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**Methods of test for permanent
magnet**

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In the event of any doubts arising as to the contents,
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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 Institute of Electrical Engineers of Japan (IEEJ)/Japanese Standards Association (JSA) with the draft being attached, based on the provision of Article 12 Clause 1 of the Industrial Standardization Law applicable to the case of revision by the provision of Article 14.

Consequently **JIS C 2501**:1998 is replaced with this Standard.

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Methods of test for permanent magnet

Introduction

This Japanese Industrial Standard has been prepared based on **IEC 60404-5:2015**, Edition 3, with some structural changes to accommodate addition of contents unique to **JIS**.

The dotted underlines indicate changes from the corresponding International Standard. A list of modifications with the explanations is given in Annex JC. Annex JA and Annex JB are unique contents to **JIS** that are not given in the corresponding International Standard.

For the measurement of the coercivity of permanent magnet materials at values higher than 2 MA/m, use of the method described in **IEC TR 62331** [1] is specified. The ambient temperature previously recommended was $(23 \pm 5) ^\circ\text{C}$. However, for permanent magnet materials that have large temperature coefficients, it is strongly recommended that the ambient temperature should be controlled within this range to $\pm 1 ^\circ\text{C}$ or better.

1 Scope

The purpose of this Standard is to define the method of measurement of the magnetic flux density, magnetic polarization and the magnetic field strength and also to determine the demagnetization curve and recoil line of permanent magnet materials, the properties of which are presumed homogeneous throughout their volume.

The performance of a magnetic system is not only dependent on the properties of the permanent magnet material but also on the dimensions of the system, the air-gap and other elements of the magnetic circuit. The methods described in this Standard refer to the measurement of the magnetic properties in a closed magnetic circuit.

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

IEC 60404-5:2015 *Magnetic materials—Part 5: Permanent magnet (magnetically hard) materials—Methods of measurement of magnetic properties (MOD)*

In addition, symbols which denote the degree of correspondence in the contents between the relevant International Standards and **JIS** are IDT (identical), MOD (modified), and NEQ (not equivalent) according to **ISO/IEC Guide 21-1**.

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.

IEC 60050-121 *International Electrotechnical Vocabulary—Part 121: Electromagnetism*

IEC 60050-151 *International Electrotechnical Vocabulary—Part 151: Electrical and magnetic devices*