Ferrite cores - Dimensions -- Part 9: Planar cores

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EESTI STANDARDI EESSÕNA **NATIONAL FOREWORD**

Käesolev Eesti standard EVS-EN 62317-9:2006 sisaldab Euroopa standardi EN 62317-9:2006 ingliskeelset teksti. Käesolev dokument on jõustatud 20.10.2006 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN 62317-9:2006 consists of the English text of the European standard EN 62317-9:2006. This document is endorsed on 20.10.2006 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.

Käsitlusala: This International Standard specifies the shapes and dimensions of ferrite cores for inductive components (transformers and chokes) of which the coil is typically constructed by multi-layer board or the coil is part of the motherboard. The general consideration upon which the design of this range of cores is based is given in Annex A.	**Scope:** This International Standard specifies the shapes and dimensions of ferrite cores for inductive components (transformers and chokes) of which the coil is typically constructed by multi-layer board or the coil is part of the motherboard. The general consideration upon which the design of this range of cores is based is given in Annex A.

ICS 29.100.10

Võtmesõnad:

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 62317-9

September 2006

ICS 29.100.10

Supersedes EN 61860:2000

English version

Ferrite cores - Dimensions Part 9: Planar cores

(IEC 62317-9:2006)

Noyaux ferrites - Dimensions Partie 9: Noyaux planaires (CEI 62317-9:2006)

Ferritkerne - Maße Teil 9: Planarkerne (IEC 62317-9:2006)

This European Standard was approved by CENELEC on 2006-07-01. 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.

This European Standard exists in two official versions (English and German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

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CENELEC

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

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Ref. No. EN 62317-9:2006 E

Foreword

The text of document 51/849/FDIS, future edition 1 of IEC 62317-9, 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 62317-9 on 2006-07-01.

This European Standard supersedes EN 61860:2000.

This European Standard includes the following significant changes and additions with respect to EN 61860:2000:

a) addition of the planar EL family of cores;

b) addition of the low-profile ER family of cores;

c) the low-profile RM-family defined in EN 61860:2000 has been moved to EN 62317-4 for RM-cores and associated parts.

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)	2007-04-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2009-07-01

Annex ZA has been added by CENELEC.

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Endorsement notice

The text of the International Standard IEC 62317-9:2006 was approved by CENELEC as a European Standard without any modification.

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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 60205	-[1)]	Calculation of the effective parameters of magnetic piece parts	EN 60205	2006[2)]
IEC 62317-4	2005	Ferrite cores - Dimensions Part 4: RM-cores and associated parts	EN 62317-4	2005

[1)] Undated reference.

[2)] Valid edition at date of issue.

INTERNATIONAL STANDARD

IEC 62317-9

First edition
2006-04

Ferrite cores – Dimensions –

Part 9: Planar cores

Reference number
IEC 62317-9:2006(E)

Publication numbering

As from 1 January 1997 all IEC publications are issued with a designation in the 60000 series. For example, IEC 34-1 is now referred to as IEC 60034-1.

Consolidated editions

The IEC is now publishing consolidated versions of its publications. For example, edition numbers 1.0, 1.1 and 1.2 refer, respectively, to the base publication, the base publication incorporating amendment 1 and the base publication incorporating amendments 1 and 2.

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PRICE CODE Q

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

FERRITE CORES – DIMENSIONS –

Part 9: Planar cores

FOREWORD

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards. Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 62317-9 has been prepared IEC technical committee 51: Magnetic components and ferrite materials.

This International Standard cancels and replaces IEC 61860 published in 2000. This edition constitutes a technical revision. This International Standard includes the following significant technical changes and additions with respect to IEC 61860:2000:

a) addition of the planar EL family of cores;
b) addition of the low-profile ER family of cores;
c) the low-profile RM-family defined in IEC 61860:2000 has been moved to IEC 62137-4 for RM-cores and associated parts.

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

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

FDIS	Report on voting
51/849/FDIS	51/858/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.

IEC 62317 consists of the following parts, under the general title *Ferrite cores – Dimensions*:

Part 1: General (under consideration)
Part 2: Pot cores (under consideration, currently available as IEC 60133)
Part 3: Half pot cores (under consideration, currently available as IEC 62323)
Part 4: RM-cores and associated parts
Part 5: EP-cores (under consideration, currently available as IEC 61596)
Part 6: ETD-cores (under consideration, currently available as IEC 61185)
Part 7: EER-cores
Part 8: E-cores
Part 9: Planar cores
Part 10: PM-cores (under consideration, currently available as IEC 61247)
Part 11: EC-cores (under consideration, currently available as IEC 60647)
Part 12: Uncoated ring cores (under consideration, currently available as IEC 61604)

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.

INTRODUCTION

Nowadays, d.c.-d.c. converter power supplies increasingly employ transformers and chokes the windings of which are made of multi-layer printed circuit board or the windings are constructed in the motherboard, rather than the transformers wound by conventional copper wires. This part of IEC 62317 specifies the optimum shapes and dimensions of cores for SMD (Surface Mounted Device) and of cores for which the windings are constructed in the motherboard. The motherboard has slots cut out to accept the ferrite cores. This is called the total integration in a multi-layer motherboard. The core shape specified in this part of IEC 62317 satisfies the demand for lower profile as well as for smaller floor space.

FERRITE CORES – DIMENSIONS –

Part 9: Planar cores

1 Scope

This International Standard specifies the shapes and dimensions of ferrite cores for inductive components (transformers and chokes) of which the coil is typically constructed by multi-layer board or the coil is part of the motherboard.

The general consideration upon which the design of this range of cores is based is given in Annex A.

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 60205, *Calculation of the effective parameters of magnetic piece parts*

IEC 62317-4:2005, *Ferrite cores – Dimensions – Part 4: RM cores and associated parts*

3 Primary standard

3.1 Planar shape and dimensions

The main shapes and dimensions shall be as given in the following figures and tables.

The main shape, dimensions, and parameters for EL core are given in:

Figure 1 – Planar core EL and mating PLT-core;

Table 1 – Dimensions of planar core EL and the mating PLT-core;

Table 2 – Effective parameter values and $A_{\min}$ values.

The main shape, dimensions, and parameters for low-profile E-cores are given in:

Figure 2 – Low-profile E-core and mating PLT-core;

Table 3 – Dimensions of low-profile E-core and the mating PLT-core;

Table 4 – Effective parameter values and $A_{\min}$ values.

The main shape, dimensions, and parameters for ER-cores are given in:

Figure 3 – Low-profile ER-core;

Table 5 – Dimensions of low-profile ER-core;

Table 6 – Effective parameter values and $A_{\min}$ values.

A uniform dimensional nomenclature has been chosen in order to facilitate a comparison of major physical attributes among the different core shapes.