

**Harmonized system of quality assessment
for electronic components**

**Sectional specification:
Fixed inductors with ceramic
or ferrite core wound with
copper wire for RF circuits**

The European Standard EN 129200 : 1994, together with its amendment
A1 : 1995, has the status of a British Standard

Committees responsible for this British Standard

The preparation of this British Standard was entrusted to Technical Committee EPL/51, Transformers, inductors, magnetic components and ferrite materials, upon which the following bodies were represented:

Federation of the Electronics Industry
Ministry of Defence
National Supervising Inspectorate — BSI PC

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Summary of pages

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National foreword

This British Standard has been prepared by Technical Committee EPL/51 and is the English language version of EN 129200 : 1994 *Sectional specification: Fixed inductors with ceramic or ferrite core wound with copper wire for RF circuits*, together with its amendment A1 : 1995, published by the European Committee for Electrotechnical Standardization (CENELEC) Electronic Components Committee (CECC).

Cross-references

Publication referred to	Corresponding British Standard
ISO 3 : 1973	BS 2045 : 1965 <i>Preferred numbers</i>
IEC 63 : 1963	BS 2488 : 1966 <i>Schedule of preferred numbers for the resistance of resistors and capacitance of capacitors for telecommunication equipment</i>
EN 60068-1 : 1994 (IEC 68-1 : 1988)	BS EN 60068 <i>Environmental testing</i> Part 1 : 1995 <i>General and guidance</i> BS 6062 <i>Packaging of electronic components for automatic handling</i>
IEC 286-1 : 1980	Part 1 : 1981 <i>Specification for tape packaging of components with axial leads on continuous tapes</i>
IEC 286-2 : 1985	Part 2 : 1988 <i>Specification for tape packaging of components with unidirectional leads on continuous tapes</i>
EN 129000 : 1993 (CECC 29000)	BS EN 129000 : 1996 <i>Harmonized system of quality assessment for electronic components. Generic specification: Fixed RF wound inductors</i>

Compliance with a British Standard does not of itself confer immunity from legal obligations.

UDC

Descriptors: Quality, electronic components, inductors

English version

**Sectional specification:
Fixed inductors with ceramic or ferrite core wound with
copper wire for RF circuits
(includes amendment A1 : 1995)**

Spécification intermédiaire:
À présent, cette spécification n'existe pas en
français

Rahmenspezifikation: Drahtgewickelte Spulen mit
Keramik- oder Ferritkern für HF-Schaltungen

This European Standard was approved by the CENELEC Electronic Components Committee (CECC) on 9 August 1993. 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 three official versions (English, French, 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 CECC General Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom. The membership of the CECC is identical, with the exception of the national electrotechnical committees of Greece, Iceland and Luxembourg.

CECC

CENELEC Electronic Components Committee
Comité des Composants Electroniques du CENELEC
CENELEC- Komitee für Bauelemente der Elektronik

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

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Ref. No. EN 129200 : 1994 + A1 : 1995 E

Foreword

The CENELEC Electronic Components Committee (CECC) is composed of those member countries of the European Committee for Electrotechnical Standardization (CENELEC) who wish to take part in a harmonized System for electronic components of assessed quality.

The object of the System is to facilitate international trade by the harmonization of the specifications and quality assessment procedures for electronic components, and by the grant of an internationally recognized Mark, or Certificate of Conformity. The components produced under the System are thereby acceptable in all member countries without further testing.

This specification was prepared by the German ONH under the Single Originator Procedure for approval and publication of CECC specifications (see RP 11 Part V).

The text of the draft based on document CECC(Secretariat)3264/01.93 was submitted to the formal vote; together with the voting report, circulated as document CECC(Secretariat)3385/07.93, it was approved by CECC as EN 129200 on 9 August 1993.

The following dates were fixed:

- latest date of announcement of the EN at national level (doa) 1993-11-08
- latest date of publication of an identical national standard (dop) 1994-05-08
- latest date of withdrawal of conflicting national standards (dow) 1995-05-08

Foreword of amendment A1 : 1995

This amendment was prepared by Working Group CLC/TC CECC/WG DE.

The text of the draft based on document CECC (Secretariat) 3588 was submitted to the formal vote; together with the voting report, circulated as document CECC (Secretariat) 3637, it was approved as amendment A1 to EN 129200 : 1994 on 1994-12-28.

The following dates were fixed:

- latest date by which the amendment has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 1995-10-24
- latest date by which the national standards conflicting with the amendment have to be withdrawn (dow) 1996-10-24

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SECTION 1 - GENERAL

1.1 Scope

This specification applies to fixed inductors for radiofrequency circuits with magnetic or non-magnetic core wound with copper wire for use in electronic equipment.

It prescribes preferred ratings and characteristics and selects from CECC 29 000 (EN 129 000 : 1993) the appropriate quality assessment procedures, measuring methods and gives general performance requirements for this type of inductor.

1.2 Related documents

ISO 3	(1973)	Preferred numbers - Series of preferred numbers
IEC 51(Sec)257		Marking codes for inductors
IEC 63	(1963)	Preferred number series for resistors and capacitors
Amendment No. 1	(1967)	
Amendment No. 2	(1977)	
IEC 68-1	(1988)	Basic environmental testing procedures: General
CECC 29 000 (EN 129 000 : 1993)		Generic specification: Fixed RF wound inductors
IEC 410	(1973)	Sampling plans and procedures for inspection by attributes
IEC 286-1	(1980)	Packaging of components for automatic handling; Part 1: Tape packaging of components with axial leads on continuous tapes
IEC 286-2	(1985)	Packaging of components for automatic handling; Part 2: Tape packaging of components with unidirectional leads on continuous tapes

1.3 Information to be given in a detail specification

Detail specifications shall be derived from the relevant blank detail specification.

Detail specifications shall not specify requirements inferior to those of the generic, sectional or blank detail specification. When more severe requirements are included, they shall be listed in 1.9 of the detail specification and indicated in the test schedules, for example by an asterisk.

Note: The information given in 1.3.1 may for convenience, be presented in tabular form.

The following information shall be given in each detail specification and the values quoted shall preferably be selected from those given in the appropriate clause of this sectional specification.

1.3.1 Outline drawing and dimensions

There shall be an illustration of the inductor as an aid to easy recognition and for comparison of the inductor with others. Dimensions and their associated tolerances, which affect interchangeability and mounting, shall be given in the detail specification. All dimensions shall to be stated in mm.

Normally the numerical values shall be given for the length, the width and height of the body and the wire spacing or for cylindrical types the body diameter, and the length and diameter of the terminations. When necessary, for example when different case sizes are covered by a detail specification, the dimensions and their associated tolerances shall be placed in a table below the drawing.

1.3.2 Mounting

The detail specification shall specify the method of mounting to be applied for the application of the vibration and the bump or shock tests. The design of the inductors may be such that special mounting fixtures are required in its use. In this case the detail specification shall describe the mounting fixtures and they shall be used in the application of the vibration and bump or shock tests.

NOTE - If recommendations for mounting for "normal" use are made, they shall be included in the detail specification under "1.8 Additional information (not for inspection purposes)". If they are included, a warning can be given that the full vibration, bump and shock performance may not be available if mounting methods other than those specified in 1.1 of the detail specification are used.

1.3.3 Ratings and characteristics

The ratings and characteristics shall be in accordance with the relevant clauses of this specification, together with the following:

(1) Rated inductance range

See 2.2.1

Note: When products approved to the detail specification have different ranges, the following statement should be added: "The range of inductance values available in each size is given in the current CECC 00 200 (Register of Approvals)".

(2) Particular characteristics

Additional characteristics may be listed, when they are considered necessary to specify adequately the component for design and application purposes.

(3) Soldering

The detail specification shall prescribe the test methods, severities and requirements applicable for the solderability test and the resistance to soldering heat test.

1.3.4 Marking

The detail specification shall specify the content of the marking on the inductor and on the package. Deviations from 1.5 shall be specifically stated.

1.4 Terminology

In addition to the applicable terms and definitions of CECC 29 000 (EN 129 000 : 1993) the following definitions apply:

1.4.1 Rated current (I_R)

The maximum r.m.s. value of the current, at which an inductor may be operated continuously at the temperature.

Note: The current may consist of d.c. current only, A.C. current only or of a combination of both.

For testing purposes d.c. current is mandatory.
High frequencies require a reduction of current in regard to temperature rise by magnetic and skin effect losses.

1.4.2 Incremental current (I_{CR})

That value of polarising direct current when superimposed on the alternating measuring current will cause a reduction in measured inductance value of 10 %.

1.5 Marking

1.5.1 The information given in the marking is normally selected from the following list; the relative importance of each item is indicated by it's position in the list:

- 1) Rated inductance *)
- 2) Tolerance on rated inductance *)
- 3) Manufacturer's name or trade mark
- 4) Manufacturer's type designation
- 5) Year and month (or week) of manufacture *)
- 6) Rated current
- 7) Climatic category
- 8) Reference to the detail specification
- 9) CECC mark

Note *) Coded marking according to IEC 51(Sec)257 shall be used.

1.5.2 The inductor shall be marked with 1), and 2) above and with as many as possible of the remaining items as is considered necessary. Any duplication of information in the marking on the inductor should be avoided.

1.5.3 The package containing the inductor(s) shall be clearly marked with all the information listed in 1.5.1.

1.5.4 Any additional marking shall be so applied that no confusion can arise.