SLOVENSKI PREDSTANDARD

oSIST prEN ISO 6872:2006

julij 2006

Zobozdravstvo - Keramični materiali (ISO/DIS 6872:2006)

Dentistry - Ceramic materials (ISO/DIS 6872:2006)

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

DRAFT
prEN ISO 6872

April 2006

ICS

Will supersede EN ISO 6872:1998

English Version

Dentistry - Ceramic materials (ISO/DIS 6872:2006)

Art dentaire - Produits céramiques (ISO/DIS 6872:2006)

This draft European Standard is submitted to CEN members for parallel enquiry. It has been drawn up by the Technical Committee CEN/TC 55.

If this draft becomes a European Standard, 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.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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Ref. No. prEN ISO 6872:2006: E

Foreword

This document (prEN ISO 6872:2006) has been prepared by Technical Committee ISO/TC 106 "Dentistry" in collaboration with Technical Committee CEN/TC 55 "Dentistry", the secretariat of which is held by DIN.

This document is currently submitted to the parallel Enquiry.

This document will supersede EN ISO 6872:1998.

Endorsement notice

The text of ISO 6872:2006 has been approved by CEN as prEN ISO 6872:2006 without any modifications.

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DRAFT INTERNATIONAL STANDARD ISO/DIS 6872

ISO/TC **106**/SC **2** Secretariat: **ANSI**

Voting begins on: **2006-04-27** Voting terminates on: **2006-09-27**

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Dentistry — Ceramic materials

Art dentaire — Produits céramiques

[Revision of second edition (ISO 6872:1995) and (ISO 6872:1995/Amd1:1997)]

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The CEN Secretary-General has advised the ISO Secretary-General that this ISO/DIS covers a subject of interest to European standardization. **In accordance with the ISO-lead mode of collaboration as defined in the Vienna Agreement, consultation on this ISO/DIS has the same effect for CEN members as would a CEN enquiry on a draft European Standard.** Should this draft be accepted, a final draft, established on the basis of comments received, will be submitted to a parallel two-month FDIS vote in ISO and formal vote in CEN.

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Contents

iTeh STANDARD PREVIEW
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SIST EN ISO 6872:2008
https://standards.iteh.ai/catalog/standards/sist/345d3006-54d5-40cc-92bf-f72a4afb8f39/sis
en-iso-6872-2008
DRAFT 2006

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Foreword

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International Standard ISO 6872 was prepared by Technical Committee ISO/TC 106, Dentistry, Subcommittee SC 2, Prosthodontics.

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en-iso-6872-2008

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Introduction

Specific qualitative and quantitative requirements for freedom from biological hazard are not included in this International Standard, but it is recommended that, in assessing possible biological or toxicological hazards, reference be made to ISO 10993-1 and ISO 7405.

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SIST EN ISO 6872:2008
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Dentistry — Ceramic materials

1 Scope

This International Standard specifies the requirements and the corresponding test methods for dental ceramic materials for fixed all-ceramic and metal-ceramic restorations and prostheses.

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.

ISO 3696: *Water for analytical laboratory use – Specification and test methods*.

ISO 4799: *Laboratory glassware - Condensers.*

ISO 1942: *Dentistry - Terminology*

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iTeh STANDARD PREVIEW
(standards.iteh.ai)
SIST EN ISO 6872:2008

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 1942 and the following apply:

3.1 Material

3.1.1 dental ceramic: Inorganic, non-metallic material which is specifically formulated for use, when processed according to manufacturers instructions, to form the whole or part of a dental restoration or prosthesis.

3.1.2 core dental ceramic: Dental ceramic material which forms a supporting substructure upon which one or more layers of dental ceramic or dental polymer material are applied, either partially or totally, to form a dental restoration or prosthesis.

3.1.3 glass-ceramic (dental): Dental ceramic material formed by the action of heat treatment on a glass, in order to cause initiation and growth of a wholly or predominantly crystalline microstructure.

3.1.4 glass-infiltrated dental ceramic: Dental ceramic core or substructure/base layer which is porous and is subsequently densified by the infiltration of specialised glass at elevated temperature.

3.1.5 injectable, castable, or pressable dental ceramic: Dental ceramic material, normally in the form of a pellet or ingot (often pre-sintered), designed for use in a specialised furnace, which enables the ingot to be injected/cast/pressed into a mould, prepared via the lost wax technique.

3.1.6 CAD/CAM dental ceramic: Computer aided design/computer aided manufacture. CAD/CAM procedures to manufacture a dental restoration or prosthesis normally include all or some of the following stages: 1. a digital scanning procedure of the model or wax-up. 2.a software package that models the recording and can be used to design the prosthesis and 3. a machine tool that performs the manufacturing.

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3.1.7 flame-sprayed dental ceramic: Dental ceramic core or substructure/base layer formed via the technique of flame spraying.

3.1.8 dental porcelain: Dental ceramic material used in the fabrication of a dental restoration or prosthesis.

3.1.9 opaque dental ceramic: Dental ceramic material, which when applied to a ceramic substructure, according to manufacturer's instructions, acts to bond to the ceramic surface, forming a layer that provides a background colour and interface upon which other dental ceramic materials may be applied to achieve overall aesthetics and form.

3.1.10 shoulder ceramic: Dental ceramic material used to form shape and colour at the marginal area of the dental restoration or prosthesis, simulating natural tooth dentine in this area.

3.1.11 opaceous dentine ceramic: Dental ceramic material which has a higher opacity than a dentine ceramic material, but which may still be used to contribute to the overall shape and basic colour of a dental restoration or prosthesis, simulating the natural tooth dentine.

3.1.12 dentine ceramic: Dental ceramic material used to form the overall shape and basic colour of a dental restoration or prosthesis, simulating the natural tooth dentine.

3.1.13 enamel ceramic: Dental ceramic material used to overlay either partially or wholly the dentine ceramic and also to form the more translucent incisal third of a dental restoration or prosthesis, simulating the natural tooth enamel.

3.1.14 stain ceramic: Dental ceramic powder or paste which is normally intensely coloured and which is formulated to be used either internally or externally, during the build up of a dental restoration or prosthesis, to simulate details within or on the surface respectively, found in natural teeth.

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3.1.15 glaze ceramic: Dental ceramic material which is overlayed and fired at a reduced temperature compared to dentine/enamel ceramic, to produce a thin coherent sealed surface, the level of gloss being determined by the firing conditions.

3.1.16 addition ceramic: Dental ceramic material which is fired at a reduced temperature and is normally applied to restore contact points on a dental restoration or prosthesis.

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3.1.17 liner: Dental ceramic material used on all-ceramic substructure forming a layer that provides a background colour upon which dentine or opaque dentine may be applied to achieve overall aesthetics and form.

3.1.18 modelling fluid: Liquid with which a dental ceramic powder is mixed, in order to shape or model it into its required form prior to firing.

3.2 Processing

3.2.1 sintering of a dental ceramic: Process whereby heat and potentially other process parameters (e.g. pressure and atmosphere) are applied to a ceramic powder/ powder compact, in order to densify the ceramic into its required form.

3.2.2 air fired dental ceramic: Dental ceramic fired under ambient atmospheric pressure.

3.2.3 vacuum fired dental ceramic: Dental ceramic material which has a powder particle size distribution, which when fired or sintered according to manufacturers instructions, at reduced pressure (i.e. under vacuum), yields the required density and associated aesthetics, especially degree of translucency.

3.2.4 condensation of dental ceramic: Process whereby a modeled dental ceramic powder is vibrated to compact the powder, prior to sintering.

3.2.5 batch; lot designation: A serial number or combination of letters and numbers, which refers to the manufacturers records for a particular lot or batch of material, allowing full traceability of source and/or processing of material(s).

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