



# SLOVENSKI STANDARD

## oSIST prEN 12983-1:2020

01-februar-2020

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### Posoda za kuhanje - Posoda za domačo uporabo v pečici, na štedilniku ali kuhalni plošči - 1. del: Splošne zahteve

Cookware - Domestic cookware for use on top of a stove, cooker or hob - Part 1: General requirements

Kochutensilien - Haushaltskochgeschirre zur Verwendung auf einem Ofen, Herd oder Kochmulde - Teil 1: Allgemeine Anforderungen

Articles culinaires - Articles culinaires à usage domestique pour cuisinières et plaques de cuisson - Partie 1: Prescriptions générales

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**Ta slovenski standard je istoveten z: prEN 12983-1**

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#### ICS:

97.040.60	Kuhinjska posoda, jedilni servisi in jedilni pribor	Cookware, cutlery and flatware
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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

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**prEN 12983-1**

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## Cookware - Domestic cookware for use on top of a stove, cooker or hob - Part 1: General requirements

Articles culinaires - Articles culinaires à usage  
domestique pour cuisinières et plaques de cuisson -  
Partie 1: Prescriptions générales

Kochutensilien - Haushaltskochgeschirre zur  
Verwendung auf einem Ofen, Herd oder Kochmulde -  
Teil 1: Allgemeine Anforderungen

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 194.

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

**CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels**

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**prEN 12983-1:2020 (E)****European foreword**

This document (prEN 12983-1:2020) has been prepared by Technical Committee CEN/TC 194 “Ustensils in contact with food”, the secretariat of which is held by AFNOR.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 12983-1:2000 and EN 12983-1:2000/A1:2004.

The major changes in this document compared to the previous documents are:

- revision of requirements and associated tests for:
  - handles;
  - coating;
  - heat suitability;
  - heat distribution;
- inclusion of requirements of CEN/TS 12983-2:2005 (except requirements for ceramic).

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## 1 Scope

This document specifies safety and performance requirements for items of cookware for domestic use on top of a stove, cooker or hob. It is applicable to all cookware regardless of material or method of manufacture with the exceptions of those mentioned below. It is also applicable to cookware intended for use both “on top” and “in oven”.

Hob types covered by this document are gas, electricity solid plate, electricity radiant ring, radiant plate in glass ceramic and induction plate in glass ceramic.

This document is not applicable to pressure cookers, stove top water kettles and coffee makers.

NOTE 1 Requirements for suitability for use in automatic dishwashers is under study by a specialist group and will be added by amendment when completed.

NOTE 2 The requirements for ceramic and glass ceramic are specified in part 2.

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 30-1-1, *Domestic cooking appliances burning gas — Part 1-1: Safety - General*

EN ISO 2064, *Metallic and other inorganic coatings - Definitions and conventions concerning the measurement of thickness (ISO 2064)*

EN ISO 2360, *Non-conductive coatings on non-magnetic electrically conductive base metals - Measurement of coating thickness - Amplitude-sensitive eddy-current method (ISO 2360)*

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

EN ISO 4628-2, *Paints and varnishes - Evaluation of degradation of coatings - Designation of quantity and size of defects, and of intensity of uniform changes in appearance - Part 2: Assessment of degree of blistering (ISO 4628-2)*

EN ISO 10093, *Plastics — Fire tests — Standard ignition sources*

ISO 272, *Fasteners — Hexagon products — Widths across flats*

ISO 2744, *Vitreous and porcelain enamels — Determination of resistance to boiling water and water vapour*

ISO 2747, *Vitreous and porcelain enamels — Enamelled cooking utensils — Determination of resistance to thermal shock*

ISO 4532, *Vitreous and porcelain enamels — Determination of the resistance of enamelled articles to impact — Pistol test*

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### 3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

**3.1**  
**cookware**  
utensil, in the form of a hollow container, intended for use in the cooking of food or liquids on the top of a stove, cooker or hob, and/or in an oven

**3.2**  
**fixing system**  
attachment method, or methods, utilized in fastening a handle to the body of an item of cookware or to fix a knob to a lid

**3.3**  
**capacity**  
maximum volume of water which can be held by the article on a level surface

Note 1 to entry: 0,1 % of hand wash detergent shall be added to the water in order to minimize the surface tension.

**3.4**  
**usable capacity**  
two thirds of the capacity <https://standards.iteh.ai/catalog/standards/sist/7a819673-8c0b-4b9c-98aa-ed5289269f52/osist-pren-12983-1-2020>

Note 1 to entry: The true usable capacity of the cookware varies with the food being cooked. The figure given here is an average value intended for use in test situations only and not as information to the consumer.

**3.5**  
**handle**  
projection integral with or affixed to the body of the cookware and intended to facilitate the carrying and holding of the article in normal use

**3.6**  
**removable handle**  
handle designed to be attached and removed from the body of the cookware without the use of tools

**3.7**  
**knob**  
short projection integral with or affixed to the lid of the cookware to facilitate positioning or removal in normal use

**3.8**  
**shallow items**  
cookware of overall internal depth 1/3 or less of the interior diameter at the rim

**3.9**  
**furniture**  
generic term for handles and knobs

**3.10****non-stick coating**

coating applied to the interior of a cookware to achieve an anti-adherent effect during cooking and facilitate cleaning

**3.11****exterior base diameter**

dimension, measured on the exterior bottom of the cookware, across the maximum circumference of contact when placed on a flat surface

**3.12****interior base diameter**

diameter, measured on the inside of the cookware, excluding the radius of the body base to the body wall

**3.13****glass**

inorganic non-metallic material produced by the complete fusion of raw materials at a high temperature into a homogeneous liquid which is then cooled to a rigid condition essentially without crystallisation

**3.14****ceramic**

inorganic non-metallic material made by firing a mixture of raw materials at high temperature

Note 1 to entry: The firing temperature is high enough to give the necessary strength to the article, which is already shaped but is lower than the temperature which is necessary to achieve complete fusion of the mixture

**3.15****glass ceramic**

inorganic, non-metallic material produced by the complete fusion of raw materials at high temperatures into a homogeneous liquid which is then cooled to a rigid material and heat treated to achieve a certain degree of crystallisation, mainly sub-microscopic small crystallites

**4 Materials**

Cookware shall be made of materials of a type and purity that, under normal conditions of use, present no toxic hazards nor in any way affect the organoleptic qualities of food prepared in it. These products shall comply with European regulation in force regarding products intended to be used in contact with foodstuff.

**5 General conditions for testing**

Unless otherwise specified, the tests shall be carried out at an ambient temperature of  $(23 \pm 5) ^\circ\text{C}$ .

When a failure in a test could be caused by the stresses set up by a previous test, the failed test shall be repeated on a new product.

**prEN 12983-1:2020 (E)****6 Construction****6.1 General****6.1.1 Stability**

The product shall be stable, the base shall be in intended contact with the surface (a slide could be accepted), when placed empty without lid on a 5 ° inclined surface in the least favourable position, except for products whose intrinsic design features preclude them complying with this requirement e.g. certain woks.

**6.1.2 Hygiene**

All surfaces intended to come into contact with food shall be easily cleanable under normal circumstances.

**6.1.3 Mechanical hazards**

All components shall be free from burrs, splinters or sharp edges that could cause injury or discomfort to the user.

**6.2 Geometry****6.2.1 Dimensions**

The points of measurement of any claimed dimensions shall be made clear to the consumer, e.g. by means of a simple sketch.

**6.2.2 Capacity**

If a capacity is claimed, the actual capacity shall not be less than the claimed capacity.

**6.2.3 Diameters**

Any diameter claimed for the base shall be within  $\pm 10$  mm of the average of two measurements of the actual diameter taken at right angles to one another.

Any other claimed diameter shall be within  $\pm 5$  mm of the average of two measurements of the actual diameter taken at right angles to one another.

**6.2.4 Sizes for non-circular products**

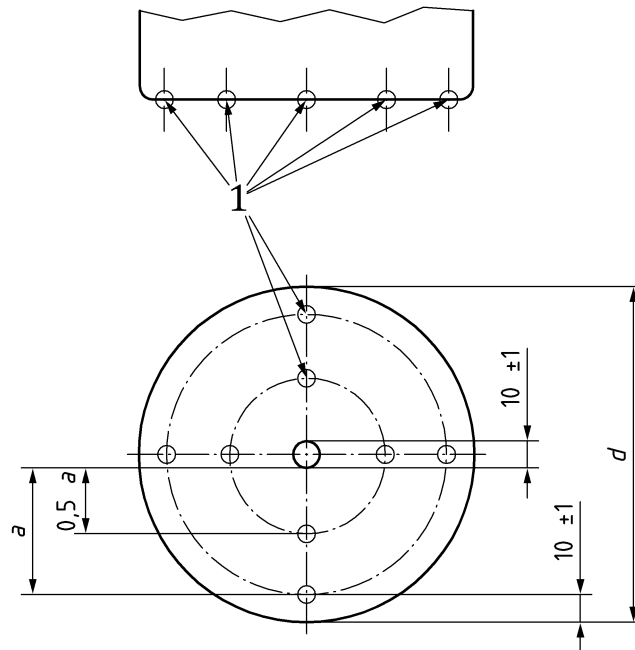
Every claimed size shall be within tolerance of  $\pm 10$ mm.

**6.2.5 Base thickness**

If a thickness is claimed for the base of a product, the average thickness of the base shall be greater than 85 % of the claimed thickness. The average thickness shall be measured as described in Figure 1 considering all points defined except the centre.

If more than 22 % of the base area is deliberately deformed for aesthetic or functional reasons, either internally or externally, no claim for base thickness shall be made.

Dimensions in millimetres

**Key**

- 1 Measuring points
- d* Base diameter

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**Figure 1 — Measuring points**

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**6.2.6 Base form**

The base, when viewed from the beneath, shall not be convex except for products whose intrinsic design features preclude them complying with this requirement e.g certain woks.

**7 Furniture****7.1 General**

It is not the intention that all these tests shall be passed in sequence. Except where otherwise stated each test shall stand alone.

**7.2 Selection of handles**

All cookware with a capacity greater than 3,75 l or a total weight of 5 kg when filled to capacity with water shall be fitted with two handles.

**7.3 Handle position with respect to cookware**

Handles shall be positioned above the centre of gravity of an item of cookware when filled with water to its capacity. For shallow items there shall be a minimum clearance of 30 mm between the handle and the horizontal projection of the base of the item of cookware at a point halfway along the handle assembly. In the case of side handles, the measurement is taken at the lowest point where they are held in normal use (see Figure 2).

Dimensions in millimetres

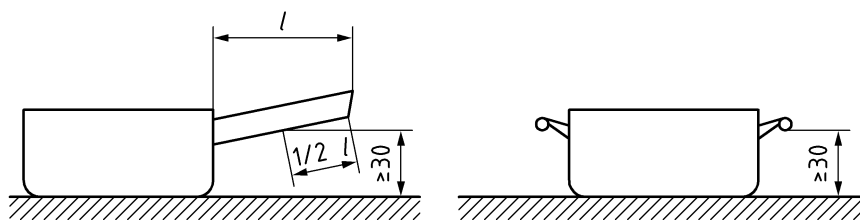


Figure 2 — Handle position

#### 7.4 Knob design

It shall be possible to use the knob for its normal purposes without coming into contact with any surface whose temperature exceeds the values given in 7.12 for the relevant materials.

#### 7.5 Lid design

The design of the lid shall be such that it shall be possible to remove it from the body using a force equal to the weight of the lid + 2 N in any position at a temperature of  $(23 \pm 5) ^\circ\text{C}$ . This test shall be carried out both before and after bringing a quantity of water, equal to the usable capacity, to the boil and allowing it to cool to ambient temperature. The lid shall remain in place throughout the boiling and cooling stages. If the lid is fitted with a locking device, this test shall be carried out with the device disengaged.

#### 7.6 Resistance to burning

The underside of the handle or any insert or inlay there, consisting of organic material, shall not drip molten material or keep burning when tested according to Annex A. Any burning shall self-extinguish within 15 s of the removal of the flame. Once extinguished the handle material shall not spontaneously re-ignite. Each material shall be tested at its position.

#### 7.7 Heat Resistance

All furniture designed to be attached to the main body of a product shall be free from cracks and blisters after completion of the test described in Annex B for a temperature of  $150 ^\circ\text{C} \pm 5 ^\circ\text{C}$  for 1 h. Purely decorative features e.g. thermoplastic inlays or sleeves are exempt from this requirement.

#### 7.8 Torque resistance

When tested in accordance with Annex C, the movement of the handle shall be no more than  $10^\circ$  in either direction. There shall be no damage affecting the function caused to the handle, ferrule or fixing system by this test.

#### 7.9 Bending strength

No part of the handle or handle fixing system shall detach or break with a bending force of 100 N when tested as described in Annex D during 30s.

#### 7.10 Fatigue resistance

A handle assembly shall withstand 15 000 cycles, without permanent distortion or permanent loosening of the handle or its fixing system, when tested as described in Annex E. If any loosening of the handle is noticed it is acceptable to retighten as mentioned in the use and care manual. Distortion of less than 5 % of the handle length measured at the end of the handle is ignored unless it affects safety or function.

### 7.11 Resistance to pull off handle assembly

When tested as described in Annex M, a handle assembly shall withstand a dynamic impact of 1,5 N.m without any breakage nor reduction in the security of the handle nor the fixing system.

### 7.12 Thermal hazards

For the following materials, the maximum temperature shall not exceed:

- |                          |      |
|--------------------------|------|
| a) metal                 | 55°C |
| b) plastics              | 70°C |
| c) wood                  | 89°C |
| d) ceramic, glass, stone | 66°C |

when tested as described in Annex F.

If the values exceed these limits or the cookware is claimed to be suitable for deepfrying, the manufacturer shall indicate in the instructions (see 10.2) that the use of protection is required in order to ensure a safe handling of the cookware.

It shall not be possible to touch, with a spherical probe 14 mm in diameter, any metal part contained within the insulated portion of the furniture which exceeds 55 °C when tested as described in Annex F.

## 8 Coatings

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### 8.1 Vitreous enamel and solgel on any substrate

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#### 8.1.1 Citric acid test at room temperature

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The interior coating shall be tested in accordance with ISO 272. The maximum acceptable weight loss shall be 5,0 g/m<sup>2</sup> for the liquid phase and 10,0 g/m<sup>2</sup> for the vapour phase over a test period of 24 h. The result is considered as successful if the sample is in class 1, 2 or 3 for glossy surface and class 1 or 2 for matte surface.

#### 8.1.2 Boiling water test

The interior coating shall be tested in accordance with ISO 2744 the maximum acceptable weight loss shall be 1,5 g/m<sup>2</sup> for the liquid phase and 3,0 g/m<sup>2</sup> for the vapour phase over a test period of 24 h.

#### 8.1.3 Thermal shock test

When the coating is tested in accordance with ISO 2747, the minimum acceptable failure temperature shall be 280° C.

#### 8.1.4 Resistance to impact

When the coating is tested in accordance with ISO 4532 the coating shall resist a minimum impact of 20 N, showing no damage greater than 2 mm after 24 h.

#### 8.1.5 Adhesion test for vitreous enamel on aluminium

When tested as described in Annex G exposure of the base metal shall not exceed 3 mm from the test edge.