

Ferrite cores - Guidelines on dimensions and the limits
of surface irregularities - Part 1: General specification

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English Version

**Ferrite cores - Guidelines on dimensions and the limits of
surface irregularities - Part 1: General specification
(IEC 63093-1:2020)**

Noyaux ferrites - Lignes directrices relatives aux
dimensions et aux limites des irrégularités de surface -
Partie 1: Spécification générale
(IEC 63093-1:2020)

Ferritkerne - Richtlinien zu Maßen und Grenzen von
Oberflächenbeschädigungen - Teil 1: Allgemeine
Festlegungen
(IEC 63093-1:2020)

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European foreword

The text of document 51/1309/CDV, future edition 1 of IEC 63093-1, prepared by IEC/TC 51 "Magnetic components, ferrite and magnetic powder materials" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 63093-1:2020.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2021-02-21
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IEC 60401-3 NOTE Harmonized as EN 60401-3

Annex ZA

(normative)

Normative references to international publications with their corresponding European publications

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NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60401-1	-	Terms and nomenclature for cores made of magnetically soft ferrites - Part 1: Terms used for physical irregularities and reference of dimensions	-	-
IEC 60401-2	-	Terms and nomenclature for cores made of magnetically soft ferrites - Part 2: Reference of dimensions	EN 60401-2	-

INTERNATIONAL STANDARD

NORME INTERNATIONALE

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

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



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**FERRITE CORES –
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THE LIMITS OF SURFACE IRREGULARITIES –****Part 1: General specification****FOREWORD**

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International Standard IEC 63093-1 has been prepared by IEC technical committee 51: Magnetic components, ferrite and magnetic powder materials.

This first edition cancels and replaces the second edition of IEC 60424-1 published in 2015 and the first edition of IEC 62317-1 published in 2007. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous editions of IEC 60424-1 and IEC 62317-1:

- a) this document integrates IEC 60424-1 and IEC 62317-1.

The text of this International Standard is based on the following documents:

CDV	Report on voting
51/1309/CDV	51/1327/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 63093 series, published under the general title *Ferrite cores – Guidelines on dimensions and the limits of surface irregularities*, can be found on the IEC website.

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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-outs.

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, a particular specification should be prepared 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.

The limits of surface irregularities are set for control of the cosmetic appearance, and not for control of the 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.

A list of the IEC 63093 series is shown in Annex A.