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Testing method of rotating bending fatigue of metallic materials

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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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Foreword

This Japanese Industrial Standard has been revised by the Minister of Economy, Trade and Industry through deliberations at the Japanese Industrial Standards Committee as the result of proposal for revision of Japanese Industrial Standard submitted by The Society of Materials Science, Japan (JSMS)/Japanese Standards Association (JSA) with a draft being attached, based on the provision of Article 12, paragraph (1) of the Industrial Standardization Act applied mutatis mutandis pursuant to the provision of Article 16 of the said Act. This edition replaces the previous edition (**JIS Z 2274** : 1978), which has been technically revised, and **JIS Z 2286** : 2003, which has been withdrawn.

Attention is drawn to the possibility that some parts of this Standard may conflict with patent rights, published patent application or utility model rights. The relevant Minister and the Japanese Industrial Standards Committee are not responsible for identifying any of such patent rights, published patent application or utility model rights.

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Testing method of rotating bending fatigue of metallic materials

Introduction

This Japanese Industrial Standard has been prepared based on **ISO 1143** : 2021, Edition 3, with some modifications of the technical contents.

Annex JA, Annex JB and Annex JC are unique to **JIS** and not given in the corresponding International Standard. The vertical lines on both sides and dotted underlines indicate changes from the corresponding International Standard. A list of modifications with the explanations is given in Annex JD.

1 Scope

This Standard specifies the testing method of rotating bending fatigue of metallic materials, conducted at room temperature or elevated temperature in air.

In practical rotating bending fatigue testing, specimens of various sizes and shapes other than those recommended in this Standard or specimens of the same shape as the actual mechanical elements may be used, or tests may be performed at low temperatures or in special atmospheres, in which case this Standard may apply.

Fatigue tests on notched specimens are not covered by this Standard. However, fatigue test procedures described in this Standard can be applied to fatigue tests of notched specimens.

NOTE The International Standard corresponding to this Standard and the symbol of degree of correspondence are as follows.

ISO 1143 : 2021 *Metallic materials—Rotating bar bending fatigue testing* (MOD)

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 21-1**.

2 Normative references

Part or all of the provisions of the following standards, 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 7728 *Calibration of force-proving instruments used for the verification of uniaxial testing machines*

NOTE Normative reference in the corresponding International Standard: ISO 376 *Metallic materials — Calibration of force-proving instruments used for the verification of uniaxial testing machines*

JIS Z 8401 *Rounding of numbers*

ISO 12107 *Metallic materials — Fatigue testing—Statistical planning and analysis of data*