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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 47907-2026

**Continuous-fibre-reinforced ceramic composites - Test methods for
interlaminar shear strength and shear modulus at ambient temperature
- Double-notched compression and V-notched beam test**

连续纤维增强陶瓷基复合材料 室温层间剪切强度和剪切模量试验方法 双切口压
缩法和V形切口梁法

(English Translation)

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Appendix A (Informative) Comparison of this document with ISO 20505:2023 structural numbering

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

Drafting.

This document is modified to adopt ISO 20505:2023 "Fine ceramics (advanced ceramics, advanced technical ceramics) - Ceramic matrix composites - Room temperature force".

The interlaminar shear strength and shear rate of continuous fiber reinforced composites were determined using the double-notch compression method and the Iosipescu method.

Cutting modulus.

Compared with ISO 20505:2023, this document has undergone many structural adjustments. A comparison of the changes in structural numbering between the two documents is provided below.

See Appendix A for the table of contents.

This document differs significantly from ISO 20505:2023. The relevant clauses are indicated in vertical margins.

Single lines (-) are indicated. A summary of these technical differences and their causes can be found in Appendix B.

The following editorial changes have been made to this document.

---To harmonize with existing standards, the standard name has been changed to "Room Temperature Interlaminar Shear Strength and Shear Rate of Continuous Fiber Reinforced Ceramic Matrix Composites".

---Figure 1 in note 3.4 has been deleted;

---Notes in sections 3.1, 3.3, 3.4, 3.7, 4.1, and 6.1 have been deleted;

---Added subtitles, index numbers, and descriptions for Figures 1 and 2;

---Added index numbers and descriptions for Figures 3 and 4;

---The index numbers and descriptions of Figures 11 and 12 have been changed;

---Appendix A (informative) "Comparison of Structure Numbers in this Document with ISO 20505:2023" has been added;

---Added Appendix B (Informative) "Technical Differences between this Document and ISO 20505:2023 and the Reasons Therefor".

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document was proposed by the China Building Materials Federation.

This document is under the jurisdiction of the National Technical Committee on Standardization of Industrial Ceramics (SAC/TC194).

1 Scope

This document describes a method for determining the room temperature interlaminar shear strength of continuous fiber-reinforced ceramic matrix composites using the double-notch compression method.

This document describes a method for determining the room temperature interlaminar shear strength and shear modulus of this material using the V-beam notch method. This method is applicable to materials with ply stacks as...

The main types of reinforcement are unidirectional, bidirectional, and multidirectional continuous fiber reinforced ceramic matrix composites.

This document applies to the generation of data for materials development, materials comparison, quality control, performance characterization, reliability assessment, and design. This document describes...

The double-notch compression method described above is only applicable to the determination of interlaminar shear strength.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included.

For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies.

This document.

GB/T 16825.1 Inspection and calibration of static uniaxial testing machines for metallic materials - Part 1: Tensile and/or compressive testing machines Inspection and calibration

of force measurement systems (GB/T 16825.1-2022, ISO 7500-1:2018, IDT) GB/T 17991 Terminology for Fine Ceramics (GB/T 17991-2009, ISO 20507:2003, MOD) GB/T 21389 Vernier, dial indicator and digital calipers GB/T 34104 Inspection of coaxiality under load for testing machines of metallic materials (GB/T 34104-2017, ISO 23788:2012, MOD) GB/T 44541 Symbols and markings for fine ceramics and ceramic matrix composites (GB/T 44541-2024, ISO 19634, 2017, IDT)

3 Terms and Definitions

shear section

The cross-section between the cuts in the sample.

The area of the shear section between the cuts in the sample before the test.

The area of the loaded section when the V-shaped notched beam sample is parallel to the initial shear section and effectively fails is the area of the loaded section.