



# SLOVENSKI STANDARD

## SIST EN 1184:1998

01-oktober-1998

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### Materiali in predmeti v stiku z živilni - Preskusne metode ugotavljanja prepustnosti svetlobe keramičnih predmetov

Materials and articles in contact with foodstuffs - Test methods for translucency of ceramic articles

Werkstoffe und Gegenstände in Kontakt mit Lebensmitteln - Prüfverfahren für die Transparenz von keramischen Gegenstände

Matériaux et objets en contact avec les denrées alimentaires- Méthodes d'essai visant à déterminer la translucidité des objets en céramique

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Ta slovenski standard je istoveten z: **EN 1184:1997**

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#### **ICS:**

67.250      Materiali in predmeti v stiku z živilni      Materials and articles in contact with foodstuffs

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**en**

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EUROPEAN STANDARD

EN 1184

NORME EUROPÉENNE

EUROPÄISCHE NORM

March 1997

ICS 67.250

Descriptors: kitchen utensils, tableware, ceramics, porcelain, food-container contact, tests, determination, transparency

English version

**Materials and articles in contact with foodstuffs -  
Test methods for translucency of ceramic articles**

Matériaux et objets en contact avec les denrées  
alimentaires - Méthodes d'essai visant à  
déterminer la translucidité des objets en  
céramique

Werkstoffe und Gegenstände in Kontakt mit  
Lebensmitteln - Prüfverfahren für die  
Transparenz von keramischen Gegenstände

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This European Standard was approved by CEN on 1997-02-14. 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.

The European Standards exist 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, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

**CEN**

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.

Further European Standards are being prepared with the following titles:

EN 1183 *Materials and articles in contact with foodstuffs*  
- *Test methods for thermal shock and thermal shock endurance*

EN 1217 *Materials and articles in contact with foodstuffs*  
- *Test method for water absorption of ceramic articles*

A further standard is proposed with the following title:

*Materials and articles in contact with foodstuffs*  
- *Test method for crazing resistance of ceramic articles*

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 September 1997, and conflicting national standards shall be withdrawn at the latest by September 1997.

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

## Introduction

This European Standard specifies two test methods for the determination of the translucency of ceramic articles. Translucency is the ability to transmit light, and is an important aesthetic property of china tableware. Translucency is one of the properties which is used to distinguish china tableware from other types of ceramic tableware.

Either test method is applicable but test method A is based on European Community Regulation No 679/72 "Customs classification of products to be allied to porcelain: 'Vitreous china' or 'Semi-vitreous china' type", and is for use, for such classification purposes.

Most commercial ceramic tableware articles lie within the thickness range specified for test method A.

## 1 Scope

This European Standard specifies test methods for the determination of the translucency of ceramic articles.

Two test methods are described:

- Test method A, a qualitative method for estimating translucency, applicable to ceramic articles within a specified thickness range.
- Test method B, a quantitative method for the determination of body translucency requiring test specimens to be cut from ceramic articles.

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## 2 Definitions

For the purposes of this Standard, the following definitions apply:

**2.1 translucency:** Ability to transmit incident light.

NOTE: Translucency is dependent strongly upon the thickness of the sample.

**2.2 body:** Ceramic material shaped to constitute the ware, more or less vitrified, which is generally coated with glaze.

### 3 Test method A

#### 3.1 Principle

The visibility of the outline of an opaque object through a 2 mm to 4 mm thick test specimen is examined under defined lighting and observation conditions.

#### 3.2 Apparatus and material

3.2.1 Light source box with a square cross section as shown schematically in figure 1, painted matt white inside with a lamp placed at one end, radiating a luminous intensity of 4000 lx to 5000 lx. A circular hole is cut at the opposite end to the lamp to allow the outline of an opaque object to be seen through the test specimen.

3.2.2 Calipers, or micrometer, capable of measuring the thickness of the test specimen

3.2.3 Opaque object sticking to the test specimen e.g. piece of plasticine

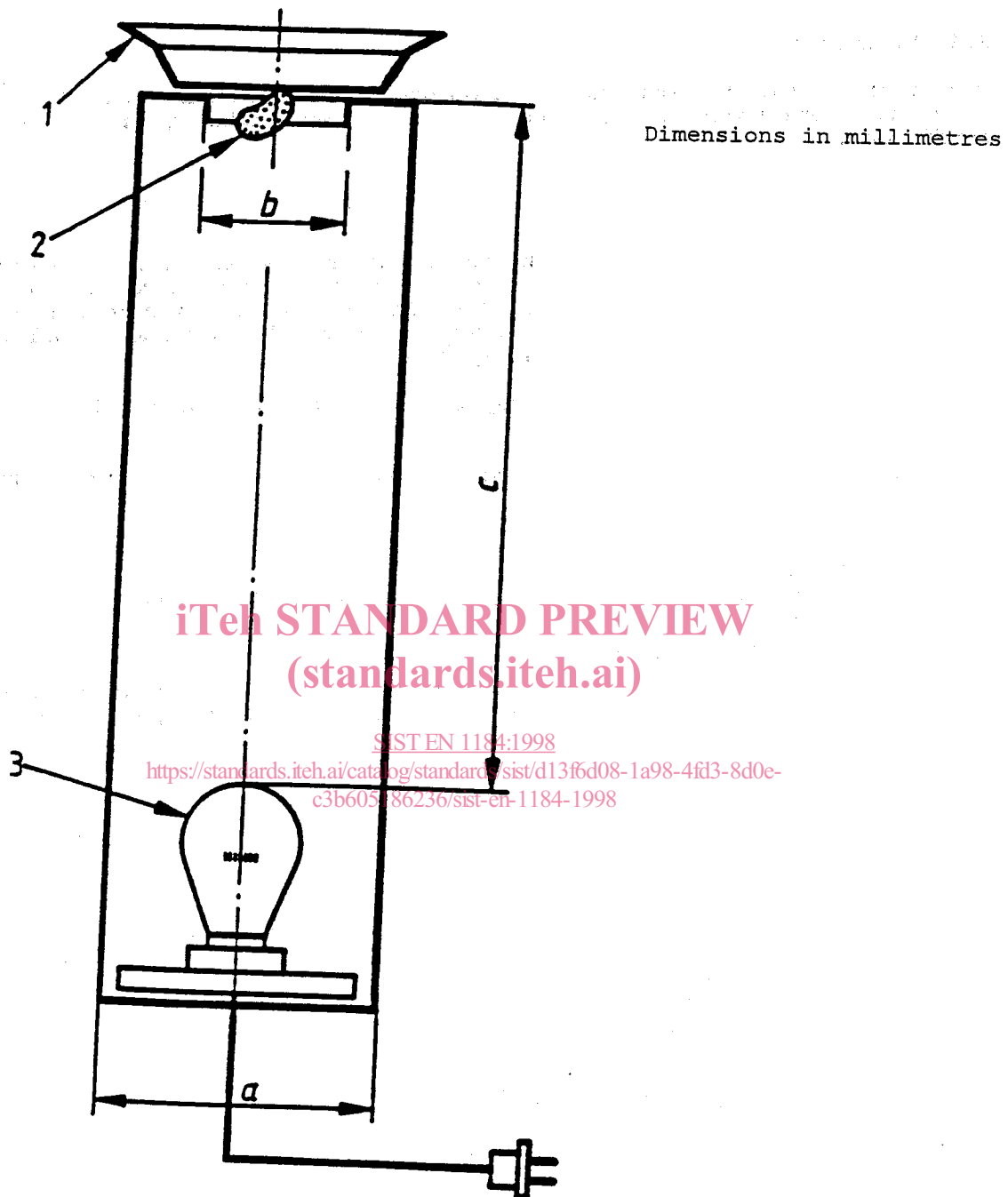
#### 3.3 Test specimen

The thickness of the test specimen in the viewing region shall be not less than 2 mm and not more than 4 mm.

NOTE: The test specimen may be a plate or a large item of holloware with a flat base which can be placed over the viewing aperture.

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- 1 - Test specimen
- 2 - Opaque object
- 3 - Lamp

a = Approximately 200 mm x 200 mm  
 b = Approximately 100 mm diameter  
 c = 500 mm  $\pm$  5 mm

Figure 1: Light source box (schematic diagram)



### 3.4 Procedure

Fix the opaque object about 1 cm<sup>2</sup> in area to the back of the test specimen in the viewing region (see 3.3) and position the test specimen over the viewing aperture of the light source box (3.2.1).

Record whether the outline of the opaque object is visible.

### 3.5 Expression of result

If the outline of the opaque object is visible, the ceramic article is reported to be translucent.

If the outline of the opaque object cannot be observed the ceramic article is reported to be not translucent.

## 4 Test method B

### 4.1 Principle

The translucency of a ceramic article is assessed as the ratio of the intensity of light transmitted through a test specimen to the intensity of light incident upon it, expressed as a percentage for a test specimen thickness of 2 mm.

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### 4.2 Apparatus

4.2.1 Photometer having a light source capable of emitting white light of colour temperature approximately 3400 K.

NOTE: The photometer should provide incident light in the form of a parallel beam normal to the surface of the test specimen and all transmitted light should be collected; the use of an instrument incorporating an integrating sphere is recommended as a means of achieving the latter.

4.2.2 Uniform reference samples of known translucency in the range 0 % to 10 % for the calibration of the photometer.

NOTE: These may be calibrated diffusing standards, or in the absence of these, neutral density filters.

4.2.3 Precision surface grinding equipment.

4.2.4 Micrometer.