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Edition 2.0 2015-12

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Ferrite cores – Guidelines on the limits of surface irregularities – Part 1: General specification

Noyaux ferrites – Lignes directrices relatives aux limites des irrégularités de surface – Partie 1: Spécification générale

IEC 60424-1:2015-12(en-fr)

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COMMISSION ELECTROTECHNIQUE INTERNATIONALE

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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FERRITE CORES – GUIDELINES ON THE LIMITS OF SURFACE IRREGULARITIES –

Part 1: General specification

FOREWORD

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International Standard IEC 60424-1 has been prepared IEC technical committee 51: Magnetic components and ferrite materials.

This second edition cancels and replaces the first edition published in 1999. This edition constitutes a technical revision.

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

a) addition of pores in 3.5 and crystallites in 3.6.

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

FDIS	Report on voting
51/1107/FDIS	51/1123/RVD

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

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

A list of all parts in the IEC 60424 series, published under the general title *Ferrite cores – Guidelines on the limits of surface irregularities*, can be found on the IEC website.

Future standards in this series will carry the new general title as cited above. Titles of existing standards in this series will be updated at the time of the next edition.

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- withdrawn,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.

INTRODUCTION

Due to the method of manufacture and the physical nature of the products, ferrite cores can be expected to exhibit some degree of physical irregularities such as chips, ragged edges, cracks, flashing, and pull-out.

The permissible extent of these surface irregularities will depend on the type, position and size of the defect and on the function of the core. Thus, in order to establish limits of surface irregularities for a given series of ferrite cores, for example RM-cores, pot-cores, E-cores, U-cores and ring-cores, it is necessary to prepare a particular specification for each, setting out in detail the permissible extent of the various types of irregularities.

All surfaces of the core should be clean and free from loose ferrite particles or any other foreign matter. This is more critical for mating surfaces that should make good contact with one another. Stains, discolorations, surface crazing or crystallization are acceptable if they do not affect the normal performance of the core. The irregularities described below are considered as being detectable without the use of any magnifying equipment.

Surface irregularities limits are set for control of cosmetic appearance, and not for control of magnetic performance. Surface irregularities do not substantially affect core magnetic function, nor do they affect reliability. Reliability should be assessed for wound magnetics, rather than for cores alone. See IEC 60401-3 for more details concerning the reliability of ferrite cores and devices built with them.