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(JEMA/JSA)

**Test methods for electrical steel strip
and sheet — Part 3: Methods of
measurement of the magnetic properties
of electrical steel strip and sheet at
medium frequencies**

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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 Japan Electrical Manufacturers' Association (JEMA)/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 2550-3:2011** is replaced with this Standard.

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

JIS C 2550 series consists of the following 5 parts under the general title *Test methods for electrical steel strip and sheet*

Part 1 : Methods of measurement of the magnetic properties of electrical steel strip and sheet by means of an Epstein frame

Part 2 : Methods of determination of the geometrical characteristics of electrical steel strip and sheet

Part 3 : Methods of measurement of the magnetic properties of electrical steel strip and sheet at medium frequencies

Part 4 : Methods of test for the determination of surface insulation resistance of electrical strip and sheet

Part 5 : Methods of measurement of density, resistivity and stacking factor of electrical strip and sheet

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Test methods for electrical steel strip and sheet — Part 3 : Methods of measurement of the magnetic properties of electrical steel strip and sheet at medium frequencies

Introduction

This Japanese Industrial Standard has been prepared based on **IEC 60404-10:2016**, Edition 2, with some modifications of the technical contents to reflect the technology widely applied in Japan.

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 JB.

1 Scope

This part of **JIS C 2550** specifies the method of measurement of the a.c. magnetic properties of electrical steel strip and sheet in the medium frequency range 400 Hz to 10 kHz.

This part also specifies the method of measurement of the magnetic properties of electrical steel strip and sheet by means of an Epstein frame.

The Epstein frame is applicable to test specimens obtained from electrical steel strips and sheets of any grade. The a.c. magnetic properties are determined for sinusoidal induced voltages under excitation conditions (hereafter referred to as sinusoidal magnetic flux excitation conditions), for specified peak values of magnetic polarization and for a specified frequency. The measurements are to be made at an ambient temperature of $(23 \pm 5) ^\circ\text{C}$ on test specimens which have first been demagnetized.

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

IEC 60404-10 : 2016 *Magnetic materials — Part 10 : Methods of measurement of magnetic properties of electrical steel strip and sheet at medium frequencies* (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.

JIS C 2550-5 *Test methods for electrical steel strip and sheet — Part 5 : Methods*