TECHNICAL SPECIFICATION
SPÉCIFICATION TECHNIQUE
TECHNISCHE SPEZIFIKATION

CEN/TS 14425-1

July 2003

ICS 81.060.30

English version

Advanced technical ceramics – Test methods for determination of fracture toughness of monolithic ceramics – Part 1:Guide to test method selection

Céramiques techniques avancées

Hochleistungskeramik – Prüfverfahren zur Bestimmung der Bruchzähigkeit von monolithischer Keramik – Teil 1: Leitlinie zur Auswahl des Prüfverfahrens

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Ref. No. CEN/TS 14425-1:2003 E

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Foreword

This document (CEN/TS 14425-1:2003) has been prepared by Technical Committee CEN/TC 184 “Advanced technical ceramics”, the secretariat of which is held by BSI.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association.

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CEN/TS 14425 'Advanced technical ceramics — Test methods for determination of fracture toughness of monolithic ceramics' consists of five parts:

Part 1: *Guide to test method selection*

Part 2: *Single-edge pre-cracked beam (SEPB) method*

Part 3: *Chevron notched beam (CNB) method*

Part 4: *Surface crack in flexure (SCF) method*

Part 5: *Single-edge vee-notch beam (SEVNB) method*

1 Scope

1.1 This part of CEN/TS 14425 provides information on the comparative value, and guidance on the selection, of test methods for determining the apparent fracture toughness of monolithic advanced technical ceramics. For the purposes of this Technical Specification, the term monolithic includes particle, platelet and whisker reinforced advanced technical ceramics which can be regarded as macroscopically homogeneous. It does not include long-fibre reinforced ceramics.

1.2 Reference is made in this part of CEN/TS 14425 to specific test methods described in other parts of this Technical Specification.

2 Normative references

This Technical Specification 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 Technical Specification only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN 843-1 Advanced technical ceramics - Monolithic ceramics - Mechanical properties at room temperature: Part 1: Determination of flexural strength.