BS EN 60424-5:2009

BSI British Standards

Ferrite cores – Guide on the limits of surface irregularities —

Part 5: Planar-cores

National foreword

This British Standard is the UK implementation of EN 60424-5:2009. It is identical to IEC 60424-5:2009.

The UK participation in its preparation was entrusted to Technical Committee EPL/51, Transformers, inductors, magnetic components and ferrite materials.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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Compliance with a British Standard cannot confer immunity from legal obligations.

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English version

Ferrite cores - Guide on the limits of surface irregularities - Part 5: Planar-cores

(IEC 60424-5:2009)

Noyaux ferrites -
Guide relatif aux limites
des irrégularités de surface -
Partie 5: Noyaux planaires
(CEI 60424-5:2009)

Ferritkerne -
Leitfaden für Grenzwerte von sichtbaren
Beschädigungen der Kernoberfläche -
Teil 5: Planarkerne
(IEC 60424-5:2009)

This European Standard was approved by CENELEC on 2009-04-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

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CENELEC
European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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Foreword

The text of document 51/947/FDIS, future edition 1 of IEC 60424-5, prepared by IEC TC 51, Magnetic components and ferrite materials, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60424-5 on 2009-04-01.

The following dates were fixed:

– latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2010-01-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2012-04-01

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 60424-5:2009 was approved by CENELEC as a European Standard without any modification.

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

The following referenced documents are indispensable for the application 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.

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

Publication	Year	Title	EN/HD	Year
IEC 60424-1	- [1)]	Ferrite cores - Guide on the limits of surface irregularities - Part 1: General specification	EN 60424-1	1999 [2)]
IEC 62317-9	- [1)]	Ferrite cores - Dimensions - Part 9: Planar cores	EN 62317-9	2006 [2)]

[1)] Undated reference.

[2)] Valid edition at date of issue.

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

FERRITE CORES – GUIDE ON THE LIMITS OF SURFACE IRREGULARITIES –

Part 5: Planar-cores

FOREWORD

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International Standard IEC 60424-5 has been prepared by IEC technical committee 51: Magnetic components and ferrite materials.

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

FDIS	Report on voting
51/947/FDIS	51/950/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 of the IEC 60424 series, under the general title *Ferrite cores – Guide on the limits of surface irregularities*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the maintenance result date indicated on the IEC web site 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.

A bilingual version of this publication may be issued at a later date.

FERRITE CORES – GUIDE ON THE LIMITS OF SURFACE IRREGULARITIES –

Part 5: Planar-cores

1 Scope

This part of IEC 60424 gives guidance on allowable limits of surface irregularities applicable to planar-cores in accordance with the relevant generic specification defined in IEC 60424-1.

The relations between the main dimensions of planar E-, ER- and EL-cores differ from those of standard cores. For example, the width of planar cores is larger while the total height is much smaller. Also the thickness of the legs is in most cases smaller than compared to standard cores. Therefore the concept of fixed reference dimensions to determine the length of crack limits yield crack lengths which are not acceptable for this type of core. This part of IEC 60424 follows another concept which relates the crack length to dimensions of the surface on which the crack occurs.

Also the concept to determine the maximum area of chips based on the total mating surface fails in the case of planar cores. The outer legs of planar cores are much thinner than those of standard cores which makes overlapping and gluing much more difficult. A single chip of maximum size on the outer leg may risk the functionality of the core set. Therefore this standard uses as a reference the mating surface on which the chip occurs.

Windings of planar cores are often PCB's which are glued to the inner surfaces of the planar core. For this reason the inner surfaces of the planar cores need to have a better quality than the inner surfaces of standard cores. This was taken into account by reducing the maximum allowable area of pull outs in the inner surfaces.

This standard is considered as a sectional specification useful in the negotiation between ferrite core manufacturers and users about surface irregularities.

2 Normative references

The following referenced documents are indispensable for the application 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 60424-1, *Ferrite cores – Guide on the limits of surface irregularities – Part 1: General specification*

IEC 62317-9, *Ferrite cores – Dimensions – Part 9: Planar-cores*