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(JFCA/JSA)

Test method for compressive behavior of continuous fiber-reinforced ceramic matrix composites at room temperature

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Foreword

This translation has been made based on the original Japanese Industrial Standard established by the Minister of Economy, Trade and Industry through deliberations at the Japanese Industrial Standards Committee according to the proposal of establishing a Japanese Industrial Standard from Japan Fine Ceramics Association (JFCA)/Japanese Standards Association (JSA), with a draft being attached, based on the provision of Article 12 Clause 1 of the Industrial Standardization Law.

This Standard has been made based on **ISO 20504**: 2006 *Fine ceramics (advanced ceramics, advanced technical ceramics)—Test method for compressive behaviour of continuous fibre-reinforced composites at room temperature* for the purposes of making it easier to compare this Standard with International Standard; to prepare Japanese Industrial Standard conforming with International Standard; and to propose a draft of an International Standard which is based on Japanese Industrial Standard.

Attention is drawn to the possibility that some parts of this Standard may conflict with a patent right, application for a patent after opening to the public, utility model right or application for registration of utility model after opening to the public which have technical properties. The relevant Minister and the Japanese Industrial Standards Committee are not responsible for identifying the patent right, application for a patent after opening to the public, utility model right or application for registration of utility model after opening to the public which have the said technical properties.

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In the event of any doubts arising as to the contents,
the original JIS is to be the final authority.

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Introduction This Japanese Industrial Standard has been prepared based on the first edition of **ISO 20504** *Fine ceramics (advanced ceramics, advanced technical ceramics) —Test method for compressive behaviour of continuous fibre-reinforced composites at room temperature* published in 2006 with some modifications of the technical contents.

The potions given sidelines or dotted underlines in this Standard are the matters different from the International Standard. A list of modifications with the explanations is given in Annex 2 (informative).

1 Scope This Standard specifies procedures for determination of the compressive behaviour of continuous fibre-reinforced ceramic matrix composites and carbon fibre-reinforced carbon matrix composites at room temperature. This method applies to compression tests for all ceramic matrix composites with a continuous fibre reinforcement, unidirectional (1D), bi-directional (2D) and tri-directional (xD, with $2 < x \leqq 3$), tested along one principal axis of reinforcement. In this standard, two cases of testing are distinguished: a) compression between platens and b) compression using grips.

NOTES 1 When the reinforced fibre in the out-of-plane direction is not vertical against the in-of-plane direction, tri-direction may be referred to as χ direction ($2 < x \leqq 3$).

2 The International Standard corresponding to this Standard is as follows.

In addition, symbols which denote the degree of correspondence in the contents between the relevant International Standard and **JIS** are IDT (identical), MOD (modified) and NEQ (not equivalent) according to **ISO/IEC Guide 21**.

ISO 20504:2006 *Fine ceramics (advanced ceramics, advanced technical ceramics)—Test method for compressive behaviour of continuous fibre-reinforced composites at room temperature* (MOD)

2 Normative references The following standards contain provisions which, through reference in this text, constitute provisions of this Standard. The most recent editions of the standards (including amendments) indicated below shall be applied.

JIS B 7502 *Micrometer callipers*

NOTE : **ISO 3611** *Micrometer callipers for external measurement* is equivalent to the said standard.