

Materials and articles in contact with foodstuffs — Non-metallic tableware — Terminology

The European Standard EN 1900:1998 has the status of a
British Standard

ICS 01.040.97; 97.040.60

National foreword

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Summary of pages

This document comprises a front cover, an inside front cover, the EN title page, pages 2 to 8, an inside back cover and a back cover.

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English version

Materials and articles in contact with foodstuffs — Non-metallic tableware — Terminology

Matériaux et ustensiles en contact avec les denrées
alimentaires — Articles de table non métalliques —
Terminologie

Werkstoffe und Gegenstände in Kontakt mit
Lebensmitteln — Nichtmetallisches Tafelgeschirr —
Terminologie

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CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

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Foreword

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

This standard is one of a series of standards for terminology related to utensils in contact with food stuffs.

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of an identical text or by endorsement, at the latest by January 1999, and conflicting national standards shall be withdrawn at the latest by January 1999.

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.

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Introduction

This European Standard defines terms related to materials for non-metallic tableware. The materials comprise three main groups: ceramics; glass and glass ceramics; and plastics. The definitions of articles in contact with foodstuffs are not dealt with as these articles are of quite different nature in the various countries and a harmonization seems to be unnecessary and not feasible. Enamelled articles are also not included because the main part of these articles is of a metallic nature.

The selection of terms for definitions was governed by the needs of customs regulations.

The informative annex A contains a table which summarizes some aspects of the classification of the materials. The aim is to provide a quick survey on those characteristics which are used to distinguish the various materials.

Annex B is an informative annex listing the informative documents.

1 Scope

This European Standard defines terms related to certain materials for non-metallic tableware in contact with foodstuffs. It only includes those articles composed of the following materials: glass, glass ceramics, porcelain, vitreous china/vitrified tableware, stoneware, earthenware, common pottery or plastic.

NOTE Main tableware articles in contact with foodstuffs are: plates, soup tureens, salad bowls, vegetable dishes and trays of all kinds, from oven to tableware, coffee-pots, teapots, sugar bowls, milk jugs, beer mugs or tankards, cups, sauce-boats, fruit bowls, butter dishes, cruets, salt cellars, mustard pots, and drinking glasses.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative 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 1184:1997, *Materials and articles in contact with foodstuffs — Test methods for translucency of ceramic articles*.

EN 1217:1997, *Materials and articles in contact with foodstuffs — Test methods for water absorption of ceramic articles*.

ISO 62:1980, *Plastics — Determination of water absorption*.

3 Definitions

3.1 glass

3.1.1

glass

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

NOTE Different types of glasses are different in composition. In silicate glass the main constituent is silica.

3.1.2

soda-lime-silicate glass

glass in which the main constituents are silica, sodium oxide and calcium oxide

3.1.3

crystal glass

1) silicate glass with an oxide content of 10 % by mass or more of the following: zinc oxide, barium oxide, lead oxide and/or potassium oxide;

2) silicate glass containing barium oxide, lead oxide, and potassium oxide; one of these oxides or the sum of all the oxides being 10 % by mass or more¹⁾.

3.1.4

lead crystal glass

silicate glass containing 24 % by mass or more of lead oxide¹⁾

3.1.5

full lead crystal glass

silicate glass containing 30 % by mass or more of lead oxide¹⁾

3.1.6

borosilicate glass

thermal shock resistant silicate glass containing usually about 10 % by mass of boron oxide

3.2 glass ceramic

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

¹⁾ The other characteristics of this glass and its designation are given in EC Council Directive 69/493/EEC [1].

3.3 ceramic

3.3.1

ceramic

inorganic non-metallic material made by firing a mixture of raw materials at high temperature. The firing temperature is high enough to give the necessary strength to the article, which is already shaped, but lower than the temperature which is necessary to achieve complete fusion of the mixture

3.3.2

biscuit

unglazed first fired ceramic ware

3.3.3

body (fired)

ceramic material shaped to constitute the ware, more or less vitrified, which can be, and is generally, coated with a glaze

3.3.4

china; porcelain

glazed ceramic material, vitrified, impervious, white (or artificially coloured), translucent and resonant. The water absorption of the body is less than 0,5 % (determined according to method A of EN 1217:1997)

china or porcelain body is made generally from kaolin (or other china clays), silica, feldspar or feldspathic fluxes and sometimes calcium carbonate or alumina

bone china is a particular type of china containing at least 35 % by mass of the fired body, or tricalcium orthophosphate, which can be introduced in the form of bone ash

NOTE The definitions of "china or porcelain" given here apply only to tableware and do not concern other applications such as technical porcelain.

3.3.5

vitrified tableware; vitreous china

glazed ceramic bodies vitrified, impervious, white (or artificially coloured), slightly translucent, made of clays, silica, feldspar and sometimes alumina. The water absorption of the body is less than 0,5 % (determined according to method A of prEN 1217:1997)

NOTE For vitrified tableware or vitreous china that is coloured, of high thickness and/or strengthened by alumina, translucency is not an intrinsic characteristic.

3.3.6

stoneware

glazed ceramic material, partially, vitrified, impervious, generally naturally coloured, hard and opaque. Its body is generally made of clays, silica and flux. The water absorption of the body is less than 3 % (determined according to method A of EN 1217:1997)

3.3.7

earthenware

glazed ceramic material of low vitrification, white to cream (or artificially coloured), opaque, with a porous and fine texture. The different elements of the body (grains, pores) are 0,15 mm or less and therefore not visible to the naked eye. Its body is generally made of clays, silica, feldspar or feldspathic fluxes and/or calcium carbonate. The water absorption of the body is greater than 3 % (determined according to method A of EN 1217:1997)

3.3.8

common pottery

glazed ceramic material, more or less vitrified, opaque, generally naturally coloured, with more or less porous and grained texture, generally made with a mixture of clays. Some elements of the body (grains, pores) are larger than 0,15 mm. The water absorption of the body is greater than 3 % (determined according to method A of EN 1217:1997)

3.4

plastics

organic macromolecular compounds obtained by polymerization, polycondensation, polyaddition or any other similar process from molecules with a lower molecular weight or by chemical alteration of natural macromolecules

silicones and other similar macromolecular compounds are also regarded as plastics. Other substances or matter can be added to macromolecular compounds

NOTE This definition is taken from EC Council Directive 90/128/EEC [2].

3.5

glaze

substance resulting from the melting or sintering of inorganic constituents and designed to form a surface layer which is fused, in one or more coats, and the firing temperature of which is higher than 500 °C

NOTE Glazes can be opaque or transparent.

NOTE A transparent glaze, vitrified at high temperature at the same time as the final firing of body is called "couverte" in French and "Scharffeueglasur" in German. A transparent glaze vitrified fired subsequently at a temperature lower than that used for firing the body is called "glaçure" in French.

3.5.1

glazing

application of a glaze on to a ceramic body

3.5.2

salt glazing

glazing process which consists of throwing a salt (sodium chloride or sodium borate) into the kiln when the firing is approaching the maximum temperature for developing a glaze

NOTE This process is used only occasionally.

3.6

decoration

graphic design elements (geometric lines and shaded tones arranged usually with colour or gold or platinum) to embellish an article

NOTE Decoration can be applied:

- a) under the glaze by application to the biscuit or clayware, covered with glaze and then fired;
- b) on the glaze, or on the unglazed surface;
- c) in the glaze by applying the decoration on the glazed area and then firing at a temperature above the softening point of the glaze so that the decoration sinks into the glaze layer.

3.7 properties

3.7.1

water absorption of ceramic

quantity of water that can be absorbed by the body of a ceramic ware. For customs requirements this characteristic is measured in accordance with method A of EN 1217:1997

3.7.2

translucency

ability to transmit incident light. For ceramics this property is measured in accordance with method A of EN 1184:1997

Annex A (informative)

Summary of the characteristics of materials used for articles in contact with foodstuffs (for ceramics: body characteristics)

Table A.1

Material	Colour	Water absorption	Optical properties	Visible structure
Glass	Colourless (or naturally or artificially coloured)	None	Transparent or translucent or opaque	Homogeneous
Glass ceramic	White, colourless or coloured	None	Transparent or translucent or opaque	Homogeneous
China or porcelain	White (or artificially coloured)	< 0,5 % ¹⁾	Translucent ²⁾	Homogeneous
Vitrified tableware or vitreous china	White, slightly grey (or artificially coloured)	< 0,5 % ¹⁾	Slightly Translucent ²⁾ or opaque	Homogeneous
Stoneware	Grey or brown	< 3 % ¹⁾	Opaque	Homogeneous
Earthenware	White or cream	> 3 % ¹⁾	Opaque	Heterogeneities < 0,15 mm
Common pottery	Coloured	> 3 % ¹⁾	Opaque	Heterogeneities > 0,15 mm
Plastic	White, slightly yellow or artificially coloured	Low or very low ³⁾	Transparent or translucent or opaque	Homogeneous

¹⁾ Determined according to method A of EN 1217:1997.

²⁾ Determined according to method A of EN 1184:1997.

³⁾ Determined according to ISO 62:1980.

Annex B (informative)

Bibliography

[1] EC Council Directive, dated 15 December 1969, on the approximation of the laws of the member states relating to crystal glass (69/493/EEC), *Official Journal of the European Communities* No. L 326/36.

[2] Commission Directive, dated 23 February 1990, relating to plastics materials and articles intended to come into contact with foodstuffs (90/128/EEC), *Official Journal of the European Committees* No. L 275/19.

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