IEC 60404-8-6

Edition 3.0 2016-12

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Magnetic materials –
Part 8-6: Specifications for individual materials – Soft magnetic metallic materials

Matériaux magnétiques –
Partie 8-6: Spécifications pour matériaux particuliers – Matériaux métalliques magnétiquement doux

IEC 60404-8-6:2016-12 (en-fr)

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CONTENTS

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MAGNETIC MATERIALS –

Part 8-6: Specifications for individual materials – Soft magnetic metallic materials

FOREWORD

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International Standard IEC 60404-8-6 has been prepared by IEC technical committee 68: Magnetic alloys and steels.

This third edition cancels and replaces the second edition published in 1999 and Amendment 1:2007. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

Removal of Table 2b).

The text of this standard is based on the following documents:

CDV	Report on voting
68/528/CDV	68/552/RVC

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 60404 series, published under the general title *Magnetic materials*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

MAGNETIC MATERIALS –

Part 8-6: Specifications for individual materials – Soft magnetic metallic materials

1 Scope

This part of IEC 60404 specifies the general requirements, magnetic properties, geometric characteristics and tolerances as well as inspection procedures for pure iron, silicon-iron, nickel-iron and cobalt-iron. The materials are in the form of bar, billet, sheet, strip or wire. The alloys covered correspond to those defined by classes A, C1, C2, E1 to E4 and F1 to F3 in IEC 60404-1.

Magnetic materials used primarily for relays, iron and steel products, classified only by coercivity, are covered in IEC 60404-8-10. IEC 60404-8-10 is less restrictive in terms of magnetic properties than the irons (class A) and the silicon steels (classes C21 and C22) specified in this standard, but it gives more comprehensive dimensional tolerances.

Non-oriented and oriented silicon steels (C21 and C22) for industrial power frequency applications, classified by specific total loss, are covered in IEC 60404-8-3, IEC 60404-8-4 and IEC 60404-8-7.

Non-oriented and oriented thin magnetic materials for use at medium frequencies, classified by specific total loss, are covered in IEC 60404-8-8.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60050-121, *International Electrotechnical Vocabulary – Part 121: Electromagnetism*

IEC 60050-131, *International Electrotechnical Vocabulary – Part 131: Circuit theory*

IEC 60050-221, *International Electrotechnical Vocabulary – Chapter 221: Magnetic materials and components*

IEC 60404-1, *Magnetic materials – Part 1: Classification*

IEC 60404-2, *Magnetic materials – Part 2: Methods of measurement of the magnetic properties of electrical steel sheet and strip by means of an Epstein frame*

IEC 60404-4, *Magnetic materials – Part 4: Methods of measurement of d.c. magnetic properties of iron and steel*

IEC 60404-6, *Magnetic materials – Part 6: Methods of measurement of the magnetic properties of magnetically soft metallic and powder materials at frequencies in the range 20 Hz to 200 kHz by the use of ring specimens*