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Cookware - Domestic cookware for use on top of a stove, cooker or hob - Part 2: Further general requirements and specific requirements for ceramic, glass and glass ceramic cookware

Kochutensilien - Haushaltskochgeschirre zur Verwendung auf einem Ofen, Herd oder Kochmulde - Teil 2: Weitere allgemeine Anforderungen und spezifische Anforderungen für Keramik- und Glaskochgeschirre

Articles culinaires - Articles culinaires a usage domestique pour cuisinieres et plaques de cuisson - Partie 2 : Exigences générales supplémentaires et exigences spécifiques pour articles culinaires en verre et en céramique

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ICS:

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

**Cookware - Domestic cookware for use on top of a stove,
cooker or hob - Part 2: Further general requirements and
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This Technical Specification (CEN/TS) was approved by CEN on 14 September 2004 for provisional application.

The period of validity of this CEN/TS is limited initially to three years. After two years the members of CEN will be requested to submit their comments, particularly on the question whether the CEN/TS can be converted into a European Standard.

CEN members are required to announce the existence of this CEN/TS in the same way as for an EN and to make the CEN/TS available promptly at national level in an appropriate form. It is permissible to keep conflicting national standards in force (in parallel to the CEN/TS) until the final decision about the possible conversion of the CEN/TS into an EN is reached.

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CEN/TS 12983-2:2005 (E)

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Foreword

This document (CEN/TS 12983-2:2005) has been prepared by Technical Committee CEN/TC 194 “Utensils in contact with food”, the secretariat of which is held by BSI.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to announce this Technical Specification: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

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CEN/TS 12983-2:2005 (E)

1 Scope

This document, part of EN 12983, specifies safety and performance requirements of items of domestic cookware for use on top of a stove, cooker or hob and is applicable to all cookware regardless of material or method of manufacture. It also applies to products 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 complementary to EN 12983-1.

NOTE 1 Requirements for suitability for use with Induction hobs are in the process of being compiled and will be issued as a complementary standard.

NOTE 2 Requirements for suitability for use in automatic dishwashers is under study by a specialist group and will be added by amendment when completed.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 12983-1:2000, *Cookware – Domestic cookware for use on top of a stove, cooker or hob - Part 1: General requirement.*

ENV 12875-1, *Mechanical dishwashing resistance of domestic utensils – Part 1: Reference test method.*

EN ISO 4628-2, *Paints and varnishes – Evaluation of degradation of coatings – 4 Designation of quantity and size of defects, and of intensity of uniform changes in appearance – Part 2: Assessment of degree of blistering (ISO 4628-2:2003).*

ISO 2747, *Vitreous and porcelain enamel - Enamel cooking utensils – Determination of resistance to thermal shock.*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 12983-1:2000 and the following apply:

3.1

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

3.2

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 Resistance to pull of handle assembly

When tested as described in Annex A, a handle assembly shall withstand a dynamic impact of 1,5 N.m without any reduction in the security of the fixing system.

5 Non-stick coatings

5.1 General

The requirements given in this clause apply to any surfaces which are claimed to be non-stick.

NOTE Non-stick coatings are intended to facilitate the release of food after cooking and also cookware cleaning.

5.2 Endurance

When tested as described in Annex B, any surface claimed to be non-stick shall leave no portion greater than 10 % of the surface area of the pancake still adhering to the test surface.

5.3 Corrosion resistance

When tested as described in Annex C, any surface claimed to be non-stick shall show no blistering exceeding size 2 density 2 according to EN ISO 4628-2.

6 Suitability for use with various heat sources

6.1 Declaration of suitability

The manufacturer or supplier shall declare the heat source(s) for which their products are suitable.

6.2 Heat distribution

If suitability for use on solid plate or glass ceramic hobs with radiant or halogen heaters is claimed, when tested as described in Annex D, the temperature at the point where the sugar first melted shall not exceed 290 °C at the completion of the test.

6.3 Suitability

Test methods for the evaluation of suitability for various heat sources are given in Annex E as guidance to manufacturers and suppliers who wish to claim suitability of their cookware for use with solid plate or glass ceramic hobs with radiant or halogen heaters. These tests do not apply to shallow items.

7 Glass and glass ceramic ware

7.1 Bodies

When tested as described in ISO 2747, the minimum failure temperature shall be 280 °C.

7.2 Lids

When tested as described in Annex F, there shall be no damage caused to the test piece.

Annex A (normative)

Test for resistance to pull

A.1 Apparatus

A.1.1 Steel impact hammer, having a mass of $1 \text{ kg} \pm 50 \text{ g}$.

A.1.2 Metal guide for dropping the hammer (**A.1.1**) through a distance of $(150 \pm 5) \text{ mm}$ so that it falls vertically, essentially without friction, to a stop. The guide and stop shall have a mass of $10 \text{ kg} \pm 50 \text{ g}$.

A.1.3 Means of attaching the test piece to a rigid support in a horizontal plane, e.g. a 'G' clamp, which prevents any movement of the test piece.

A.1.4 Means of transferring the force generated by dropping the hammer (**A.1.1**) onto the metal guide (**A.1.2**) to the test piece handle so that said force acts parallel to the pan base.

NOTE A general form of a suitable apparatus is shown on Figure A.1.

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A.2 Procedure

A.2.1 Precondition the cookware by subjecting it to the heat resistance test described in Annex B of EN 12983-1:2000.

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A.2.2 Attach the cookware to the support (**A.1.3**) as shown in Figure A.1

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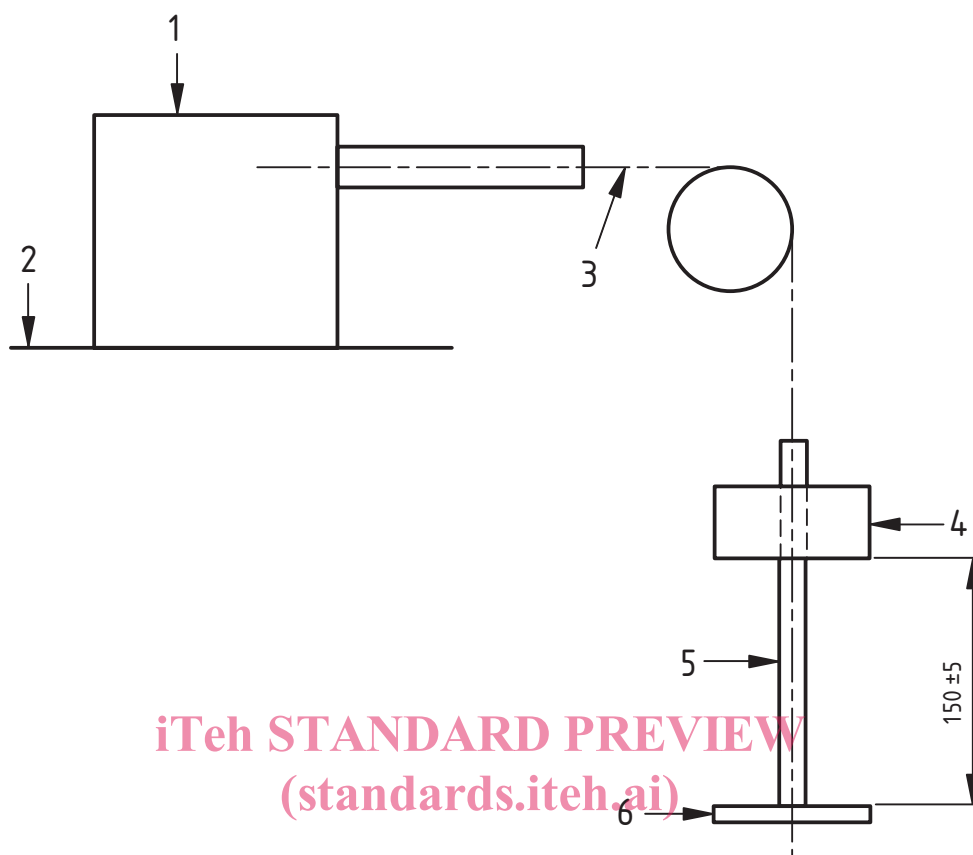
A.2.3 Attach the guide to the cookware handle so that a rigid fixing is obtained.

A.2.4 Position the impact hammer $(150 \pm 5) \text{ mm}$ above the stop and allow it to fall freely.

A.2.5 Examine the security of the fixing system and note any deterioration.

NOTE It is permissible to machine the handle to facilitate the fixing of the metal guide.

Dimensions in millimetres



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Key

- 1 Cookware
- 2 Support
- 3 Handle axis $0^\circ \pm 1^\circ$ from horizontal
- 4 Hammer
- 5 Guide
- 6 Stop

Figure A.1 — Resistance to pull

Annex B (normative)

Endurance tests for non-stick coatings

B.1 Apparatus

B.1.1 2,3 kW gas hob with heat diffuser (e.g. of the type shown in Figure B.1) capable of heating the interior base of the utensil up to 250 °C and of maintaining the temperature at (205 ± 10) °C when empty.

NOTE It is permissible to use a higher powered hob if the specified temperature cannot be achieved.

B.1.2 Fixing system to hold the utensil on the heat source during the test.

B.1.3 Wear equipment comprising two parts as follows:

- a) brass brush assembly, as shown in Figure B.2; and
- b) system to rotate the brush assembly against the surface to be tested, for example of the type shown Figure B.3.

The aluminium discs shall have a diameter of 115 mm, a thickness of 4,5 mm and be freely rotating.

The metal brushes shall be made from brass wire having a diameter of 0,2 mm and be freely rotating. They shall have an external diameter of 50 mm and a width of 5 mm at the fixing point of the wire.

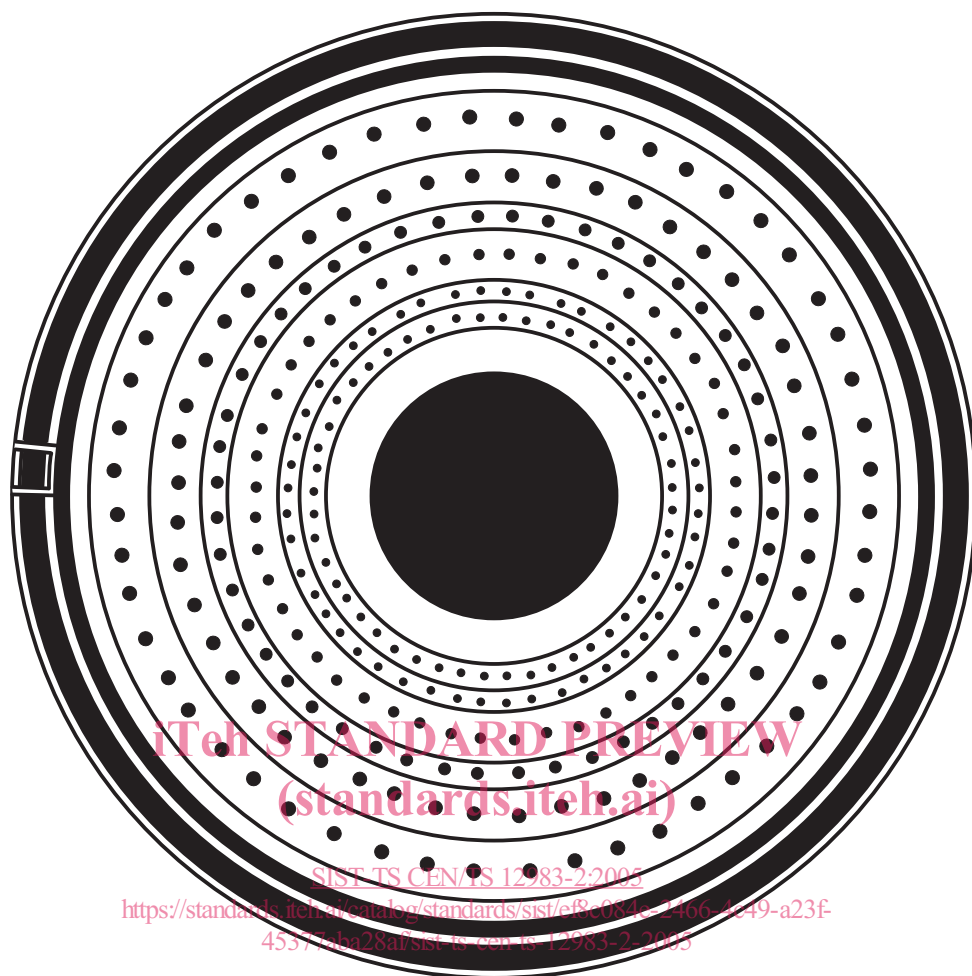
B.1.4 Test weight, comprising $(1,000 \pm 0,05)$ kg of steel balls approximately 3 mm in diameter densely packed in fabric.

B.2 Test batter

The test batter shall be pancake batter made from the following ingredients:

- 300 g plain wheat flour with a fat content between 1,3 g/100 g and 1,5 g/100 g;
- 3 eggs, i.e. 150 g. total mass shelled egg mixture;
- 1 l milk with a fat content of $(3,5 \pm 0,5)$ %;
- 1 g salt;

blended together to a smooth consistency and allowed to rest at ambient temperature for 30 min before use. Any batter not used within 8 h shall be discarded.



a) Plan view



b) Cross section

Figure B.1 — Heat diffuser