

**Spetsiaalne tehniline keraamika -
Monoliitkeraamika - Üldised ja
tekstuurilised omadused - Osa 1:
Defektide olemasolu
kindlaksmääramine värvaine
sisseimbumise katsetega**

Advanced technical ceramics - Monolithic ceramics -
General and textural properties - Part 1:
Determination of the presence of defects by dye
penetration tests

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 623-1:2000 sisaldab Euroopa standardi EN 623-1:1995 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 11.01.2000 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 623-1:2000 consists of the English text of the European standard EN 623-1:1995.</p> <p>This document is endorsed on 11.01.2000 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p>Käsitlusala: See standardi EN 623 osa kirjeldab kvalitatiivseid meetodeid spetsiaalses tehnilises monoliitkeraamikas defektide olemasolu kindlaksmääramiseks värvaine sisseimbumise katsete abil.</p>	<p>Scope:</p>
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ICS 81.060.30

Võtmesõnad: defektid, kapillaardefektoskoopilised testid, keraamika, kvaliteet, määramine, visuaalne uurimine

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Descriptors: Ceramics, testing, surface defects.

English version

Advanced technical ceramics

Monolithic ceramics

General and textural properties

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

Céramiques techniques avancées; céramiques monolithiques; propriétés générales et texturales. Partie 1: Détermination de la présence de défauts à l'aide d'essai de ressuage

Hochleistungskeramik; monolithische Keramik; allgemeine und strukturelle Eigenschaften. Teil 1: Prüfung auf Anwesenheit von Oberflächenfehlern durch Farbstoffeindringtests

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

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CEN

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

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Foreword

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

EN 623 consists of four 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
- Part 4 Determination of surface roughness

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 623 describes qualitative methods for determination of the presence of defects in advanced monolithic technical ceramics by dye penetration tests. The results are reported as visual observations of dye penetration.

Three methods are described:

Method A: A fuchsine dye test (see 5.1) which is suitable for white or pale coloured ceramic products, performed using an evacuation technique.

Method B: A fluorescent dye test (see 5.2) which is suitable particularly for those products where the purple fuchsine has insufficient visual contrast with the ceramic, performed using a proprietary test kit.

Method C: A fuchsine dye test (see 5.3) which is performed by simple immersion in or spraying with a dye solution, suitable for routine testing for major defects.

NOTE 1 : It is important to note that these methods allow only certain types of defects to be detected. Defects which are not revealed by these methods, but which may influence properties and performance include cracks or pores not connected to the surface, inclusions, certain types of grinding damage, and residual stresses.

NOTE 2 : Interpretation of results may become more difficult with increasing porosity of the test pieces.

NOTE 3 : General principles of dye penetration tests may be found in EN 571-1. A test suitable for high voltage insulators using high pressure dye penetration is cited in IEC 672. This test is more searching for open porosity than any of the above methods.

2 Normative reference

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 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 1006 Advanced technical ceramics - Methods of testing monolithic ceramics - Guidance on the sampling and selection of test pieces.