SIST

SLOVENSKI STANDARD
SIST EN ISO 17562:2021

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Nadomešča:
SIST EN 821-1:2000

Fina keramika (sodobna keramika, sodobna tehnična keramika) - Preskusna metoda za določanje linearnega toplotnega raztezanja monolitne keramike z uporabo metode potisne palice (ISO 17562:2016)

Fine ceramics (advanced ceramics, advanced technical ceramics) - Test method for linear thermal expansion of monolithic ceramics by push-rod technique (ISO 17562:2016)

Hochleistungskeramik - Prüfverfahren zur Bestimmung der linearen Wärmeausdehnung von monolithischer Keramik mittels Schubstangen-Technik (ISO 17562:2016)

Céramiques techniques - Détermination du coefficient de dilatation thermique linéique des céramiques monolithiques par la méthode de la tige poussoir (ISO 17562:2016)

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81.060.30 Sodobna keramika Advanced ceramics

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English Version

Fine ceramics (advanced ceramics, advanced technical ceramics) - Test method for linear thermal expansion of monolithic ceramics by push-rod technique (ISO 17562:2016)

Céramiques techniques - Détermination du coefficient de dilatation thermique linéique des céramiques monolithiques par la méthode de la tige poussoir (ISO 17562:2016)

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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Contents

Page

European foreword

The text of ISO 17562:2016 has been prepared by Technical Committee ISO/TC 206 "Fine ceramics" of the International Organization for Standardization (ISO) and has been taken over as EN ISO 17562:2021 by Technical Committee CEN/TC 184 "Advanced technical ceramics" the secretariat of which is held by DIN.

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of an identical text or by endorsement, at the latest by September 2021, and conflicting national standards shall be withdrawn at the latest by September 2021.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

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Endorsement notice

The text of ISO 17562:2016 has been approved by CEN as EN ISO 17562:2021 without any modification.

INTERNATIONAL STANDARD

ISO 17562

Second edition
2016-05-01

Fine ceramics (advanced ceramics, advanced technical ceramics) — Test method for linear thermal expansion of monolithic ceramics by push-rod technique

Céramiques techniques — Détermination du coefficient de dilatation thermique linéique des céramiques monolithiques par la méthode de la tige poussoir

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Contents

Page

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/TC 206, *Fine ceramics*.

This second edition cancels and replaces the first edition (ISO 17562:2001), which has been technically revised.

Fine ceramics (advanced ceramics, advanced technical ceramics) — Test method for linear thermal expansion of monolithic ceramics by push-rod technique

1 Scope

This International Standard specifies a method for the determination of the linear thermal expansion and the linear thermal expansion coefficient of monolithic ceramics from near liquid nitrogen temperature up to a maximum temperature of 2 000 °C.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 3611:2010, *Geometrical product specifications (GPS) — Dimensional measuring equipment: Micrometers for external measurements — Design and metrological characteristics*

IEC 13385-1, *Geometrical product specifications (GPS) — Dimensional measuring equipment — Part 1: Callipers; Design and metrological characteristics*

IEC 13385-2, *Geometrical product specifications (GPS) — Dimensional measuring equipment — Part 2: Calliper depth gauges; Design and metrological characteristics*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
linear thermal expansion
between temperatures T_1 and T_2 is the ratio $\Delta L/L_0$, where $\Delta L = (L_2 - L_1)$ and L_0 = specimen length at room temperature

Note 1 to entry: When the temperature has changed from T_1 to T_2, assume that the length of specimen changes from L_1 to L_2.

3.2
mean linear thermal expansion coefficient
$\bar{\alpha}$
linear thermal expansion (3.1) divided by $\Delta T = (T_2 - T_1)$ to produce the quotient $\bar{\alpha} = \Delta L / (L_0 \cdot \Delta T)$

3.3
instantaneous linear thermal expansion coefficient
α
value of $\bar{\alpha}$ (3.2) at the limit of $T_2 \rightarrow T_1$

$$\alpha = \lim_{T_2 \rightarrow T_1} \left[\bar{\alpha}\right]$$