SLOVENSKI STANDARD
SIST EN ISO 2747:2022

01-december-2022

Steklasti in porcelanski emajli - Emajlirani kuhinjski pripomočki - Ugotavljanje odpornosti proti hitrim temperaturnim spremembam (ISO 2747:1998)

Vitreous and porcelain enamels - Enamelled cooking utensils - Determination of resistance to thermal shock (ISO 2747:1998)

Emails und Emaillierungen - Emaillierte Kochgeschirre - Bestimmung der Temperaturwechselbeständigkeit (ISO 2747:1998)

Émaux vitrifiés - Ustensiles de cuisson émaillés - Détermination de la résistance aux chocs thermiques (ISO 2747:1998)

Ta slovenski standard je istoveten z: **EN ISO 2747:2022**

ICS:

25.220.50	Emajlne prevleke	Enamels
97.040.60	Kuhinjska posoda, jedilni servisi in jedilni pribor	Cookware, cutlery and flatware

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EUROPEAN STANDARD

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English Version

Vitreous and porcelain enamels - Enamelled cooking utensils - Determination of resistance to thermal shock (ISO 2747:1998)

Émaux vitrifiés - Ustensiles de cuisson émaillés - Détermination de la résistance aux chocs thermiques (ISO 2747:1998)

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

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European foreword

The text of ISO 2747:1998 has been prepared by Technical Committee ISO/TC 107 "Metallic and other inorganic coatings" of the International Organization for Standardization (ISO) and has been taken over as EN ISO 2747:2022 by Technical Committee CEN/TC 262 "Metallic and other inorganic coatings, including for corrosion protection and corrosion testing of metals and alloys" 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of an identical text or by endorsement, at the latest by March 2023, and conflicting national standards shall be withdrawn at the latest by March 2023.

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Endorsement notice

The text of ISO 2747:1998 has been approved by CEN as EN ISO 2747:2022 without any modification.

INTERNATIONAL STANDARD

ISO 2747

Second edition
1998-03-15

Vitreous and porcelain enamels — Enamelled cooking utensils — Determination of resistance to thermal shock

Émaux vitrifiés — Ustensiles de cuisson émaillés — Détermination de la résistance aux chocs thermiques

Reference number
ISO 2747:1998(E)

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 2747 was prepared by Technical Committee ISO/TC 107, *Metallic and other inorganic coatings,* Subcommittee SC 6, *Vitreous and porcelain enamels*.

This second edition cancels and replaces the first edition (ISO 2747:1973), which has been technically revised.

Annex A of this International Standard is for information only.

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Vitreous and porcelain enamels — Enamelled cooking utensils — Determination of resistance to thermal shock

1 Scope

This International Standard specifies a method of determining, by successive thermal shock tests, the behaviour of vitreous and porcelain enamelled cooking utensils and similar articles under sudden changes of temperature (resistance to thermal shock).

2 Definitions

For the purposes of this International Standard, the following definitions apply.

2.1 thermal shock test: Series of operations commencing with the pouring of cold water into the heated test specimen and ending when the thermal shock temperature for the subsequent thermal shock test has been reached.

2.2 thermal shock temperature: Temperature to which the test specimen is heated before being chilled with cold water.

2.3 thermal shock resistance: Difference between the thermal shock temperature and the water temperature at which the test specimen shows the first damage on chilling or during subsequent heating.

2.4 damage: Chipping or tension cracks in the enamel visible at a distance of 250 mm by normal sight or made visible by using coloured penetrating fluids.

3 Principle

A series of single thermal shock tests is conducted with a temperature increase of 20 °C between each thermal shock obtained by heating the test specimen from the outside and then chilling it inside with water at 20 °C.

For the first test, the thermal shock temperature amounts to 200 °C. The test ends when the first visible damage occurs.

4 Apparatus

4.1 Electric hot-plate, capable of being continously temperature controlled, and of diameter and maximum output as given in table 1.

Table 1 - Hot-plates to be used to heat specimens

Internal diameter of specimen	Hot-plate	
	Diameter	Maximum output
mm	mm	W
Up to 180	145	1 000 ± 100
Over 180 and up to 220	180	1 500 ± 150
Over 220	220	2 000 ± 200

For testing specimens with an uneven base, the hot-plate shall be surmounted by a ring filled with copper grit of grain size 0,100 mm to 0,125 mm.

4.2 Temperature measuring device, quickly indicating, accurate to 2 °C.

4.3 Thermometer for measuring the temperature of the water.

4.4 Chamois leather, paper towel or **laboratory tissue.**

4.5 Water receptacle.

4.6 Stop-watch.

5 Test specimens and sampling

5.1 Use the utensils to be tested as test specimens without any modification.

5.2 The test specimens shall be representative of the entire consignment. The sampling plan shall be agreed upon between the interested parties.

5.3 At least three test specimens shall be tested.

6 Procedure

6.1 General specifications

NOTE — Annex A outlines the reasons underlying the selection of the test conditions specified in this International Standard.

For each thermal shock test, fill the test specimens with water at a temperature of 20 °C ± 1 °C, to a depth of 30 mm if possible. If it is not possible to fill the specimens to a depth of 30 mm, report the actual depth in the test report. Ensure that more water is available at 20 °C ± 1 °C (see 6.2.1).