SLOVENSKI STANDARD
SIST EN 12983-1:2001

01-februar-2001

Posoda za kuhanje - Posoda za domaļo uporabo na ģtedilniku, kuhalniku in na peļi - 1. del: Sploģne 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 cuisinieres et plaques de cuisson - Partie 1: Prescriptions générales

Ta slovenski standard je istoveten z: **EN 12983-1:2000**

ICS:

97.040.60	Kuhinjska posoda, jedilni servisi in jedilni pribor	Cookware, cutlery and flatware

SIST EN 12983-1:2001 **en**

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 12983-1

April 2000

ICS 97.040.60

English version

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This European Standard was approved by CEN on 27 February 2000.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

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Foreword

This European Standard has been prepared by Technical Committee CEN/TC 194 "Utensils in contact with food", the secretariat of which is held by BSI.

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of an identical text or by endorsement, at the latest by October 2000, and conflicting national standards shall be withdrawn at the latest by October 2000.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

This European Standard 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".

It is not applicable to glass, ceramic and glass ceramic articles.

NOTE 1 The applicability of this standard and possible additional requirements and test procedures for these products are under consideration and are intended to be incorporated in a complementary standard.

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

NOTE 2 Requirements and test procedures for resistance to pull of furniture, non stick coatings, suitability for various heat sources and suitability for use in automatic dishwasher are under study and will be covered by a complementary standard.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to 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.*

EN ISO 2360, *Non-conductive coatings on non-magnetic basis metals - Measurement of coating thickness - Eddy current method.*

EN ISO 2409:1994, *Paints and varnishes - Cross-cut test.(ISO 2409: 1992)*

ISO 2742, *Vitreous and porcelain enamels - Determination of resistance to boiling citric acid.*

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.*

EN ISO 10093 , *Plastics - Fire tests - Standard ignition sources.*

3 Terms and definitions

For the purposes of this European Standard, the following terms and definitions apply:

3.1
cookware
utensil, in the form of a hollow container, intended for use in the cooking of food or beverages on the top of a stove, cooker or hob, and/or in a 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
volume of water held when the cookware is filled to the brim while standing on a level surface.

3.4
usable capacity
two thirds of the capacity.

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

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.

5 General conditions for testing

Unless otherwise specified, the tests shall be carried out at an ambient temperature of (23 ± 5) °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.

6 Construction

6.1 General

6.1.1 Stability

The product shall be stable 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 Selection of handles

All cookware, excluding shallow items, 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.

6.1.3 Hygiene

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

6.1.4 Mechanical hazards

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

6.1.5 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 1).

Dimensions in millimetres

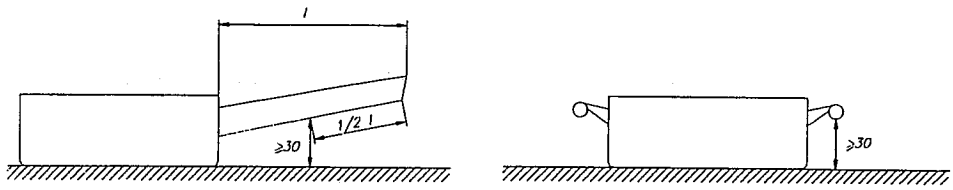


Figure 1 — Handle position

6.1.6 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 7.7 for the relevant materials.

6.1.7 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 ± 5) °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.

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 ± 10 mm of the average of two measurements of the actual diameter taken at right angles to one another.

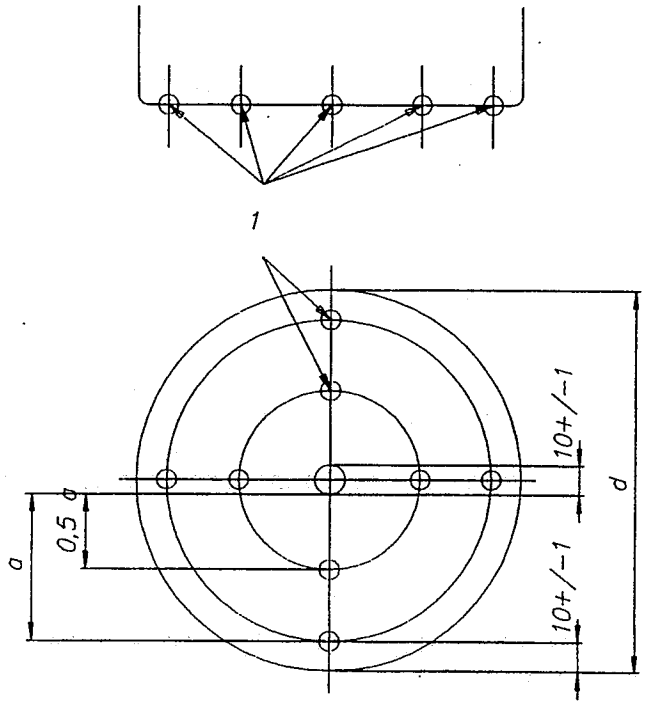
Any other claimed diameter shall be within ± 5 mm of the average of two measurements of the actual diameter taken at right angles to one another.

6.2.4 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 2 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

Figure 2 — Measuring points

6.2.5 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 Resistance to burning

A handle shall not melt or drip molten and/or burning material when tested in accordance with 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.

7.3 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 °C ± 5 °C for 1 h. Purely decorative features e.g. thermoplastic inlays or sleeves are exempt from this requirement.

7.4 Torque resistance.

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

7.5 Bending strength.

A handle fixing system shall withstand a bending force of 100 N when tested as described in Annex D, without failure of the securing system, i.e. rivets, welds etc. Deformation or failure of the body or handle shall not count as a failure in this test, except, where the part of the handle which failed is part of the fixing system.

7.6 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. Distortion of less than 5 % of the handle length measured at the end of the handle is ignored unless it affects safety or function.

7.7 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, 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 on the body and the lid

NOTE Coatings may be decorative, non stick, protective or energy related.

8.1 Vitreous enamel on steel and cast iron

8.1.1 Boiling citric acid test

When the interior enamel coat is tested in accordance with ISO 2742 the maximum acceptable weight loss shall be 5,0 g/m^2 for the liquid phase and 10,0 g/m^2 for the vapour phase over a test period of 24 h.

8.1.2 Boiling water test

When the interior enamel coat is tested in accordance with ISO 2744 the maximum acceptable weight loss shall be 1,5 g/m^2 for the liquid phase and 3,0 g/m^2 for the vapour phase over a test period of 24 h.

8.1.3 Thermal shock test

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

8.1.4 Resistance to impact

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

8.2 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.

8.3 Hard anodized aluminium.

8.3.1 Thickness

The minimum average thickness of an anodized layer shall be 25 μm when measured as specified in EN ISO 2064 and EN ISO 2360.

This check shall be carried out only where the hard anodised coating is not covered by a separate coat of a different material.

8.3.2 Stain resistance

When tested as described in Annex H there shall be no staining visible on any surface intended to come into contact with food.

8.3.3 Alkali resistance

When tested as described in Annex J, there shall be no loss of the insulating properties of the coating of any surface intended to come into contact with food.

8.3.4 Hardness

Coatings claimed to be hard anodised shall have a hardness greater than 350 HV 0,5 or equivalent.

8.4 Organic external coatings

8.4.1 Cross-cut adhesion test

There shall be no removal of the coating greater than classification 2 when tested as described in EN ISO 2409 for hard substrates, with the following modifications:

a) precondition the test piece by immersing in continuously boiling water for 15 min, allowing it to cool at ambient temperature and wiping it dry;

b) repeat 7.2.6 of EN ISO 2409:1992 a further 3 times applying the tape at 90° to the previous application each time.

8.4.2 Pencil hardness test

When tested on the base as described in Annex K, the minimum acceptable hardness shall be 2 H.

8.4.3 Pencil hardness test at elevated temperatures.

When tested on the base as described in Annex K, with the test surface held at 200° C, the minimum acceptable hardness shall be H.

NOTE Extreme care should be taken in carrying out this test to avoid burns.