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Nickel iron soft magnetic metallic materials

ICS 29.030

Descriptors : magnetic cores, electric screens, iron, nickel, magnetic alloys, sheet materials, strips, electronic equipment and components, bars (materials), wires

Reference number : **JIS C 2531 : 1999 (E)**

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Foreword

This translation has been made based on the original Japanese Industrial Standard revised by the Minister of International Trade and Industry through deliberations at Japanese Industrial Standards Committee in accordance with the Industrial Standardization Law. Consequently **JIS C 2531** : 1987 is replaced with **JIS C 2531** : 1999.

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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 **IEC 60404-8-6**, *Magnetic materials Part 8 : Specifications for individual materials Section six—Soft magnetic metallic materials* published in 1986 as the first edition and **IEC 60404-6**, *Magnetic materials Part 6 : Methods of measurement of the magnetic properties of isotropic nickel-iron soft magnetic alloy E1, E3 and E4* published in 1986 as the first edition without modifying the technical contents for the corresponding parts (classification and magnetic grade, quality, etc.). However, it also specifies the classification and magnetic grades and associated quality formerly specified in **JIS**. As for the dimensional tolerances, the specification contained in the corresponding International Standard is altered.

1 Scope This Japanese Industrial Standard specifies the nickel iron alloy bars (hereafter referred to as "bars"), the alloy rod (hereafter referred to as "rods"), the alloy wires (hereafter referred to as "wires"), the alloy sheets (hereafter referred to as "sheets") and the alloy strips (hereafter referred to as "strips") which are used for various magnetic cores and magnetic shields in electronic equipment.

Remarks : The International Standards corresponding to this Standard are given below.

IEC 60404-8-6 : 1986 *Magnetic materials Part 8 : Specifications for individual materials Section six—Soft magnetic metallic materials*

IEC 60404-6 : 1986 *Magnetic materials Part 6 : Methods of measurement of the magnetic properties of isotropic nickel-iron soft magnetic alloy E1, E3 and E4*

Informative reference : The above **IEC** Standard numbers are based on the new numbering system of **IEC** Standards put in force on January 1st 1997, and the standard published before the said date is numbered by adding 60000 to the former number. This is the change in the number only, and the contents remain unchanged.

2 Definitions For the purpose of this Standard the following principal definitions shall apply:

a) **absolute permeability** The quantity which expresses easiness of magnetizing nickel iron soft magnetic alloys. The quantifier is μ, the unit is henry per meter (H/m).

Absolute permeability μ multiplied by magnetic field strength H equals magnetic flux density B.

$$B = \mu H$$

where, B : magnetic flux density (T)

H : magnetic field strength (A/m)

μ : absolute permeability (H/m)

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