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(JEMA/JSA)

**Test methods for electrical steel strip
and sheet — Part 4: Methods of test for
the determination of surface insulation
resistance of electrical strip and sheet**

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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 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 2550-4:2011** 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

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

Introduction

This Japanese Industrial Standard has been prepared based on **IEC 60404-11** : 1991, Edition 1, Amendment 1 : 1998 and Amendment 2 : 2012 with some modifications of the technical contents to reflect the technology widely applied in Japan. The amendments to the said Standard have been compiled in this 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 JB.

1 Scope

This part of **JIS C 2550** specifies a measurement method for the determination of the characteristics of surface insulation resistance of magnetic sheet and strip.

This method is applicable to magnetic sheet and strip insulated on one or both surfaces and is suitable for manufacturing control in the application of insulation coatings.

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

IEC 60404-11 : 1991 *Magnetic materials — Part 11 : Method of test for the determination of surface insulation resistance of magnetic sheet and strip*, Amendment 1 : 1998 and Amendment 2 : 2012 (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 Principle of measurement

The principle of the measurement is based on, and includes, the method originally described by Franklin¹⁾ which characterizes only one coated surface at a time.

Note ¹⁾ Franklin, R.F., *Measurement and control of interlaminar resistance of laminated magnetic cores*, ASTM Bulletin, no. 144, January 1947. p.57

The arrangement of the apparatus is shown in Figure 1. Ten metallic contacts of fixed area are applied to one coated surface of the sheet, under specified conditions of voltage and pressure.