC-S08,TC-S09,TC-S10,TC-S11,TC-S12,TC-S13,TC-S14,  
TC-S15,TC-S16,TC-S17,TC-S18,TC-S19,TC-S20,TC-S21,  
TC-S22,TC-S23,TC-S24,TC-S25,TC-S26,TC-S27,TC-S28,  
TC-S29,TC-S30,TC-S31,TC-S32,TC-S33,TC-S34,TC-S35,  
TC-S36,TC-S37,TC-S38,TC-S39,TC-S40,TC-S41,TC-S42,  
TC-S43,TC-S44,TC-S45,TC-S46,TC-S47,TC-S48,TC-S49,  
TC-S50,WD6511,WD-6514,TP01,TP02,TP03,TP04,TP05,  
TP06**

The products are series of Solid Surface bathtub/Artificial Stone Bathtub

All models are similar with each other only except:

Different list:A : SIZE IS DIFFERENT B : THE THICKNESS OF PRODUCT IS DIFFERENT C: FINISH IS DIFFERENT: MATTE AND GLOSSY. D:THE COLOR IS DIFFERENT(WHITE,RED,YELLOW,BLACK)

EN14516 &amp; EN232

Cl.	Requirement – Test	Result	Verdict
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Copy of marking plate and summary of test results:

Product: Solid Surface bathtub/Cast Acrylic Bathtub

Model: TC-S01

Standard: EN14516:2006, EN232:2003

production date: 02,02,2010

Bath made of cast acrylic



## EN14516 &amp; EN232

Cl.	Requirement – Test	Result	Verdict
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**EN14516**

<b>4</b>	<b>Requirements</b>		<b>P</b>
<b>4.1</b>	<b>General</b>		P
	The manufacturer shall provide instructions with each bath covering installation and care.		P
<b>4.2</b>	<b>Cleanability</b>		P
<b>4.2.1</b>	<b>Appearance of surface</b>		P
	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.	Complied	P
<b>4.2.2</b>	<b>Drainage of water</b>		P
	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.	Complied	P
	All water shall empty from the bath unless prevented by surface tension.		P
<b>4.3</b>	<b>Durability of cleanability</b>		P
<b>4.3.1</b>	<b>General</b>		P
	Conformance with the requirements of 4.3.2 to 4.3.4 give an assurance of durability of cleanability.		P
<b>4.3.2</b>	<b>Stability of bottom</b>		P
	When tested in accordance with 5.1, there shall be no permanent distortion or other defects, e.g. cracks, such that the requirements of 4.2.2 are not satisfied.	No any defects was observed	P
<b>4.3.3</b>	<b>Resistance to chemicals and staining agents</b>		P
<b>4.3.3.1</b>	<b>General</b>		P

## EN14516 &amp; EN232

Cl.	Requirement – Test	Result	Verdict
	When baths, other than those made from the materials specified in 4.3.3.2, are tested in accordance with 5.2, 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.		P

**Table 1 — Chemicals and staining agents**

Family	Product
Acids	Acetic acid (CH <sub>3</sub> COOH), 10 % V/V
Alkalines	Sodium hydroxide (NaOH), 5 % m/m
Alcohols	Ethanol (C <sub>2</sub> H <sub>5</sub> OH), 70 % V/V
Bleaches	Sodium hypochlorite (NaOCl), 5 % active chlorine (Cl <sub>2</sub> ) <sup>a</sup>
Staining agents	Methylene blue, 1 % m/m

<sup>a</sup> The specified bleach may be replaced by sodium percarbonate (2Na<sub>2</sub>CO<sub>3</sub> · 3H<sub>2</sub>O<sub>2</sub>) prepared as follows: Dissolve 1g of a commercial available powdery bleach based on sodium percarbonate containing 15 % to 30 % of the active component in 100 ml deionised water at room temperature.

<b>4.3.3.2</b>	<b>Particular requirements for baths made of enamelled steel and enamelled cast iron</b>	No steel was used.	N
	Baths made from enamelled steel and enamelled cast iron shall comply with the requirements given in Table 2.		N
<b>4.3.4</b>	<b>Resistance to temperature changes</b>		P
	When tested in accordance with 5.3, all baths shall show no evidence of distortion or other defects, e.g. crazing, which will impair their cleanability.	No distortion	P
	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.		P
<b>4.4</b>	<b>Dangerous substances</b>	No dangerous substance	P
<b>5</b>	<b>Test methods</b>		P

## EN14516 &amp; EN232

Cl.	Requirement – Test	Result	Verdict
<b>5.1</b>	<b>Stability of the bottom of the bath</b>		P
<b>5.1.1</b>	<b>Test apparatus</b>		P
	. 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+0.5kg or 12.5 +0.5kg.		P
<b>5.1.2</b>	<b>Determination of the load</b>		P
	The load to be applied for the test shall comprise:		P
	. adequate number of cloth bags (see 5.1.1) equating to 100 kg for each user intended to use the bath at the same time;		P
	. adequate number of cloth bags (see 5.1.1) to simulate the mass of water that can be contained in the bath.		P
	The load shall equate to the volume of water with an accuracy of $+25$ kg, if 25 kg bags are used, or $12,5$ 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 literature can be used.	25KG bags are used.	P
<b>5.1.3</b>	<b>Procedure</b>		P
	. Install the bath in accordance with the manufacturer's installation instructions.		P
	. Position the bags to simulate the mass of water that can be contained along the bottom of the bath as shown in Figure 1.		P
	. 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.		P
	. Leave the total load for 10 $+1$ min.	10min	P

## EN14516 &amp; EN232

Cl.	Requirement – Test	Result	Verdict
	. 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 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.		P
	. On completion of the tests remove all the bags.		P
	. After 10 +1 min verify that the bath complies with 4.3.2 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.	Verified	P
<b>5.2</b>	<b>Resistance to chemicals and staining agents</b>		P
<b>5.2.1</b>	<b>Principle</b>		P
	The test is intended to give an indication of the effect of commonly used household chemicals and cleansing agents.		P
<b>5.2.2</b>	<b>Test apparatus and chemicals</b>		P
	a) chemicals and staining agents		P
	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 deionised water, and it shall be applied at a temperature (23 ± 5) °C.		P
	b) borosilicate watch glasses: 40 mm nominal diameter;		P
	c) pipettes;		P

## EN14516 &amp; EN232

Cl.	Requirement – Test	Result	Verdict
	<p>d) 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 <math>(1\ 000 \pm 50)</math> g can be used.</p>		P
	<p>e) abrasive comprising 12 h-alumina (suspension of aluminium oxide in water)<sup>1)</sup> .</p>		P
<b>5.2.3</b>	<b>Test specimens</b>		P
	<p>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.</p>		P
<b>5.2.4</b>	<b>Procedure</b>		P
	<p>. Select an area to be tested.</p>		P
	<p>. Use each test area only once for each application. Clean the test area thoroughly with hot soapy water, rinse and wipe dry with a clean dry cloth.</p>		P
	<p>. At each of the test areas deposit a drop of the test solution. Cover the drop with a watch glass concave face downwards. The drop size shall be such that it is completely covered by the watch glass. Leave for <math>(120 \pm 5)</math> min with the test area protected from sunlight.</p>		P
	<p>. Thoroughly rinse the test areas with deionised water and visually check for any adverse change in appearance. If any deterioration is noticed, dip the foam disc in deionised water and place it on the surface that was tested. Rotate the cleaning device at a speed of <math>60\ \text{min}^{-1}</math>. Clean for 30 revolutions.</p>		P
	<p>. Rinse with deionised water, dry and visually re-examine the test areas. If any deterioration persists, repeat the cleaning process using the abrasive comprising 12 h-alumina suspended in water and re-examine.</p>		P
<b>5.2.5</b>	<b>Expression of results</b>		P



## EN14516 &amp; EN232

Cl.	Requirement – Test	Result	Verdict
	. Note the exact test area.		P
	. Record: . whether or not the reagent causes a stain or deterioration of the surface; . whether or not such stain or deterioration is removed, and if so, whether with water or with water including abrasive agent.		P
<b>5.3</b>	<b>Resistance to temperature changes</b>		P
<b>5.3.1</b>	<b>Apparatus</b>		P
	a) water supply capable of discharging cold and hot water with temperatures, flow rates and volumes as defined in 5.3.2; b) pipe with a nominal diameter of 22 mm; c) thermometer with an accuracy of 1 % at the measured values; d) flow meter suitable for measuring a flow rate of $(0,32 \pm 0,032)$ l/s.		P
<b>5.3.2</b>	<b>Procedure</b>		P
	. With the waste outlet open, discharge $(50 \pm 1)$ l of water through the pipe positioned not more than 125 mm above the overspill level of the bath. The pipe shall also be positioned so that the water impinges on the side of the bathing area nearest to the waste outlet hole, in a position where a supply fitting is likely to discharge. The temperature of water at the outlet of the pipe shall be $(90 \pm 2)$ °C and the flow rate into the bath shall be $(0,32 \pm 0,032)$ l/s.		P
	. With the waste outlet closed, discharge immediately afterwards $(100 \pm 2)$ l of water at a temperature $(12 \pm 3)$ °C at the same flow rate through the same pipe in the same position.		P
	. Leave the water in the bath for 10+1 min then allow it to drain off.		P

## EN14516 &amp; EN232

Cl.	Requirement – Test	Result	Verdict
	. With the waste outlet closed, discharge water through the pipe positioned not more than 125 mm above the overspill level of the bath. The pipe shall also be positioned so that the water impinges on the side of the bathing area nearest to the waste outlet hole, in a position where a supply fitting is likely to discharge. The water shall fill the bath to a height of 250 mm minimum above the waste outlet level. The temperature of water at the outlet of the pipe shall be $(75 \pm 2) ^\circ\text{C}$ and the flow rate into the bath shall be $(0,32 \pm 0,032) \text{ l/s}$ .		P
	. Leave the water in the bath for $10_{+1}$ min then allow it to drain off.		P
	. With the waste outlet closed, add immediately afterwards the same volume of cold water with a temperature of $(12 \pm 3) ^\circ\text{C}$ , at the same flow rate through the same pipe in the same position.		P
	. Leave the water in the bath for $10_{+1}$ min then allow it to drain off.		P
	. Repeat this procedure 100 times without interruption.		P
	. After the last cycle, apply over the surface of the bath by means of a sponge or paint brush a solution of eosine in water at 100 g/l to which is added 1 cm <sup>3</sup> /l of liquid detergent. Leave for $5_{+10}$ min, then remove the eosine from the surface by cleaning with a damp cloth.		P
	. Visually check for any adverse change in appearance and for any trace of eosine.		P
	. Record any failure to comply with requirements of 4.3.4.		P
<b>6</b>	<b>Marking</b>		P
	NOTE For CE marking, see Annex ZA.		P
<b>7</b>	<b>Evaluation of conformity</b>		P
<b>7.1</b>	<b>General</b>		P

## EN14516 &amp; EN232

Cl.	Requirement – Test	Result	Verdict
	The compliance of a bath with this document shall be demonstrated by:		P
	. type testing (see 7.2).		P
	Baths as identified by the manufacturer are of the same type when they have the same shape and construction and when they are of the same material. However, they may have different features.		P
	. factory production control by the manufacturer (FPC), including product assessment (see 7.3).		P
<b>7.2</b>	<b>Type testing</b>		P
<b>7.2.1</b>	<b>Initial type testing</b>		P
	Initial type testing shall be performed before the product is put on the market for the first time and each time when its characteristics are changed.		P
	Where characteristics are determined on the basis of conformity with other product standards, the manufacturer shall ensure that the products themselves have undergone appropriate initial and when necessary routine type testing to ensure the adequacy of the stated performance.		P
	The following characteristic will be assessed in the following condition:		P
	. release of dangerous substances, which may be assessed indirectly by controlling the content of the substance concerned.		P
<b>7.2.2</b>	<b>Further type testing</b>		P
	Baths are considered to be of the same type, when they have the same design, construction and performance characteristics and when they are of the same material, however they may have different features.		P

EN14516 & EN232			
Cl.	Requirement – Test	Result	Verdict
	Whenever a change occurs in the bath, the raw material or supplier of the components, or the production process that would change significantly one or more of the stated characteristics, the type tests shall be repeated for the appropriate characteristics.		P
<b>7.2.3</b>	<b>Samples, testing and compliance criteria</b>		P
	The bath shall be subjected to and pass the relevant tests in Table 3 before delivery commences.		P
<b>7.3</b>	<b>Factory production control</b>		P
<b>7.3.1</b>	<b>General</b>		P
	The manufacturer shall establish, document and maintain an FPC system to ensure that the products placed on the market conform with the stated performance characteristics. The FPC system shall consist of procedures, regular inspections and tests and/or assessments and the use of the results to control raw and other incoming materials or components, equipment, the production process and the product.		P
	The results of inspections, tests or assessments requiring action shall be documented. The action to be taken when control values or criteria are not met shall be recorded.		P
<b>7.3.2</b>	<b>Testing equipment</b>		P
	All weighing, measuring and testing equipment shall be calibrated and regularly inspected according to documented procedures, frequencies and criteria.		P
<b>7.3.3</b>	<b>Raw materials and components</b>		P
	The specifications of all incoming raw materials and components shall be documented, as shall the inspection scheme for ensuring their conformity.		P
<b>7.3.4</b>	<b>Product testing and assessment</b>		P

EN14516 & EN232			
Cl.	Requirement – Test	Result	Verdict
	The manufacturer shall establish and document procedures to ensure that the stated values of all of the characteristics are maintained.		P
<b>7.3.5</b>	<b>Non-conforming products</b>		P
	If during the factory production control non-conforming products are detected, suitable measures shall be immediately implemented for correction of failure(s) and handling defective products.		P
<b>Annex A</b>	<b>Materials(informative)</b>		N
<b>A.1</b>	<b>Synthetic materials</b>		N
	Synthetic sanitaryware is characterized by being made from plastics comprising pure synthetic polymers, or a polymer alloy, or a polymer composite with added fillers and/or fibres.		N
	Synthetic sanitaryware can comprise one or more layers of the above mentioned plastics materials.		N
	Plastics materials may contain auxiliary products, such as colours, stabilizers, antioxidants, U.V. absorbers and crosslinking agents.		N
	When sanitaryware made from plastics has one or multi-layer composites, the fillers and/or the fibres may be, by weight, the major part of the material.		N
<b>A.2</b>	<b>Ceramic materials</b>		N
<b>A.2.1</b>	<b>Vitreous china</b>		N
	Material made of a compact vitrified body, white or coloured, with a water absorption coefficient less than 0,75 %, covered with an opaque or translucent glaze which can be white or coloured.		N
	The body is usually made of kaolin, quartz, clay, sodium or potassium feldspars.		N
	The glaze is usually made of sodium, potassium or calcium aluminium-silicates.		N
<b>A.2.2</b>	<b>Fireclay</b>		N

EN14516 & EN232			
Cl.	Requirement – Test	Result	Verdict
	Material made of a porous body, generally covered with a white or coloured engobe and an opaque or translucent glaze which can be white or coloured.		N
	The body is made of clay and grog (clacined clay). The engobe, where it exists, is prepared with kaolins, clays, quartz, sodic or potassic feldspars.		N
	The glaze is usually made of sodium, potassium or calcium aluminium-silicates.		N
<b>A.3</b>	<b>Enamelled materials</b>		N
<b>A.3.1</b>	<b>Enamelled cast iron</b>		N
	A glazed surface finish produced by the application of a powdered inorganic glass either dry or suspended in water, to cast iron parts, and its subsequent fusion by heat.		N
<b>A.3.2</b>	<b>Enamelled steel</b>		N
	A glazed surface finish produced by the application of a powdered inorganic glass either dry or suspended in water, to sheet steel parts, and its subsequent fusion by heat.		N
<b>A.4</b>	<b>Stainless steel</b>		N
	Designations for stainless steel grades used for manufacturing baths: 1.4510, 1.4520, 1.4301, 1.4401, 1.4521 as listed in EN 10088-2.		N
<b>Annex B</b>	<b>Surfaces of baths(informative)</b>		N
	When wet, the surface of the majority of baths will show an increase in the potential for slipping. This is particularly the case when soap, shampoo, bath oil etc. are used. It is important that designers, installers and users are aware of this.		N
<b>Annex ZA</b>	(informative)		P
	<b>Clauses of this European Standard addressing the provisions of the EU Construction Products Directive</b>		P

EN14516 & EN232			
Cl.	Requirement – Test	Result	Verdict
<b>ZA.1</b>	<b>Scope and relevant characteristics</b>		P
	This European Standard has been prepared under the mandate M/110 2) given to CEN by the European Commission and the European Free Trade Association.		P
	The Clauses of this European Standard shown in this Annex meet the requirements of the mandate given under the EU Construction Products Directive (89/106/EEC).		P
	Compliance with these Clauses confers a presumption of fitness of the baths covered by this Annex for their intended use; reference shall be made to the information accompanying the CE marking.		P
	<b>WARNING — Other requirements and other EU Directives, not affecting the fitness for intended use, can be applicable to the construction product(s) falling within the scope of this European Standard.</b>		P
	The requirement on a certain characteristic is not applicable in those Member States where there are no regulatory requirements on that characteristic for the intended use of the product. In this case, manufacturers placing their products on the market of these Member States are not obliged to determine nor declare the performance of their products with regard to this characteristic and the option "No performance determined" (NPD) in the information accompanying the CE marking (see ZA.3) may be used. The NPD option may not be used, however, where the characteristic is subject to a threshold level.		P
<b>ZA.2</b>	<b>Procedure for the attestation of conformity of baths</b>		P
<b>ZA.2.1</b>	<b>System of attestation of conformity</b>		P
	The system of attestation of conformity of baths indicated in Table ZA.1, in accordance with the Decision of the Commission 96/578/EEC of 1996-06-24 as amended by the Commission Decision 01/596/EC of 2001-01-08 and given in Annex III of the mandate for "Sanitary Appliances" is shown in Table ZA.2 for the indicated intended use and relevant level(s) and class(es).		P

EN14516 & EN232			
Cl.	Requirement – Test	Result	Verdict
<b>ZA.2.2</b>	<b>Declaration of conformity</b>		P
	When compliance with this Annex is achieved, the manufacturer or his agent established in the EEA, shall prepare and retain a declaration of conformity which entitles the manufacturer to affix the CE marking. This declaration shall include:		P
	<ul style="list-style-type: none"> <li>. name and address of the manufacturer, or his authorised representative established in the EEA, and place of production;</li> <li>. description of the product (e.g. type, identification, use,...), and a copy of the information accompanying the CE marking;</li> <li>. provisions to which the product conforms (e.g. Annex ZA of this European Standard);</li> <li>. particular conditions applicable to the use of the product (e.g. provisions for use under certain conditions, etc.);</li> <li>. name of, and position held by, the person empowered to sign the declaration on behalf of the manufacturer or his authorised representative.</li> </ul>	See label	P
	The above mentioned declaration and certificate of conformity shall be presented in the official language or languages of the Member State in which the product is to be used.		P
<b>ZA.3</b>	<b>CE marking and labelling</b>	See label	P
	The manufacturer or his authorised representative established within the EEA is responsible for the affixing of the CE marking. The CE marking symbol to affix shall be in accordance with Directive 93/68/EC and shall be shown on the bath (or when not possible it may be on the accompanying commercial documents, e.g. delivery note).		P
	The following information shall accompany the CE marking symbol:		P



EN14516 & EN232			
Cl.	Requirement – Test	Result	Verdict
	<ul style="list-style-type: none"> <li>. name or identifying mark and registered address of the manufacturer;</li> <li>. the last two digits of the year in which the marking is affixed;</li> <li>. reference to this European Standard;</li> <li>. description of the product: generic name, material, dimensions,... and intended use;</li> <li>. information on those relevant characteristics listed in Table ZA.1 which are to be declared presented as:               <ul style="list-style-type: none"> <li>. declared values and, where relevant, level or class (including "pass" for pass/fail requirements, where necessary) to declare for each essential characteristic as indicated in "Notes" in Table ZA.1,</li> <li>. "No performance determined" for characteristic where this is relevant,</li> <li>. as an alternative, a standard designation which shows some or all of the relevant characteristics (where the designation covers only some characteristics, it will need to be supplemented with declared values for other characteristics as above).</li> </ul> </li> </ul>		P
	<p>The NPD option may not be used where the characteristic is subject to a threshold level. Otherwise, the NPD option may be used when and where the characteristic for a given intended use, is not subject to regulatory requirements in the Member State of destination.</p>		P

	En232		
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## EN14516 &amp; EN232

Cl.	Requirement – Test	Result	Verdict
<b>3</b>	<b>Connecting dimensions</b>		P
<b>3.1</b>	<b>Basic dimensions</b>		P
	The basic dimensions H, a, H <sub>1</sub> and h <sub>1</sub> shall comply with Table 1 to enable compatibility with EN 274-1.	No overflow hole.	N

Table 1 — Basic dimensions (see Figure 1)

Designation	Symbol	Values mm	Remarks
Vertical distance between the axis of the overflow hole, if provided, and the plane of the waste outlet hole	H	330 to 390	Standard type, for waste fitting according to EN 274-1
		230 to 330	Other waste fitting according to EN 274-1
		390 to 520	Other waste fitting according to EN 274-1
		≥ 520	With a waste fitting specified or provided by the manufacturer
Horizontal distance between the axis of the waste outlet hole and the axis of the overflow hole, if provided	a	170 to 230	Waste fitting according to EN 274-1
		110 to 170	Other waste fittings according to EN 274-1
		> 230	With a waste fitting specified or provided by the manufacturer
Distance between the floor and the plane of the waste outlet hole measured at the centre line of the hole	h <sub>1</sub>	≥ 130	For fittings according to EN 274-1. Can be reduced provided a 50 mm water seal trap can be accommodated
		≥ 70	Exclusively for countries which permit in their regulation the installation of baths without traps
Distance between the axis of the overflow hole, if provided, and the spillover	H <sub>1</sub>	≥ 60	

<b>3.2</b>	<b>Dimensions of the waste outlet hole</b>		P
	The dimensions of the waste outlet hole shall be as given in Table 2 to enable compatibility with EN 274-1.	Measurement: D2: 52; e: 3; D3:70; :112o h2:9; s:11	P

EN14516 &amp; EN232

Cl.	Requirement – Test	Result	Verdict
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Table 2 — Dimensions of the waste outlet hole (see Figure 2)

Designation	Symbol	Values mm	Remarks
Diameter of the waste outlet hole	$D_2$	$52^{+3}_{-2}$	-
		$90^{+3}_{-2}$	
Distance between the contact diameter of the control gauge and the bottom of the bath around the waste outlet hole	$e$	$\geq 2$	
Contact diameter of the control gauge	$D_3$	70	When $D_2 = 52$ mm
		115	When $D_2 = 90$ mm
Contact cone angle	$\alpha$	$\leq 120^\circ$	
Height between the contact diameter of the control gauge and the plane of the waste outlet hole	$h_2$	6 to 16	-
Sealing surface for waste fitting	$s$	$\geq 3$	

<b>3.3</b>	<b>Clearance around the waste outlet hole</b>		P
	The clearance around the waste outlet hole shall comply with the dimensions given in Table 3.	Measurement: R: 62; f: 12	P

Table 3 — Clearance around the waste outlet hole (see Figure 3)

Designation	Symbol	Values mm	Remarks
Radius of the circular area which shall remain free for installation of the waste fitting	$R$	$\geq 60$	When $D_2 = 52$ mm
		$\geq 80$	When $D_2 = 90$ mm
Thickness of reinforcing material around the waste outlet hole	$f$	$\leq 15$	-

<b>3.4</b>	<b>Dimensions and clearance around the overflow hole</b>	No overflow hole	N
	The dimensions and the clearance around the overflow hole, if provided, shall comply with Table 4.		N

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Cl.	Requirement – Test	Result	Verdict
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**Table 4 — Dimensions and clearance around the overflow hole (see Figure 4)**

Designation	Symbol	Values mm
Diameter of the overflow hole	$D_1$	$52^{+3}_{-2}$
Diameter of the flat area intended to accommodate the gasket on reverse side	$D_2$	$\geq 75$
Diameter of the clearance around the overflow hole intended for the overflow fitting	$D_3$	$\geq 80$
Depth of the clearance around the overflow hole intended for the overflow fitting	$h_4$	$\geq 60$
Thickness of the material within $D_4$	$t$	2 to 10
Angle of flat area of $D_4$ in relation to the plane of the waste outlet hole	$\beta$	$(98 \pm 5)^\circ$
Diameter of the flat area intended to accommodate the gasket on the inside of the bath	$D_6$	$\geq 65$

<b>3.5</b>	<b>Dimensions and clearance around tapholes</b>	No tap holes	N
	When baths are intended to accommodate rim-mounted tapware the bath manufacturer shall specify the number of tap holes and their positions. The dimensions of flat areas and clearances around each hole shall be in accordance with Table 5.		N

**Table 5 — Dimensions of flat areas and clearances for rim-mounted tapware (see Figure 5)**

Designation	Symbol	Values mm
Diameter of the flat area intended to accommodate the tapware on the top side of the rim	$D_7$	$\geq 65$
Diameter of the flat area intended to accommodate the tapware on the reverse side of the rim	$D_8$	$\geq 75$
Thickness between top and reverse side	$E$	$\leq 18$

	When a bath is intended to be used with combination taps (deck-mounted or with concealed body) the flat area on top of the rim shall be as specified in Table 6.		N
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Cl.	Requirement – Test	Result	Verdict
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**Table 6 — Flat area on top of the rim for deck-mounted combination taps**

Inlet centres of mixer mm	Length of flat area mm
150	≥ 200
180	≥ 230
200	≥ 270

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Cl.	Requirement – Test	Result	Verdict

Construction photos:



Photo 1



Photo 2

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Cl.	Requirement – Test	Result	Verdict
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Photo 3



Photo 4

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Cl.	Requirement – Test	Result	Verdict
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Photo 5



Photo 6