



NSAI
Standards

Irish Standard
I.S. EN ISO 14544:2016

Fine ceramics (advanced ceramics, advanced technical ceramics) - Mechanical properties of ceramic composites at high temperature - Determination of compression properties (ISO 14544:2013)

I.S. EN ISO 14544:2016

Incorporating amendments/corrigenda/National Annexes issued since publication:

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National Foreword

I.S. EN ISO 14544:2016 is the adopted Irish version of the European Document EN ISO 14544:2016, Fine ceramics (advanced ceramics, advanced technical ceramics) - Mechanical properties of ceramic composites at high temperature - Determination of compression properties (ISO 14544:2013)

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EUROPEAN STANDARD

EN ISO 14544

NORME EUROPÉENNE

EUROPÄISCHE NORM

April 2016

ICS 81.060.30

Supersedes EN 12290:2005, EN 12291:2003

English Version

Fine ceramics (advanced ceramics, advanced technical ceramics) - Mechanical properties of ceramic composites at high temperature - Determination of compression properties (ISO 14544:2013)

Céramiques techniques - Propriétés mécaniques des céramiques composites à haute température - Détermination des caractéristiques en compression (ISO 14544:2013)

Hochleistungskeramik - Mechanische Eigenschaften von keramischen Verbundwerkstoffen bei hoher Temperatur - Bestimmung der Eigenschaften unter Druck (ISO 14544:2013)

This European Standard was approved by CEN on 18 March 2016.

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EN ISO 14544:2016 (E)

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European foreword

The text of ISO 14544:2013 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 14544:2016 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of an identical text or by endorsement, at the latest by October 2016, and conflicting national standards shall be withdrawn at the latest by October 2016.

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

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Endorsement notice

The text of ISO 14544:2013 has been approved by CEN as EN ISO 14544:2016 without any modification.

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INTERNATIONAL STANDARD

**ISO
14544**

First edition
2013-07-01

Fine ceramics (advanced ceramics, advanced technical ceramics) — Mechanical properties of ceramic composites at high temperature — Determination of compression properties

*Céramiques techniques — Propriétés mécaniques des céramiques
composites à haute température — Détermination des
caractéristiques en compression*



Reference number
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ISO 14544:2013(E)

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.

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

Fine ceramics (advanced ceramics, advanced technical ceramics) — Mechanical properties of ceramic composites at high temperature — Determination of compression properties

1 Scope

This International Standard specifies the conditions for determination of compression properties of ceramic matrix composite materials with continuous fibre reinforcement for temperatures up to 2 000 °C.

This International Standard applies to all ceramic matrix composites with a continuous fibre reinforcement, unidirectional (1D), bidirectional (2D), and tridirectional (x D, with $2 < x \leq 3$), loaded along one principal axis of reinforcement.

Two types of compression are distinguished:

- a) compression between platens;
- b) compression using grips.

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

ISO 7500-1, *Metallic materials — Verification of static uniaxial testing machines — Part 1: Tension/compression testing machines — Verification and calibration of the force-measuring system*

EN 10002-4, *Metallic materials — Tensile test — Part 4: Verification of extensometers used in uniaxial testing*

CEN/TS 15867:2009, *Advanced technical ceramics — Ceramic composites — Guide to the determination of the degree of misalignment in uniaxial mechanical tests*

IEC 60584-1:1995, *Thermocouples — Part 1: Reference tables*

IEC 60584-2:1982, *Thermocouples — Part 2: Tolerances*

IEC 60584-2:1982, *Amendment 1:1989*

3 Terms and definitions

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

3.1

test temperature

T

temperature of the test piece at the centre of the gauge length

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