Advanced technical ceramics - Monolithic ceramics - General and textural properties - Part 4: Guidance on the determination of surface roughness

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EESTI STANDARDIKESKUS

EESTI STANDARDI EESSÕNA **NATIONAL FOREWORD**

Käesolev Eesti standard EVS-EN 623-4:2004 sisaldab Euroopa standardi EN 623-4:2004 ingliskeelset teksti. Käesolev dokument on jõustatud 21.12.2004 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN 623-4:2004 consists of the English text of the European standard EN 623-4:2004. This document is endorsed on 21.12.2004 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.

Käsitlusala: This part of EN 623 concerns the use of conventional stylus type instruments for the measurement of surface texture of advanced monolithic technical ceramics, sets the test machine measuring parameters, and recommends the adoption of certain precautions and conditions of measurement	**Scope:** This part of EN 623 concerns the use of conventional stylus type instruments for the measurement of surface texture of advanced monolithic technical ceramics, sets the test machine measuring parameters, and recommends the adoption of certain precautions and conditions of measurement

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Võtmesõnad: area, measurin, monolithic, monolithic materials, parameters, properties, quality, roughness, roughness (surface), specimen preparation, surface condition, surface roughness, surface texture, surface-roughness measurement, surfaces, test equipment, testing, texture

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Advanced technical ceramics - Monolithic ceramics - General and textural properties - Part 4: Determination of surface roughness

Céramiques techniques avancées - Céramiques monolithiques - Propriétés générales et texturelles - Partie 4: Détermination de la rigidité de surface

Hochleistungskeramik - Monolithische Keramik - Allgemeine und strukturelle Eigenschaften - Teil 4: Bestimmung der Oberflächenrauheit

This European Standard was approved by CEN on 29 July 2004.

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.

This European Standard exists 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, 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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Contents

Foreword

This document (EN 623-4:2004) has been prepared by Technical Committee CEN/TC 184 “Advanced technical ceramics”, 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 April 2005, and conflicting national standards shall be withdrawn at the latest by April 2005.

This document supersedes ENV 623-4 :1993.
This part of EN 623 includes a Bibliography.

EN 623 *Advanced technical ceramics — Monolithic ceramics — General and textural properties* consists of five parts:

Part 1: *Determination of the presence of defects by dye penetration tests*

Part 2: *Determination of density and porosity*

Part 3: *Determination of grain size and size distribution (characterized by the Linear Intercept Method)*

Part 4: Guidance on the *determination of surface roughness*

Part 5: *Determination of phase volume fraction by evaluation of micrographs*

At the time of publication of this part of EN 623, part 5 is a European Prestandard.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: 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.

1 Scope

This part of EN 623 concerns the use of conventional stylus type instruments for the measurement of surface texture of advanced monolithic technical ceramics, sets the test machine measuring parameters, and recommends the adoption of certain precautions and conditions of measurement.

NOTE Non-contact optical methods of surface texture measurement employ a different concept using a narrow laser beam. The interaction of the beam with the surface is influenced by the angle of the surface to the beam and the reflectivity/translucence of the surface. The reflected beam is detected in a number of ways based on spot focus or beam deflection and converted into a height profile. Results from such a test are not directly equivalent to those obtained by the stylus method.

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.

ENV 1006, *Advanced technical ceramics — Monolithic ceramics — Guidance on the selection of test pieces for the evaluation of properties*

EN ISO/IEC 17025, *General requirements for the competence of testing and calibration laboratories (ISO/IEC 17025:1999)*

EN ISO 3274, *Geometrical product specifications (GPS) — Surface texture: Profile method – Nominal characteristics of contact (stylus) instruments (ISO 3274:1996)*

EN ISO 4287:1998, *Geometrical product specifications (GPS) — Surface texture: Profile method — Terms, definitions and surface texture parameters (ISO 4287:1997)*

EN ISO 4288:1997, *Geometrical product specifications (GPS) — Surface texture: Profile method — Rules and procedures for the assessment of surface texture (ISO 4288:1996)*

EN ISO 5436-1:2000, *Geometrical product specifications (GPS) — Surface texture: Profile method; Measurement standards — Part 1: Material measures* (ISO 5436-1:2000)

EN ISO 5436-2, *Geometrical product specifications (GPS) — Surface texture: Profile method; Measurement standards — Part 2: Software measurement standards (ISO 5436-2:2001)*

EN ISO 11562, *Geometrical product specifications (GPS) — Surface texture: Profile method — Metrological characteristics of phase correct filters (ISO 11562:1996)*

EN ISO 12179, *Geometrical product specifications (GPS) — Surface texture: Profile method — Calibration of contact (styles) instruments (ISO 12179:2000)*