

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Marking on ferrite cores

Marquage des noyaux ferrites

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MARKING ON FERRITE CORES

FOREWORD

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International Standard IEC 61333 has been prepared by IEC technical committee 51: Magnetic components, ferrite and magnetic powder materials.

This second edition cancels and replaces the first edition published in 1996. This edition constitutes a technical revision.

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

- a) the title of the document was changed;
- b) the scope of this document was expanded;
- c) the marking position instructions for ring cores, planar cores, RM-cores, PQ-cores and pot-cores were added in Clause 4 with a few additional descriptions;
- d) the four-digit-maximum limit of material identification code has been deleted in 5.2;
- e) in Table 1, the unit of A_L has been changed from "nH" to "nH/N²".

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

CDV	Report on voting
51/1247/CDV	51/1290/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.

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

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MARKING ON FERRITE CORES

1 Scope

This document specifies marking locations and a coding system of marking on ferrite cores. An alphanumerical marking printed or attached to cores reduces the risk of incorrect assembly, mixing of materials and/or mixing of gapped cores on an assembly line. The markings of the inductance factor A_L value or of the gap length are especially important to avoid this kind of problem, and their coding system is specified in this document.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

4 Marking locations

The recommended marking locations for the various core shapes are indicated in Figure 1 to Figure 7:

- the shaded parts in Figures 1 to 7 represent the marking locations;
- the marking locations of ETD-, EER-, EC-, EFD- and EP-cores refer to the E-core.

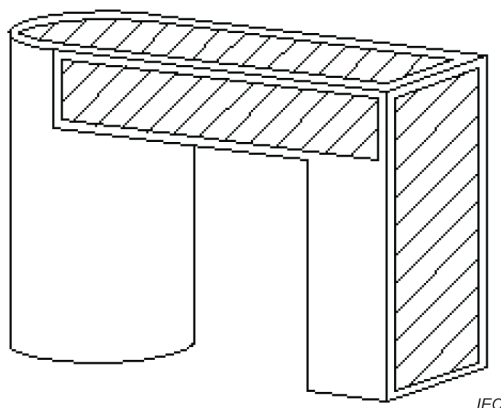


Figure 1 – Examples of marking locations for U-cores

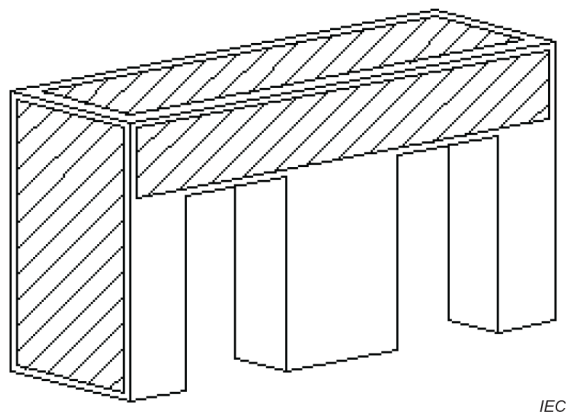
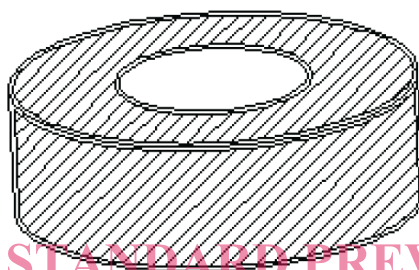


Figure 2 – Examples of marking locations for E-cores



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Figure 3 – Examples of marking locations for ring-cores

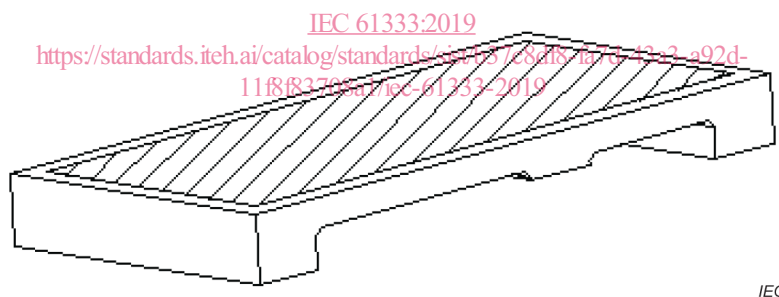


Figure 4 – Examples of marking locations for planar-cores

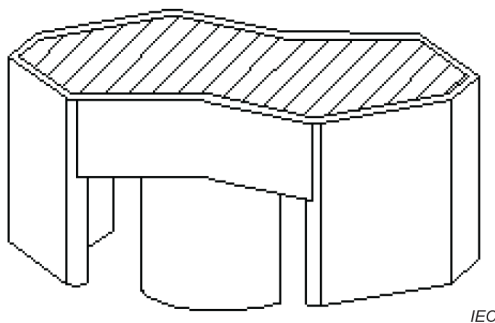


Figure 5 – Examples of marking locations for RM-cores

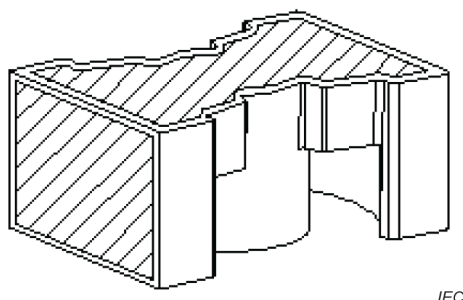


Figure 6 – Examples of marking locations for PQ-cores

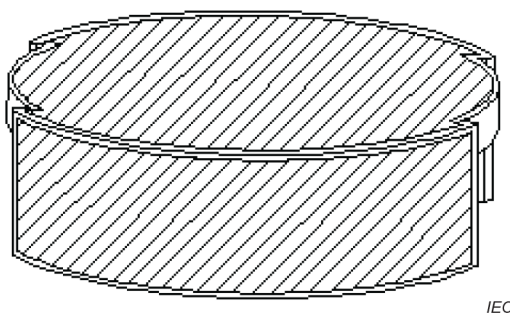


Figure 7 – Examples of marking locations for pot-cores

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5 Marking content

5.1 General

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The following information should be marked on ferrite cores, and the priority of information should follow the order given below if the marking space is limited. A maximum of four lines of marking should be allowed, which includes:

- material;
- A_L value or gap length;
- date code or batch code;
- trade name or identification of the manufacturer;
- tolerance of A_L value or gap length;
- information for a special air-gap geometry such as step gap.

The coding systems for the date code and tolerance of the A_L value specified in IEC 60062 may be used. The marking shall be legible and shall be able to withstand normal handling.

5.2 Material identification code

An alphanumerical coding is recommended for material identification. The details of coding should be specific to each manufacturer's system.

5.3 A_L value or gap length

The A_L value or gap length should be marked on a gapped core only.

The coding of the A_L value should consist of the letter A (asymmetric gap) and of the A_L value in the case where a core set has an air-gap only on one half. The coding of the A_L value should consist of the letter E (symmetrical air-gaps) and of the A_L value in the case where a core set has an air-gap on both halves.

For example, the A_L value of 630 should be expressed as A630 in the case of an air-gap on one half of the core set only, and the A_L value of 630 should be expressed as E630 in the case where the core set has an air-gap on both halves.

The coding of the gap length should consist of the letter G and the gap length expressed in hundredths of a millimetre corresponding to the gap on the relevant core half only. For example, a gap length of 1,25 mm should be expressed as G125.

For a better understanding of this coding system, other examples of the coding are shown in Table 1 and Table 2.

Table 1 – Examples of the coding of the A_L value

A_L value nH/N ²	Air-gap on one half of a core set ^a	Air-gaps on both core halves ^b
16	A16	E16
160	A160	E160
1 600	A1600	E1600

NOTE No marking of A_L value for ungapped cores.

^a A: A_L values with an air-gap on one half of a core set.

^b E: A_L values with symmetrical air-gaps.

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Table 2 – Examples of coding of the gap length

Gap length mm	On each gapped core ^a
0	No marking
0,03	G3
0,15	G15
1,50	G150
10,5	G1050

^a G: air-gap lengths expressed in hundredths of a millimetre.

Bibliography

IEC 60062, *Marking codes for resistors and capacitors*

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