
**Fine ceramics (advanced ceramics,
advanced technical ceramics) — Test
method for compressive behaviour of
continuous fibre-reinforced composites
at room temperature**

*Céramiques techniques — Méthode d'essai de résistance à la
compression des composites renforcés de fibres continues à
température ambiante*



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Published in Switzerland

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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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ISO 20504 was prepared by Technical Committee ISO/TC 206, *Fine ceramics*.

Fine ceramics (advanced ceramics, advanced technical ceramics) — Test method for compressive behaviour of continuous fibre-reinforced composites at room temperature

1 Scope

This International Standard describes procedures for determination of the compressive behaviour of ceramic matrix composite materials with continuous fibre reinforcement at room temperature. This method applies to all ceramic matrix composites with a continuous fibre reinforcement, uni-directional (1D), bi-directional (2D) and tri-directional (3D, with $2 < \alpha \leq 3$), tested along one principal axis of reinforcement. This method may also be applied to carbon-fibre-reinforced carbon matrix composites (also known as: carbon/carbon or C/C). Two cases of testing are distinguished: compression between platens and compression using grips.

2 Normative references

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

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*

ISO 3611, *Micrometer callipers for external measurements*

ISO 9513, *Metallic materials — Calibration of extensometers used in uniaxial testing*

ISO 14126, *Fibre-reinforced plastic composites — Determination of compressive properties in the in-plane direction*

ASTM E1012, *Standard Practice for Verification of Test Frame and Specimen Alignment Under Tensile and Compressive Axial Force Application*

3 Terms and definitions

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

3.1

gauge section

part of the test specimen which has uniform and minimum cross-sectional area

3.2

gauge section length

l

length of the gauge section