BS EN 13310:2015

BSI Standards Publication

Kitchen sinks — Functional requirements and test methods

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National foreword

This British Standard is the UK implementation of EN 13310:2015. It supersedes BS EN 13310:2003 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee B/503, Sanitary appliances.

A list of organizations represented on this committee can be obtained on request to its secretary.

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ISBN 978 0 580 87732 2

ICS 91.140.70

Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 31 July 2015.

Amendments issued since publication

Date	Text affected

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 13310

July 2015

ICS 97.040.10

Supersedes EN 13310:2003

English Version

Kitchen sinks - Functional requirements and test methods

Eviers de cuisine - Prescriptions fonctionnelles et méthodes d'essai

Küchenspülen - Funktionsanforderungen und Prüfverfahren

This European Standard was approved by CEN on 5 June 2015.

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COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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

Ref. No. EN 13310:2015 E

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European foreword

This document (EN 13310:2015) 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of an identical text or by endorsement, at the latest by January 2016 and conflicting national standards shall be withdrawn at the latest by April 2017.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 13310:2003.

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.

Since the latest version of EN 13310, the most significant technical changes are the following:

a) introduction of the term “product type”;

b) introduction of the clause “Dangerous substances”;

c) modification in the test materials and apparatus for the testing of the resistance to abrasion;

d) modification of marking of products;

e) replacement of the clause “Evaluation of conformity” by the clause “Assessment and verification of constancy of performance – AVCP” and replacement of Annex ZA by a new one in accordance with provisions of Regulation 305/2011;

f) modifications in the Normative References and the Bibliography.

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 the functional requirements of and test methods for kitchen sinks for domestic purposes, which ensure that the product, when installed in accordance with the manufacturers' instructions, gives satisfactory performance.

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

This document does not specify aesthetic requirements and the overall dimensions of kitchen sinks.

It does not apply to industrial kitchen sinks.

NOTE 2 All drawings are examples only; other forms are permissible.

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 695, *Kitchen sinks — Connecting dimensions*

EN ISO 6506-1, *Metallic materials — Brinell hardness test — Part 1: Test method (ISO 6506-1)*

ISO 4211-3, *Furniture — Tests for surface finishes — Part 3: Assessment of resistance to dry heat*

ISO 9352, *Plastics — Determination of resistance to wear by abrasive wheels*

3 Terms and definitions

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

3.1
kitchen sink
bowl or group of bowls with (a) waste hole(s) and, if applicable, tap hole(s) and overflow(s), with or without draining areas, standing alone, integrated with, or assembled with a worktop or assembled into a purpose-built kitchen, intended for the preparation of foodstuffs, the washing of dishes and the discharge of domestic waste water

3.1.1
wall-hung sink
sink which is fixed directly to the wall without a base unit

Note 1 to entry: See Figure 1:

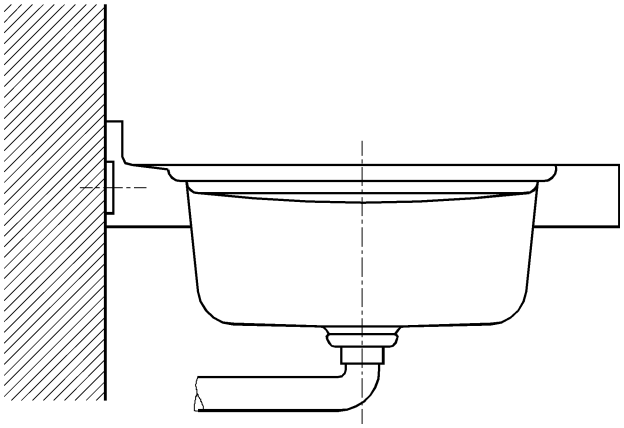


Figure 1 — Wall-hung sink

3.1.2
sit-on sink
sink which is mounted on top of a suitable base unit

Note 1 to entry: See Figure 2:

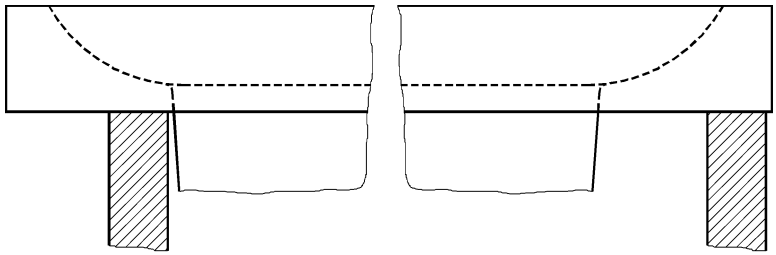


Figure 2 — Sit-on sink

3.1.3
inset sink
sink which is set into a kitchen work top from above, with the rim resting on the work top

Note 1 to entry: See Figure 3:

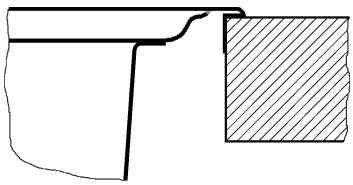


Figure 3 — Inset sink

3.1.4
flush-sit sink
sink which is set into a kitchen work top with the rim flush with, or within the thickness of the work top

Note 1 to entry: See Figure 4:

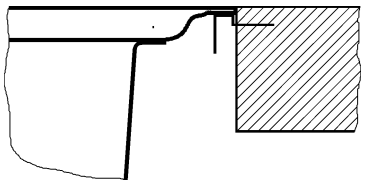


Figure 4 — flush-sit sink

3.1.5
under-mounted sink
sink which is set into a kitchen work top from below, butting up against the work top

Note 1 to entry: See Figure 5:

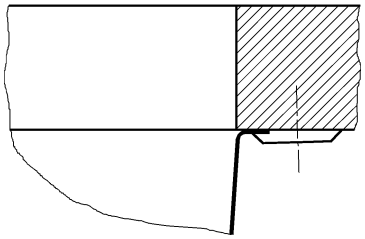


Figure 5 — Under-mounted sink

3.2
multi-layer kitchen sink
kitchen sink consisting of two or more layers

3.3
overflow
device which prevents water from spilling over the external rim of the kitchen sink or work top

3.4
outside dimensions
overall dimensions *L*, *B* and *H* of the kitchen sink

Note 1 to entry: See Figure 6:

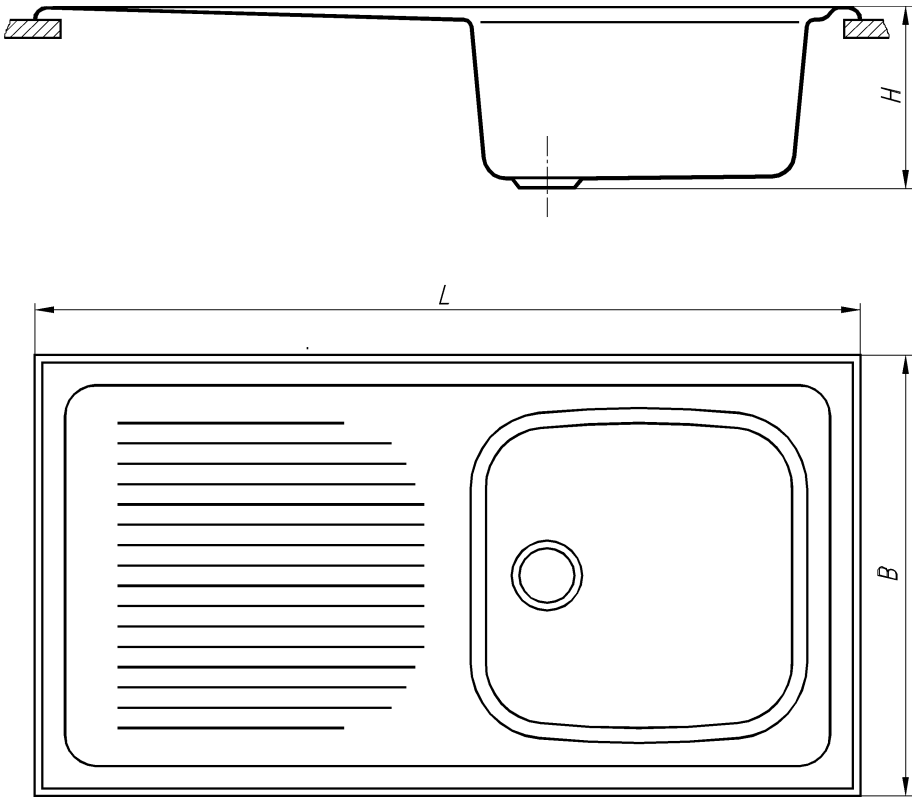


Figure 6 — Outside dimensions

3.5
product type
construction product with a set of representative performance levels or classes in relation to its Essential Characteristics, produced using a given combination of raw materials or other elements in a specific production process

4 Requirements

4.1 General

The manufacturer shall supply instructions for installation, use and care.

Annex A gives advice on the care and use of kitchen sinks which the manufacturer can include in his instructions for use and care.

Conformity with applicable European Directives shall be declared by the manufacturer in his instructions for use and care on materials intended to come into contact with foodstuffs (see Bibliography).

4.2 Connecting dimensions

The connecting dimensions shall meet the requirements specified in EN 695.

4.3 Draining of water

When tested in accordance with 5.2 all surfaces of the kitchen sink shall be inclined towards the bowl(s) and/or outlet(s) to ensure the drainage of water.

The requirement shall apply only to the bowl and the draining area (if applicable). The requirement shall not apply to tap platforms.

4.4 Resistance to dry heat

The test is intended to determine the suitability of kitchen sink surfaces where contact with moderately hot cooking pots is to be expected.

When tested in accordance with 5.3, or alternatively at a temperature of 180 °C in accordance with ISO 4211-3, the kitchen sink shall not show surface changes which influence its usage, e.g. cracks, crazing, through cracks, blistering.

Experience has shown that kitchen sinks made of glazed ceramics and stainless steel comply with this requirement.

4.5 Resistance to temperature changes

When tested in accordance with 5.4, the kitchen sink shall not show surface changes which influence its intended usage, e.g. cracks, de-lamination.

Experience has shown that kitchen sinks made of glazed ceramics and stainless steel comply with this requirement.

4.6 Resistance against chemicals and staining agents

Kitchen sinks, when used as intended, shall be resistant to household chemicals, foodstuffs and cleansing agents.

When tested in accordance with 5.5, the kitchen sinks shall not show any permanent surface deterioration, such as stains or deterioration which are not removable with water or abrasive agents.

4.7 Surface stability

4.7.1 Resistance to scratching

This requirement is applicable only to multi-layer kitchen sinks to ensure the stability of the top layer.

When tested in accordance with 5.6, any scratch shall not exceed 0,1 mm and/or the total depth of the top layer whichever is the least.

Experience has shown that kitchen sinks made of glazed ceramics and stainless steel comply with this requirement.

4.7.2 Resistance to abrasion

This requirement is applicable only to multi-layer kitchen sinks to ensure the stability of the top layer.

When tested in accordance with 5.7, the top layer of the test specimen shall not be abraded through.

Experience has shown that kitchen sinks made of glazed ceramics and stainless steel comply with this requirement.

4.8 Load stability

When tested in accordance with 5.8, the wall-hung sink shall not crack, fall down or show permanent distortion.

4.9 Flow rate of the overflow

Every kitchen sink shall be protected against overflowing.

When tested in accordance with 5.9, the flow rate of the overflow shall not be less than 0,20 l/s.

NOTE In kitchen sinks with two or more bowls, it is possible to have only one overflow if the overflow from one bowl is interconnected to the other. A non-closeable outlet can also be used as an overflow.

4.10 Durability

Kitchen sinks conforming to the requirements of 4.3 to 4.8 are deemed to be durable.

5 Test methods

5.1 General

The tests shall be performed in the following order:

5.2 - 5.9 - 5.8 - 5.4 - 5.3

The testing in accordance with 5.5, 5.6 and 5.7 can be conducted in any order but shall be conducted on new material for each test category.

If the kitchen sink is designed with only one bowl, then for the test conducted in accordance with 5.3 the specimens shall be cut from a second kitchen sink.

All tests shall be carried out at a room temperature of (23 ± 5) °C, except when stated differently.

5.2 Draining of water

— Install the kitchen sink horizontally in accordance with the manufacturers' installation instructions. The kitchen sink shall be cleaned with cleansing agents recommended by the manufacturer of the kitchen sink and afterwards shall be rubbed dry.

— Use tap water coloured to contrast with the colour of the kitchen sink.

— Pour not less than 1 l of this water along the highest part of the draining area, if present, and bowl(s).

— Determine whether the water has drained to waste outlet hole(s). Water remaining due to surface tension is permitted.

5.3 Resistance to dry heat

5.3.1 Test apparatus and chemicals

a) Rigid frame-work or test-rack of such a construction that a kitchen sink can be mounted horizontally, in such a way that all the outer rim is supported. The kitchen sink shall not be fastened or fixed to the frame-work or test-rack;

b) thermometer, capable of measuring temperatures between 0 °C and 250 °C to an accuracy of ± 1 °C;

c) cast cylindrical aluminium or aluminium alloy vessel, without a lid, the bottom of which has been machined flat. It shall have an external diameter of (100 ± 1,5) mm and an overall height of (70 ± 1,5) mm. The wall thickness shall be (2,5 ± 0,5) mm and the base thickness $2{,}5\,^{+0,5}_{0}$ mm;

d) heat source, for heating the vessel uniformly;

e) stirrer;

f) heat-insulating board;

g) glycerol tristearate [$C_{17}H_{35}CO_2CH$ $(CH_2O_2CC_{17}H_{35})_2$] or any other material of similar specific heat which will produce the same result.

The same glycerol tristearate or other material can usually be used for at least 20 tests, but if it has been heated to a temperature above 200 °C, or in case of dispute, fresh material should be used.

5.3.2 Procedure

— Fill the vessel with glycerol tristearate up to 10 mm below the top.

— Fix the thermometer centrally in the vessel with its bulb about 6 mm from the bottom.

— Use the heat source to raise the temperature of the glycerol tristearate to approximately 185 °C, stirring from time to time.

— Transfer the vessel to the heat-insulating board.

— Allow the temperature to fall to (180 ± 1) °C, stirring continuously.

— Immediately place the vessel of hot glycerol tristearate in the centre of the bowl.

— Allow to stand for 20 min without further stirring.

— At the end of this period, remove the vessel and allow the kitchen sink to cool for a period of 45 min.

— Using a sponge or brush spread a coloured test solution over the surface to be tested and allow 5 min for it to react. Wipe off the reagent with a moist sponge and examine the kitchen sink. The coloured test solution shall be prepared as follows: Add 1 ml liquid detergent to 100 g of eosine or methylene blue. This mixture shall be made up with deionized water to a volume of 1 l.

5.3.3 Test results

Note any change of appearance of the tested surface of the kitchen sink when inspected from all sides with the naked eye at a distance of 60 cm and illuminated by a cool neon light of 150 lx measured at the surface of the sample.

5.4 Resistance to temperature changes

5.4.1 Test apparatus

5.4.1.1 Hot water supply, capable of delivering water at a temperature of about 95 °C.

5.4.1.2 Cold water supply, capable of delivering water at a temperature of about 15 °C.

5.4.1.3 Manifold, for connecting the hot water supply and the cold water supply to a discharge pipe.

5.4.1.4 Discharge pipe, with an internal diameter of 10 mm.

5.4.1.5 Rigid framework or test rack (see Figure 7) of such a construction that a kitchen sink can be mounted horizontally, in such a way that all the outer rim is supported. The kitchen sink shall not be fastened or fixed to the framework or test rack.

5.4.1.6 Thermometer, capable of measuring temperatures between 0 °C and 100 °C to an accuracy of ± 1 °C.

5.4.1.7 Flow meter, capable of measuring a flow rate of water of (0,1 ± 0,01) l/s.

5.4.2 Procedure

a) Carry out the test on a kitchen sink that is fitted with a waste outlet that shall be open during the whole period of the test.

b) The test shall be carried out in such a way that:

   1) the outlet of the pipe is positioned not more than (80 ± 5) mm above the bottom of the sink;

   2) the water impinges upon the bottom of bowl of the kitchen sink at a point anywhere on a circle with a radius of (110 ± 5) mm around the waste outlet hole.

c) Discharge through the pipe during a period of (90 ± 1) s hot water with a flow rate of (0,1 ± 0,01) l/s. The temperature of this water at the outlet shall be (90 ± 2) °C.

d) During a resting time of (30 ± 1) s there shall not be any further supply of water.

e) Discharge through the pipe during a period of (90 ± 1) s cold water with a flow rate of (0,1 ± 0,01) l/s. The temperature of this water at the outlet shall be (15 ± 2) °C.

f) During a resting time of (30 ± 1) s there shall not be any further supply of water.

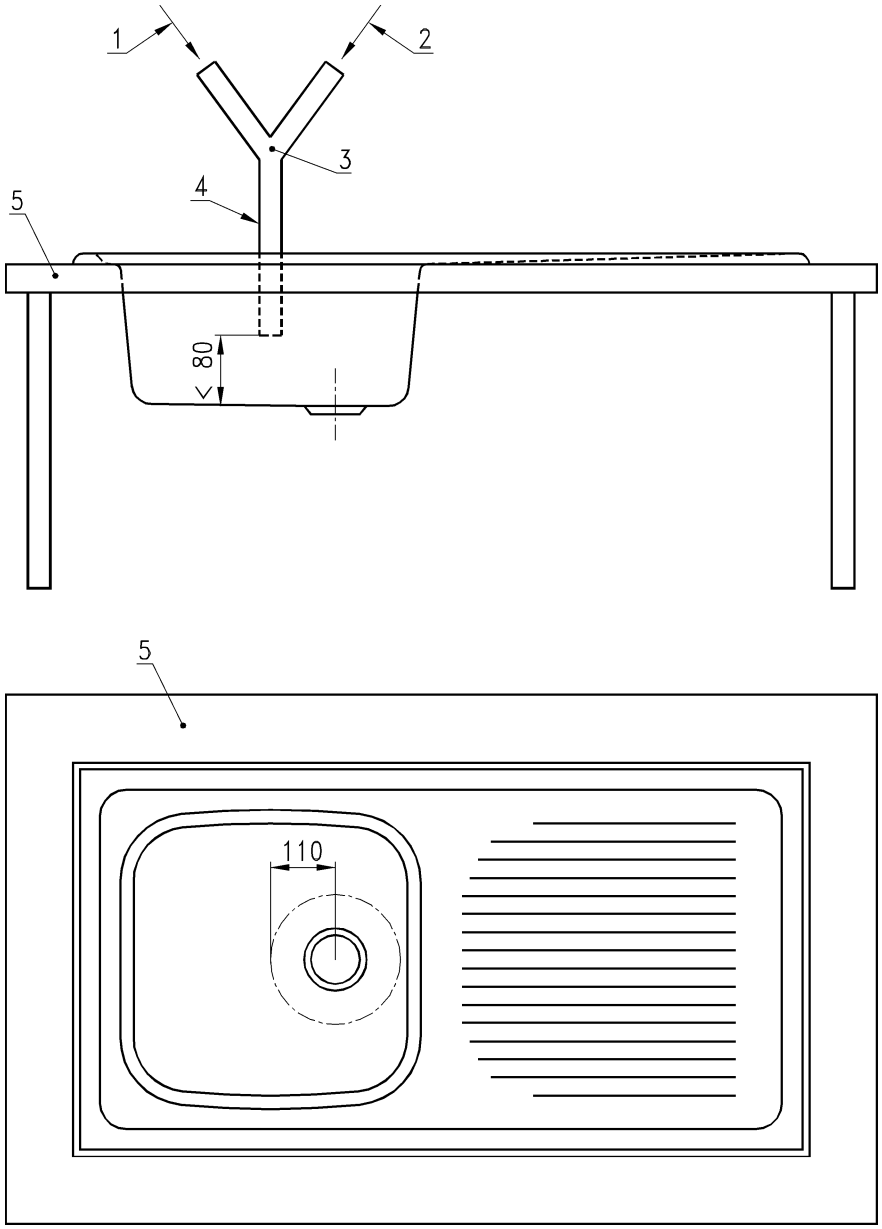
g) Repeat this procedure 1000 times without interruption. For kitchen sinks made from ceramic material stop the test procedure after 5 cycles.

h) Using a sponge or brush spread a coloured test solution over the surface to be tested and allow 5 min for it to react. Wipe off the reagent with a moist sponge and examine the kitchen sink. The coloured test solution shall be prepared as follows: Add 1 ml liquid detergent to 100 g of eosine or methylene blue. This mixture shall be made up with deionized water to a volume of 1 l.

5.4.3 Test results

Note any change of appearance of tested surface of the kitchen sink when inspected from all sides with the naked eye at a distance of 60 cm and illuminated by a cool neon light of 150 lx measured at the surface of the sample.

Dimensions in millimetres



Key

1 cold water supply
2 hot water supply
3 manifold
4 discharge pipe
5 rigid framework

Figure 7 — Test rack

5.5 Resistance against chemicals and staining agents

5.5.1 Test apparatus and chemicals

a) chemicals/reagents

The list of chemicals is given in Table 1. Each solution shall be prepared immediately before use with deionized water, and applied at a temperature of (23 ± 5) °C.

Table 1 — Chemicals

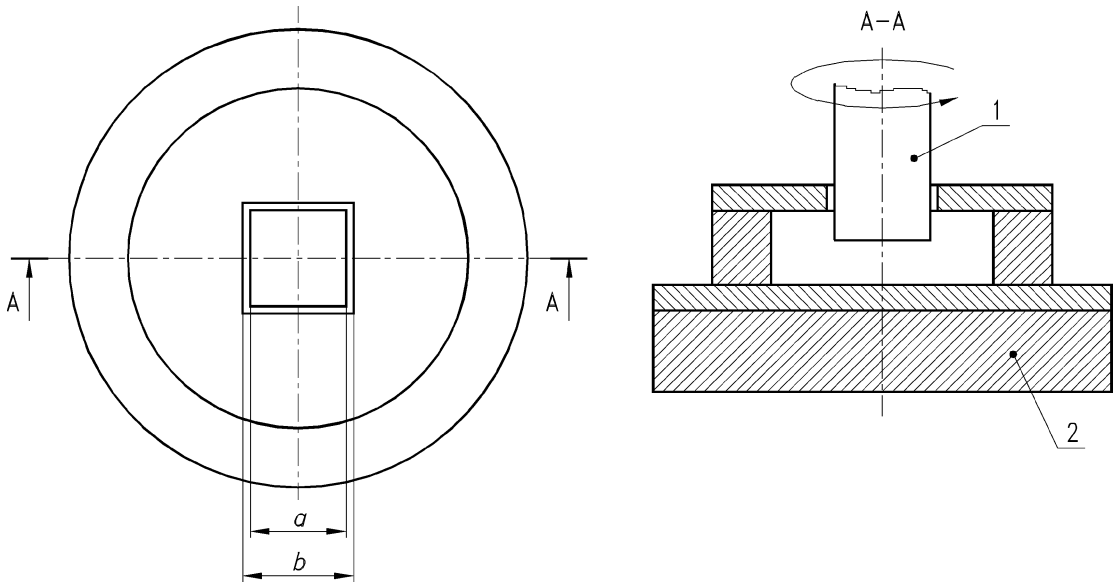
Family	Product
Acids	Acetic acid (CH_3COOH), 10 % V/V
Alkalines	Sodium hydroxide (NaOH), 5 % m/m
Alcohols	Ethanol (C_2H_5OH), 70 % V/V
Bleaches	Sodium hypoclorite (NaOCl), 5 % active chlorine (Cl_2)[a]
Staining agents	Methylene blue, 1 % m/m
Salts	Sodium chloride (NaCl), 170 g/l, diluted to 50 %
[a] Given bleach may be replaced by sodium percarbonate ($2\ Na_2CO_3 \cdot 3\ H_2O_2$) 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.	

b) borosilicate watch glasses: 40 mm nominal diameter;

c) pipettes;

d) cleaning appliance;

This appliance is shown in Figure 8, consisting of synthetic flexible open cell foam disc of 75 mm diameter and 15 mm thickness. This appliance is driven by means of a square axle which fits loosely into the device. Any rotating device having a mass of (1 000 ± 50) g can be used.



Key

1 square axle

2 foam

a length of edge of square axle with $a = b - 1$ mm

b length of square opening in cleaning device for fitting the axle

Figure 8 — Cleaning appliance

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

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 the users of this European Standard and does not constitute an endorsement by CEN of this product.

5.5.2 Test specimens

Carry out the tests on a flat part of the kitchen sink.

If necessary use test specimens (100 ± 5) mm × (100 ± 5) mm cut from a flat surface of the kitchen sink.

5.5.3 Procedure

— Select a test area.

— Use each test area for only one reagent. Clean the test area thoroughly with hot soapy water and then dry with a clean cloth.

— At each of the test areas, deposit a drop of the test solution. Cover the drop thus formed with a watch glass concave side downwards. The drop size shall be determined so that it is completely covered by the watch glass. Allow the selected chemical to act for a time of (16 ± 0,25) h at a temperature of (23 ± 5) °C with the test areas protected from the sun.

— Thoroughly rinse the test areas with deionized water and check for adverse changes in appearances by visual examination. If deterioration is detected, dip the foam disc in deionized water and place it on the surface to be cleaned and rotate it at 60 min^{-1}. Clean for 30 revolutions.

— Rinse with deionized water and visually examine the test area. If deterioration persists repeat the cleaning with the 12 h-alumina and re-examine the test area.

5.5.4 Expression of results

— Note the exact test area.

— Note whether or not the reagent has caused a stain or deterioration when inspected with the naked eye at a distance of 60 cm, and illuminated by cool neon light of 150 lx at the surface of the sample. Further note whether or not such stain or deterioration is removed and if so with water or abrasive agent.

5.6 Resistance to scratching

5.6.1 Test apparatus

Scratch testing apparatus (see Figure 9) consisting of:

5.6.1.1 Stand with a device to indicate the horizontal position, e.g. a spirit level.

5.6.1.2 Freely rotating supporting turntable (A) which can be motor driven turning about a vertical axis without play.

5.6.1.3 Arm (B) carrying the holder for the diamond with scale (D), mounted on a horizontal axis ball bearing.

The height of this axis shall be adjustable so that the arm is exactly horizontal when the scratching point rests on the test specimen (F).

5.6.1.4 Means of applying a defined force (C).

5.6.1.5 Diamond scratching point (E), cone-shaped, the axis of which is perpendicular to the sample surface and which has an angle of (45 ± 0,5)° at the top.

The point of the cone shall be hemispherical with a radius of (0,09 ± 0,001) mm. Its geometrical regularity shall be verified and its profile measured on a complete rotation of 360°. The point shall be rejected, if any

irregularity of the curvature above ± 0,001 mm is measured. All diamond points shall be rechecked after each 1 000 tests to confirm geometry.

5.6.1.6 Microscope or similar measuring device capable of measuring to an accuracy of 5 µm.

5.6.2 Test specimen

Use a test specimen cut from the bottom of the kitchen sink bowl (see Figure 10). The test specimen shall be preconditioned at a temperature of (23 ± 2) °C and relative humidity of (50 ± 5) % for 24 h. When using a microscope, pre-coat the test specimen with an ink of a contrasting colour.

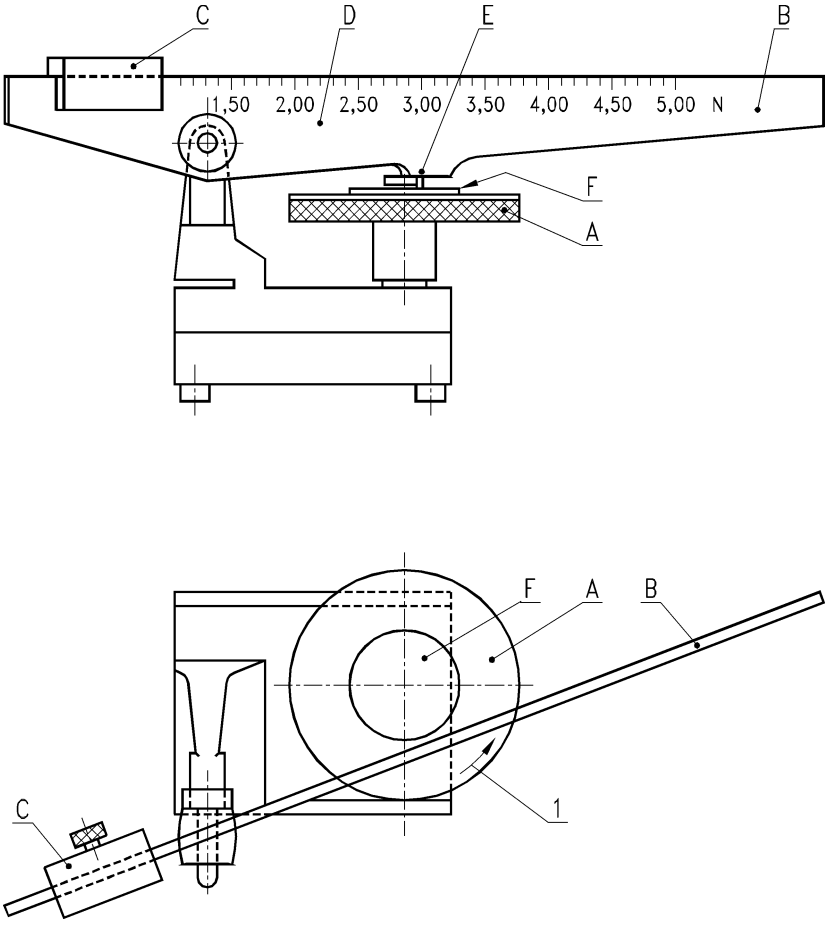


Figure 9 — Scratch-testing apparatus

Dimensions in millimetres

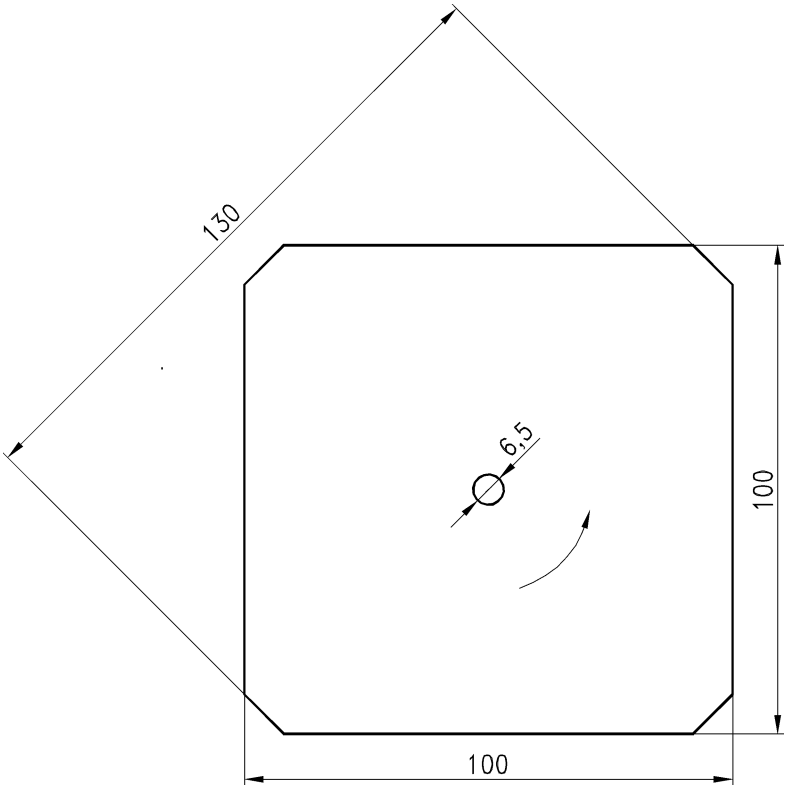


Figure 10 — Test specimen

5.6.3 Procedure

— Adjust the height of the arm (B) so that it is horizontal when the diamond point rests on the test specimen (F). Place the arm (B) in a vertical position. Fix the test specimen (F) with the locking disc (A) and secure it correctly. Lower the arm (B) and place the diamond point in contact with the test specimen taking care to avoid any impact.

— Apply a weight of (20 ± 0,1) N.

— Start rotating the turntable in order to produce a scratch of 3 cm to 4 cm long.

— Measure the width of the scratch and calculate its depth as 50 % of the width of the scratch. Measure the thickness of the top layer in the middle of the four sides and calculate the average.

5.7 Resistance to abrasion

5.7.1 Principle

The test measures the ability of the top layer of the multi-layer kitchen sink to resist abrasive wear through to the sub-layer. Abrasion is produced by rotating a test specimen in contact with a pair of loaded cylindrical wheels covered with abrasive paper.

5.7.2 Test apparatus and materials

5.7.2.1 Test machine[2)] as specified in ISO 9352.

2) A suitable machine is available from Taber Acquisition Corp. Taber Industries, 455 Bryant St. P.O. Box 164, North Tonawanda, NY 14120, USA. This test machine is an example of a suitable machine available commercially. This information is given for the convenience of users of this standard and does not constitute an endorsement of the machine by CEN.

5.7.2.2 Calibration plates of rolled zinc sheet having a thickness of (0,8 ± 0,1) mm and a Brinell hardness of (48 ± 2) HBW when tested in accordance with EN ISO 6506-1, except that the ball diameter shall be 5 mm and the load 360 N.

5.7.2.3 Abrasive paper strips with a width of 12,7 mm and length of about 160 mm having the followed specification[3)]:

— paper with weight of 70 g/m^2 to 100 g/m^2;

— powdered aluminium oxide (Al_2O_3) having a particle size such that will pass through a sieve of aperture 100 µm and remain on a sieve having an aperture of 63 µm.

5.7.2.4 Double sided adhesive tape, required only if the abrasive paper has no adhesive backing.

5.7.3 Test specimens

Three test specimens shall be taken, one each from a different kitchen sink of identical type and model.

The test specimens shall be flat pieces of the kitchen sinks under test, cut from the bottom of the bowl and shaped to fit the type of clamping device used. They shall be discs of diameter about 130 mm, or squares of about 120 mm with corners to give a diagonal of about 130 mm, and have a hole of diameter 6 mm in their centres.

Clean the surface of the test specimens with a non-hazardous organic solvent which is immiscible with water.

5.7.4 Procedure

— Prepare the abrasive wheels by bonding a strip of abrasive paper (see 5.7.2.3) to each of the rubber covered wheels, using either the adhesive backing, if present, or the double-sided adhesive tape (see 5.7.2.4), in such a way that the cylindrical surface is completely covered, but without any overlapping of the abrasive paper.

— Check the suitability of the abrasive paper by preparing two abrasive wheels with unused strips of abrasive paper from the batch to be used for testing as follows: Clamp a zinc plate (see 5.7.2.2) in the test specimen holder, operate the suction device, and abrade the zinc plate for 500 revolutions. Wipe the zinc plate clean and weigh it to the nearest 1 mg. Replace the used abrasive paper strips on the wheels, with unused strips from the same batch, clamp the same zinc plate in the specimen holder, lower the abrasive wheels and operate the suction device. Abrade the zinc plate for an additional 500 revolutions, then wipe it clean and reweigh it to the nearest 1 mg. Its loss in mass shall be (130 ± 20) mg. Any batch of abrasive paper which causes a loss in mass of the zinc plate outside this permitted range shall not be used for testing.

— Prepare sufficient abrasive wheels for the test, using unused abrasive paper. Fit two wheels to the machine loaded to 250 g each and set the revolution counter to zero.

— Clamp the test specimen in the holder, ensuring that its surface is flat. Lower the abrasive wheels onto the test specimen so that the wheels' cylindrical faces are at an equivalent distance from the test specimen's axis of rotation but not tangential to it. Operate the suction device and allow the test specimen to rotate.

— Replace the abrasive paper after every 100 revolutions.

— Stop the test after 750 revolutions.

3) Paper S 33 provided by Taber Acquisition Corp. Taber Industries, 455 Bryant St. P.O. Box 164, North Tonawanda, NY 14120, USA, is deemed to satisfy this specification. The calibration procedure prescribed in 5.7.4 can be omitted. This information is given for the convenience of the users of this European Standard and does not constitute an endorsement by CEN of this product.

5.7.5 Expression of results

Observe if the top layer of any of the three test specimens is abraded through in at least one point in each of the four quadrants.

5.8 Load stability

— Wall-hung sinks shall be installed in accordance with the-manufacturers' instructions.

— Gradually apply a load of (1,50 ± 0,01) N on top of a wooden beam with a cross section of 100 mm × 100 mm positioned across the geometric centre of each bowl of the kitchen sink according to Figure 11 and allow the load to remain in position for a period of 1 h.

— Any distortion due to point loading caused by the wooden timbers shall be disregarded.

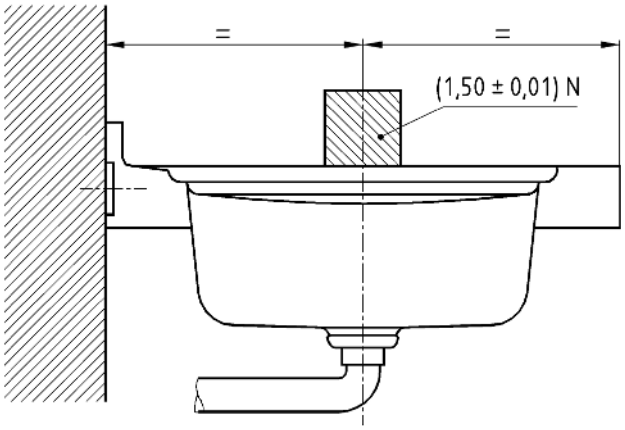


Figure 11 — Test arrangement

5.9 Determination of the flow rate of overflow

— The kitchen sink shall be installed horizontally in accordance with the manufacturer's instructions.

— Install the waste outlet, overflow and the trap to the kitchen sink. The trap shall not be connected to the discharge pipe, but is to be left open.

— Afterwards, the waste outlet(s) shall be closed.

— Introduce the water supply by means of a flexible tube with an inner diameter of 20 mm which leads to the bottom of the bowl. Adjust the quantity of water supply in such a way that no water spills over the external rim of the kitchen sink or work top.

— Read the water flow rate after a steady-state condition has been established for a period of 60 s by means of a flow meter fitted into the supply pipe.

6 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 harmonized 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 website on EUROPA.

7 Marking

The intended use of kitchen sinks is the preparation of food, washing of dishes and discharge of domestic wastewater in accordance with the scope of this standard.

NOTE The intended use is also mentioned in Annex ZA, Table ZA.1. The abbreviation “PWD” for the intended use preparation of food, washing of dishes and discharge of domestic wastewater might be used for CE marking.

EXAMPLE 1 Use of full text: Preparation of food, washing of dishes and discharge of domestic wastewater.

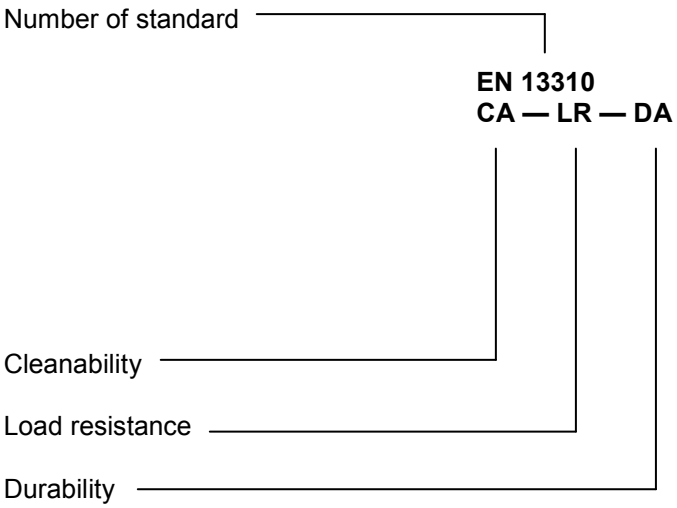
EXAMPLE 2 Use of abbreviation: PWD.

For kitchen sinks a set of requirements to be tested (see 8.2.2) is defined. Due to this, a kitchen sink can be described with a designation code which includes all fulfilled essential requirements.

The relevant product characteristics and the Essential Characteristics for kitchen sinks including their abbreviations are given in Table 2.

Table 2 — Characteristics and abbreviations

Abbrevation	Characteristics
EN 13310	Number of European Standard for kitchen sinks for product description
CA	Cleanability
LR	Load resistance (for wall-hung sinks)
DA	Durability



The declaration of the characteristics of the second line is considered being covered by the declaration of the product. However, the characteristics should be listed when one of those characteristics is not declared.

EXAMPLE 1 Kitchen sink for which all Essential Characteristics in accordance with Annex ZA are satisfied:

EN 13310

EXAMPLE 2 Kitchen sink for which the manufacturer has exercised the NPD option for load resistance:

EN 13310 — LR/NPD

8 Assessment and verification of constancy of performance – AVCP

8.1 General

The compliance of kitchen sinks with the requirements of this standard and with the performances declared by the manufacturer in the DoP shall be demonstrated by:

— determination of product type (see 8.2);

— factory production control by the manufacturer, including product assessment (see 8.3).

The manufacturer shall always retain the overall control and shall have the necessary means to take responsibility for the conformity of the product with its declared performance(s).

8.2 Type testing

8.2.1 General

All performances related to characteristics included in this standard shall be determined when the manufacturer intends to declare the respective performances unless the standard gives provisions for declaring them without performing tests (e.g. use of previously existing data, CWFT and conventionally accepted performance).

Assessment previously performed in accordance with the provisions of this standard, may be taken into account provided that they were made to the same or a more rigorous test method, under the same AVCP system on the same product or products of similar design, construction and functionality, such that the results are applicable to the product in question.

For the purposes of assessment, the manufacturer's products may be grouped into families, where it is considered that the results for one or more characteristics from any one product within the family are representative for that same characteristics for all products within that same family.

Products may be grouped in different families for different characteristics.

Reference to the assessment method standards should be made to allow the selection of a suitable representative sample.

In addition, the determination of the product type shall be performed for all characteristics included in the standard for which the manufacturer declares the performance:

— at the beginning of the production of a new modified kitchen sink (unless a member of the same product range); or

— at the beginning of a new or modified method of production (where this may affect the stated properties); or

— they shall be repeated for the appropriate characteristic(s), whenever a change occurs in the modified kitchen sinks design, in the raw material or in the supplier of the components, or in the method of production (subject to the definition of a family), which would affect significantly one or more of the characteristics.

Where components are used whose characteristics have already been determined, by the component manufacturer, on the basis of assessment methods of other product standards, these characteristics need not be re-assessed. The specifications of these components shall be documented.

Products bearing regulatory marking in accordance with appropriate harmonized European specifications may be presumed to have the performances declared in the DoP, although this does not replace the responsibility

on the kitchen sinks manufacturer to ensure that the kitchen sink as a whole is correctly manufactured and its component products have the declared performance values.

8.2.2 Test samples, testing and compliance criteria

The number of samples of kitchen sinks to be tested/assessed shall be in accordance with Table 3.

Table 3 — Type testing for kitchen sinks

Characteristic to be tested	Assessment method according to clauses of this standard	Number of samples	Requirement and Compliance criteria
Connecting dimensions	4.2	1	4.2
Draining of water	5.2	1	4.3
Resistance to dry heat	5.3	1	4.4
Resistance to temperature changes	5.4	1	4.5
Resistance against chemicals and staining agents	5.5	1	4.6
Resistance to scratching	5.6	1	4.7.1
Resistance to abrasion	5.7	1	4.7.2
Load resistance	5.8	1	4.8
Flow rate of overflow	5.9	1	4.9

8.3 Factory production control (FPC)

8.3.1 General

The manufacturer shall establish, document and maintain an FPC system to ensure that the products placed on the market comply with the declared performance of the Essential 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.

The results of inspections, tests or assessments requiring action shall be recorded. The action to be taken when control values or criteria are not met shall be recorded.

NOTE Manufacturers having an FPC system, which complies with EN ISO 9001 and which addresses the provisions of the present European Standard are considered as satisfying the FPC requirements of the Regulation (EU) No. 305/2011.

8.3.2 Equipment

8.3.2.1 Testing

All weighing, measuring and testing equipment shall be calibrated and regularly inspected in accordance with the documented procedures, frequencies and criteria.

8.3.2.2 Manufacturing

All equipment used in the manufacturing process shall be regularly inspected and maintained to ensure use; wear or failure does not cause inconsistency in the manufacturing process. Inspections and maintenance should be carried out and recorded in accordance with the manufacturer's written procedures and the records retained for the period defined in the manufacturer's FPC procedures.

8.3.3 Raw materials and components

The specifications of all incoming raw materials and components shall be documented, as shall the inspection scheme for ensuring their compliance. In case supplied kit components are used, the constancy of performance system of the component shall be that given in the appropriate harmonized technical specification for that component.

8.3.4 Product testing and evaluation

The manufacturer shall establish and document procedures to ensure that the stated values of all of the characteristics are maintained.

8.3.5 Non-complying products

The manufacturer shall have written procedures which specify how non-complying products shall be dealt with. Any such events shall be recorded as they occur and these records shall be kept for the period defined in the manufacturer's written procedures.

Where the product fails to satisfy the acceptance criteria, the provisions for non-complying products shall apply, the necessary corrective action(s) shall immediately be taken and the products or batches not complying shall be isolated and properly identified.

Once the fault has been corrected, the test or verification in question shall be repeated.

The results of controls and tests shall be properly recorded. The product description, date of manufacture, test method adopted, test results and acceptance criteria shall be entered in the records under the signature of the person responsible for the control/test.

With regard to any control result not meeting the requirements of this European Standard, the corrective measures taken to rectify the situation (e.g. a further test carried out, modification of manufacturing process, throwing away or putting right of product) shall be indicated in the records.

8.3.6 Corrective action

The manufacturer shall have documented procedures that instigate action to eliminate the cause of non-conformities in order to prevent recurrence.

Annex A
(informative)

Care and use of kitchen sinks

Kitchen sinks are robustly constructed and are designed to fulfil their intended purpose.

The user therefore bears some responsibility in ensuring that the sink is not abused outside its intended purpose.

Users should follow the care and use instructions supplied by the manufacturer as care and respect will ensure a long life and maintenance will prolong the “new” appearance.

Kitchen sinks are capable of being damaged if they are treated harshly and care should be taken to avoid/minimize the possibility of dropping any objects into the sink. It can be desirable to place a deadening material on the drainer or in the bowl when handling such objects.

Special care should be taken to avoid the “grinding around” of objects on the sink bowl base and the rim.

The care and use instructions should warn the user to avoid accidental contact with strong chemicals, when relevant, which can be present in the home, for example metal cleaners, brush cleaners, paint strippers, which might affect the sink surface qualities.

Avoid contact with very hot pans (use a trivet or mat).

Annex ZA
(informative)

Clauses of this European Standard addressing the provisions of the EU Construction Products Regulation

ZA.1 Scope and relevant characteristics

This European Standard has been prepared under Mandate M/110 “Sanitary appliances” as amended by M/139 given to CEN by the European Commission and the European Free Trade Association.

If this European Standard is cited in the Official Journal of the European Union (OJEU), the clauses of this standard, shown in this annex, are considered to meet the provisions of the relevant mandate, under the Regulation (EU) No. 305/2011.

This annex deals with the CE marking of the kitchen sinks intended for the uses indicated in Table ZA.1 and shows the relevant clauses applicable.

This annex has the same scope as in Clause 1 of this standard related to the aspects covered by the mandate and is defined by Table ZA.1.

Table ZA.1 — Relevant clauses

Construction product: **Intended use:**	**Kitchen sink** **Preparation of food, washing of dishes and discharge of domestic wastewater**		
Essential Characteristics	Requirement clauses in this European Standard	Regulatory classes	Notes
Cleanability	4.3	—	Pass/fail
Load resistance (for wall-hung sinks only)	4.8	—	Pass/fail
Durability	4.10	—	Pass/fail

The declaration of the product performance related to certain Essential Characteristics is not required in those Member States (MS) where there are no regulatory requirements on these Essential Characteristics for the intended use of the product.

In this case, manufacturers placing their products on the market of these MSs are not obliged to determine nor declare the performance of their products with regard to these Essential Characteristics and the option “No performance determined” (NPD) in the information accompanying the CE marking and in the declaration of performance (see ZA.3) may be used for those Essential Characteristics

ZA.2 Procedure for assessment and verification of constancy of performance (AVCP) of kitchen sinks

ZA.2.1 System of AVCP

The AVCP system of kitchen sinks indicated in Table ZA.1, established by EC Decision 96/578/EC (OJ L254 of 8.10.1996 p. 49) amended by EC Decision(s) 2001/596/EC (OJ L 209 p. 33 of 2.8.2001) and 2002/592/EC (OJ L 192 p. 57 of 20.7.2002) is shown in Table ZA.2 for the indicated intended use(s) and relevant level(s) or class(es) of performance.

Table ZA.2 — System of AVCP

Product	Intended use	Level(s) or class(es)	AVCP system(s)
Kitchen sink	Preparation of food, washing of dishes and discharge of domestic wastewater	—	4
System 4: See Regulation (EU) No. 305/2011 (CPR) Annex V, 1.5.			

The AVCP of the kitchen sink in Table ZA.1 shall be according to the AVCP procedures indicated in Table ZA.3 resulting from application of the clauses of this or other European Standard indicated therein. The content of tasks of the notified body shall be limited to those Essential Characteristics as provided for, if any, in Annex III of the relevant mandate and to those that the manufacturer intends to declare.

Table ZA.3 — Assignment of AVCP tasks for kitchen sinks used under system 4

Tasks		Content of task	AVCP clauses to apply
Task for the manufacturer	Determination of the product type on the basis of type testing, type calculation, tabulated values or descriptive documentation of the product	Essential Characteristics of relevant Table ZA.1 relevant for the intended use which are declared	8.2
	Factory production control (FPC)	Parameters related to Essential Characteristics of relevant Table ZA.1 relevant for the intended use	8.3

ZA.2.2 Declaration of performance (DoP)

ZA.2.2.1 General

The manufacturer draws up the DoP and affixes the CE marking on the basis of the different AVCP systems set out in Annex V of the Regulation (EU) No. 305/2011:

— the factory production control carried out by the manufacturer;

— the determination by the manufacturer of the product type on the basis of type testing, type calculation, tabulated values or descriptive documentation of the product.

ZA.2.2.2 Content

The model of the DoP is provided in Annex III of the Regulation (EU) No. 305/2011.

In accordance with this Regulation, the DoP shall contain, in particular, the following information:

— the reference of the product type for which the declaration of performance has been drawn up;

— the AVCP system or systems of the construction product, as set out in Annex V of the CPR;

— the reference number and date of issue of the harmonized standard which has been used for the assessment of each Essential Characteristic;

— where applicable, the reference number of the Specific Technical Documentation used and the requirements with which the manufacturer claims the product complies.

The DoP shall in addition contain:

a) the intended use or uses for the construction product, in accordance with the applicable harmonized technical specification;

b) the list of Essential Characteristics, as determined in the harmonized technical specification for the declared intended use or uses;

c) the performance of at least one of the Essential Characteristics of the construction product, relevant for the declared intended use or uses;

d) where applicable, the performance of the construction product, by levels or classes, or in a description, if necessary based on a calculation in relation to its Essential Characteristics determined in accordance with the Commission determination regarding those Essential Characteristics for which the manufacturer shall declare the performance of the product when it is placed on the market or the Commission determination regarding threshold levels for the performance in relation to the Essential Characteristics to be declared;

e) the performance of those Essential Characteristics of the construction product which are related to the intended use or uses, taking into consideration the provisions in relation to the intended use or uses where the manufacturer intends the product to be made available on the market;

f) for the listed Essential Characteristics for which no performance is declared, the letters “NPD” (No Performance Determined).

Regarding the supply of the DoP, Article 7 of the Regulation (EU) No. 305/2011 applies.

The information referred to in Article 31 or, as the case may be, in Article 33 of Regulation (EC) No 1907/2006 (REACH) shall be provided together with the DoP.

ZA.2.2.3 Example of DoP

The following gives examples of a filled-in DoP for kitchen sinks.

EXAMPLE 1 Full-text version of DoP with attached list of product numbers (identification codes) for this DoP:

DECLARATION OF PERFORMANCE

No. ABC1234

1. Unique identification code of the product type:

For product number(s), see list attached.

2. Type, batch or serial number or any other element allowing identification of the construction product as required under Article 11(4):

Ceramic kitchen sink(s)

3. Intended use or uses of the construction product, in accordance with the applicable harmonized technical specification, as foreseen by the manufacturer:

Preparation of food, washing of dishes and discharge of domestic wastewater (PWD)

4. Name, registered trade name or registered trade mark and contact address of the manufacturer as required under Article 11(5):

AnyCo SA,
PO Box 21
B-1050 Brussels, Belgium
Tel. +32987654321
Fax: +32123456789
Email: anyco.sa@provider.be

5. Where applicable, name and contact address of the authorized representative whose mandate covers the tasks specified in Article 12(2):

Anyone Ltd
Flower Str. 24
West Hamfordshire
UK-589645 United Kingdom
Tel. +44987654321
Fax: +44123456789
e-mail: anyone.ltd@provider.uk

6. System or systems of assessment and verification of constancy of performance of the construction product as set out in CPR (305/2011/EU), Annex V:

System 4

7. In case of the declaration of performance concerning a construction product covered by a harmonized standard:

Determination of product type and factory production control by the manufacturer

8. Declared performance

Essential Characteristics[a]	Performance	Harmonized technical specification
Cleanability (CA)	Pass	EN 13310:2015
Load resistance (LR)	Pass	
Durability (DA)	Pass	
[a] Specific performance of Essential Characteristics is given by the designation as cited in the attachment.		

9. The performance of the product identified in points 1 and 2 is in conformity with the declared performance in point 8.

   This declaration of performance is issued under the sole responsibility of the manufacturer identified in point 4.

   Signed for and on behalf of the manufacturer by:

   ……

   (name and function)

   ……..…… ……..……

   (place and date of issue) (signature)

Attachment to Declaration of Performance

No. ABC1234

Product no.	**Name** (optional)	**Product-type** (optional)	**Designation code** (optional)	**Digits** (optional)
6620 01	Amadea	Ceramic kitchen sink	EN 13310	11
6784 03	Mozart	Ceramic kitchen sink	EN 13310	10
1234 76	Strauss	Ceramic kitchen sink	EN 13310 — LR/NPD	08
…..				

   …….

   (name and function)

   ……..…… ……..

   (place and date of issue) (signature)

   (page/pages)

EXAMPLE 2 Short-text version of DoP with attached list of product numbers (identification codes) for this DoP:

Declaration of Performance

No. ABC1234

1. **For product number (identification code) see list attached.**
2. **Ceramic kitchen sink**
3. **Preparation of food, washing of dishes and discharge of domestic wastewater (PWD)**
4.

AnyCo SA,
PO Box 21
B-1050 Brussels, Belgium
Tel. +32987654321
Fax: +32123456789
Email: anyco.sa@provider.be

5. **n.a.**
6. **System 4**
7. **Determination of product type and factory production control by the manufacturer**
8.

Essential characteristics[a]	Performance	Harmonized technical specification
CA	Pass	EN 13310:2015
LR	Pass	
DA	Pass	
[a] Specific performance of Essential Characteristics are given by the designation code as cited in the attachment.		

9. The performance of the product identified in points 1 and 2 is in conformity with the declared performance in point 8.

   This declaration of performance is issued under the sole responsibility of the manufacturer identified in point 4.

   Signed for and on behalf of the manufacturer by:

   ……

   (name and function)

   ……..…… ……

   (place and date of issue) (signature)

   (page/pages)

Attachment to Declaration of Performance

No. ABC1234

Product no.	**Name** (optional)	**Product-type** (optional)	**Designation code** (optional)	**Digits** (optional)
6620 01	Amadea	Ceramic kitchen sink	EN 13310	11
6784 03	Mozart	Ceramic kitchen sink	EN 13310	10
1234 76	Strauss	Ceramic kitchen sink	EN 13310 — LR/NPD	08
…..				

……

(name and function)

……..…….. ……..

(place and date of issue) (signature)

(page/pages)

ZA.3 CE marking and labelling

The CE marking symbol shall be in accordance with the general principles set out in Article 30 of Regulation (EC) No. 765/2008 and shall be affixed visibly, legibly and indelibly:

— to the kitchen sink, or

— to label attached to it.

Where this is not possible or not warranted on account of the nature of the product, it shall be affixed:

— to the packaging, or

— to the accompanying documents.

The CE marking shall be followed by:

— the last two digits of the year in which it was first affixed;

— the name and the registered address of the manufacturer, or the identifying mark allowing identification of the name and address of the manufacturer easily and without any ambiguity;

— the unique identification code of the product type;

— the reference number of the declaration of performance;

— the level or class of the performance declared;

— the reference to the harmonized technical specification applied;

— the intended use as laid down in the harmonized technical specification applied.

The CE marking shall be affixed before the construction product is placed on the market. It may be followed by a pictogram or any other mark notably indicating a special risk or use.

Figure ZA.1 gives an example of the information related to products subject to AVCP under system 4 to be given on the label.

CE	*CE marking, consisting of the "CE"-symbol*
AnyCo Ltd, PO Box 21, B-1050	*Name and the registered address of the manufacturer, or identifying mark*
15	*Last two digits of the year in which the marking was first affixed*
ABC1234	*Reference number of the DoP*
6620 01	*Unique identification code of the product-type*
Preparation of food, washing of dishes and discharge of domestic wastewater	*Intended use of the product as laid down in the European Standard applied*
EN 13310 **CA – DA**	*No. of European Standard applied, as referenced in OJEU and level or class of the performance declared*

Figure ZA.1 — Example CE marking information of kitchen sink with limited set of declared characteristics

Bibliography

[1] EN ISO 9001, *Quality management systems — Requirements (ISO 9001)*

[2] 2004/1935/EU, *Regulation (EC) No 1935/2004 of the European Parliament and of the Council of 27 October 2004 on materials and articles intended to come into contact with food and replacing Directives 80/590/EEC and 89/109/EEC*

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