Spetsiaalne tehniline keraamika. Monoliitkeraamika. Mehaanilised omadused toatemperatuuril. Osa 1: Paindetugevuse määramine

Advanced technical ceramics - Monolithic ceramics - Mechanical properties at room temperature - Part 1: Determination of flexural strength

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 843-1:2000 sisaldab Euroopa standardi EN 843-1:1995 ingliskeelset teksti. Käesolev dokument on jõustatud 11.01.2000 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN 843-1:2000 consists of the English text of the European standard EN 843-1:1995. This document is endorsed on 11.01.2000 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.

Käsitlusala: See standardi EN 843 osa kirjeldab meetodeid spetsiaalse tehnilise monoliitkeraamika materjali nominaalse paindetugevuse määramiseks välistemperatuuril.	**Scope:**

ICS 81.060.30

Võtmesõnad: keraamika, keskkonnakatsed, mehaanilised omadused, määramine, paindetugevus

EUROPEAN STANDARD
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EN 843-1

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Descriptors: Ceramics, testing, flexural strength.

English version

Advanced technical ceramics

Monolithic ceramics

Mechanical properties at room temperature
Part 1: Determination of flexural strength

Céramiques techniques avancées; céramiques monolithiques; propriétés mécaniques à température ambiante. Partie 1: Détermination de la résistance en flexion

Hochleistungskeramik; monolithische Keramik; mechanische Eigenschaften bei Raumtemperatur. Teil 1: Bestimmung der Biegefestigkeit

This European Standard was approved by CEN on 1995-01-04.

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, 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

Contents

Foreword

This European Standard was prepared by CEN/TC 184 'Advanced technical ceramics', the Secretariat of which is held by BSI.

EN 843 consists of five Parts:

Part 1 Determination of flexural strength

Part 2 Determination of elastic moduli

Part 3 Determination of subcritical crack growth

Part 4 Determination of hardness

Part 5 Statistical analysis of fracture data

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, and conflicting national standards withdrawn, by July 1995 at the latest.

In accordance with the CEN/CENELEC Internal Regulations, 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 United Kingdom.

1 Scope

This Part of EN 843 describes methods for determining the nominal flexural strength of advanced monolithic technical ceramic materials at ambient temperature. The available loading geometries are three- and four-point flexure, using rectangular section test-pieces of two prescribed geometries: 20 mm support span (A) and 40 mm support span (B).

The test prescribes four categories of surface finish applied to the test-pieces:

I: as-fired or annealed after machining;

II: machined using agreed grinding procedures and material removal rates;

III: standard finishing procedures:

III.1: finishing by grinding;
III.2: finishing by lapping/polishing.

NOTE : The test may not give representative results if the mean linear intercept grain size exceeds 5 % of the thickness of the test piece, with the exception of single crystals.

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.

ENV 623-4 Advanced technical ceramics - Monolithic ceramics - General and textural properties - Part 4 : Surface roughness.

EN 10 002-2 Tensile testing of metallic materials - Part 2 : Verification of the force measuring system of the tensile testing machine.

ISO 3611 Micrometer callipers for external measurement.

ISO 4677-1 Atmospheres for conditioning and testing - Determination of relative humidity - Part 1 : Aspirated psychrometer method

ISO 4677-2 Atmospheres for conditioning and testing - Determination of relative humidity - Part 2 : Whirling psychrometer method