IEC 60384-14-2

Edition 1.0 2004-10

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Fixed capacitors for use in electronic equipment –
Part 14-2: Blank detail specification – Fixed capacitors for electromagnetic interference suppression and connection to the supply mains –Safety tests only

Condensateurs fixes utilisés dans les équipements électroniques –
Partie 14-2: Spécification particulière cadre - Condensateurs fixes d'antiparasitage et raccordement à l'alimentation – Essais de sécurité uniquement

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FIXED CAPACITORS FOR USE IN ELECTRONIC EQUIPMENT –

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FOREWORD

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International Standard IEC 60384-14-2 has been prepared by IEC technical committee 40: Capacitors and resistors for electronic equipment.

This bilingual version (2013-05) corresponds to the monolingual English version, published in 2004-10.

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

FDIS	Report on voting
40/1463/FDIS	40/1484/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.

The French version of this standard has not been voted upon.

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

It should be read in conjunction with IEC 60384-1.

This standard forms Part 14-2 of IEC 60384, which is published under the general title *Fixed capacitors for use in electronic equipment.*

Part 14 is composed as follows:

Part 14: Sectional specification – Fixed capacitors for electromagnetic interference suppression and connection to the supply mains

Part 14-1: Blank detail specification – Fixed capacitors for electromagnetic interference suppression and connection to the supply mains – Assessment level D

Part 14-2: Blank detail specification – Fixed capacitors for electromagnetic interference suppression and connection to the supply mains – Safety tests only

Part 14-3: Blank detail specification – Fixed capacitors for electromagnetic interference suppression and connection to the supply mains – Assessment level DZ

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- withdrawn;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.

INTRODUCTION

Blank detail specification

This blank detail specification forms the basis for a uniform procedure for a common International Safety Mark. It implements the approval schedule for safety tests in IEC 60384-14, requires a declaration of design for parameters relevant to safety and prescribes conformance tests to be conducted on every lot prior to its release and requalification tests depending on changes to the declared design.

In comparison with IEC 60384-14-1 which provides quality conformance and safety tests, this specification is restricted to safety tests only.

The use of IEC 60384-14-1 may be more appropriate for components manufactured in mass production, whereas the employment of this specification may be necessary in those cases where approval and requalification tests contribute considerably to the costs of the product.

A blank detail specification is a supplementary document to the sectional specification and contains requirements for style, layout and minimum content of detail specifications. Detail specifications not complying with these requirements may not be considered as being in accordance with IEC specifications, nor should they so be described.

In the preparation of detail specifications the content of 1.4 of the sectional specification should be taken into account.

Identification of the detail specification

The first page of the detail specification should have the layout recommended on the next page of this blank detail specification. The numbers between square brackets correspond to the following information which should be inserted at the position indicated:

[1] The "International Electrotechnical Commission" or the National Standards Organization under whose authority the detail specification is drafted.

[2] The IEC or National Standards number of the detail specification, date of issue and any further information required by the national system.

[3] The number and issue number of the IEC, or national, generic, or sectional specification, as relevant.

[4] If different from the IEC number, the national number of the detail specification, date of issue and any further information required by the national system, together with any amendment numbers.

Identification of the capacitor

[5] A short description of the type of capacitor or range of capacitors.

[6] Information on typical construction (when applicable).

NOTE For [5] and [6] the text to be given in the detail specification should be suitable for an entry in the IECQ Register of Approvals.

[7] Outline drawing with main dimensions which are of importance for interchangeability and/or reference to the appropriate national or international documents for outlines. Alternatively, the drawing may be given in an annex to the detail specification, but [7] should always contain an illustration of the general outer appearance of the component.

[8] The level(s) of quality assessment covered by the detail specification, as appropriate.

[9] Reference data giving information on the most important properties of the component which allow comparison between the various component types intended for the same or similar applications.

[1]	IEC 60384-14-2-XXX [2] QC 302421-XXX
ELECTRONIC COMPONENTS OF ASSESSED QUALITY IN ACCORDANCE WITH: IEC 60384-1 IEC 60384-14 [3]	IEC 60384-14-2 [4] QC 30YYYY
	FIXED CAPACITORS FOR ELECTROMAGNETIC INTERFERENCE SUPPRESSION AND CONNECTION TO THE SUPPLY MAINS (SAFETY TESTS ONLY) [5]
Outline drawing: [see Table 1] [first angle projection] [7] [Other shapes are permitted within the dimensions given]	TYPICAL CONSTRUCTION (examples) [6]
	Class/subclass [8] Safety tests only
NOTE For [1] to [9], see preceding this table.	

[9]

Information on the availability of components qualified to this detail specification is given in the IEC QC 001005.

FIXED CAPACITORS FOR USE IN ELECTRONIC EQUIPMENT –

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1 General data

1.1 Recommended method(s) of mounting (to be inserted)

See 1.4.2 of IEC 60384-14.

1.2 Dimensions

The dimensions expressed as maximum dimensions or as nominal dimensions with a tolerance shall be given in the manufacturer's specification.

1.3 Ratings and characteristics

Capacitance range (see note below)

Tolerance on rated capacitance

Rated voltage (see note below)

Rated current (if applicable)

Climatic category

Rated temperature

Tangent of loss angle

Insulation resistance

Category of passive flammability

Values of capacitance related to the rated voltage, dimensions and ordering code/type designation shall be given in the manufacturer's specification.

1.4 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 60384-14, *Fixed capacitors for use in electronic equipment – Part 14: Sectional specification – Fixed capacitors for electromagnetic interference suppression and connection to the supply mains* [1]

IEC 60384-14-1, *Fixed capacitors for use in electronic equipment – Part 14: Sectional specification – Fixed capacitors for electromagnetic interference suppression and connection to the supply mains – Assessment level D*

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[1] A third edition is currently in preparation.

1.5 Marking

The marking of the capacitor, if any, and the packing shall be in accordance with 1.6 of IEC 60384-14.

The details of the marking of the component and packing shall be given in full in the detail specification.

1.6 Ordering information

Orders for capacitors covered by this specification shall contain, in clear or in coded form, the following information:

a) rated capacitance;

b) tolerance on rated capacitance;

c) rated voltage;

d) manufacturer's type designation.

1.7 **Additional information** (not for inspection purposes)

1.8 Additional or increased severities or requirements to those specified in the generic and/or sectional specification

NOTE Additional or increased requirements should be specified only when essential.

Table 1 – Other characteristics

This table is to be used for defining characteristics which are additional to or more severe than those given in the sectional specification.

2 Inspection requirements

2.1 Procedures

For qualification approval the procedures shall be in accordance with 3.4 of the sectional specification, IEC 60384-14.

2.2 Test schedules

2.2.1 Initial approval

See Table 2 of this specification.

2.2.2 Requalification

See Table 3 of this specification in association with Annex A of this specification.

Table 2 – Initial approval test schedule for safety tests only

Subclause number and test[1]	D or ND	Conditions of test[1]	*n* and *c*[1), 2)]	Performance requirements[1]
Group 0	ND		See Table 2	
4.1 Visual examination				No visible damage Marking legible
4.2.2 Capacitance				Within specified tolerance
4.2.4 Resistance[3]				Within specified tolerance
4.2.1 Voltage proof				No permanent breakdown or flashover
4.2.5 Insulation resistance				As in Table 9
Group 1A	D		See Table 2	
4.1 Dimensions (detail)				See Table 7
4.3 Robustness of terminations		Severity: ...[4]		No visible damage
4.4 Resistance to soldering heat[3]		No pre-drying Method: ... (1A or AB)[4]		Legible marking
4.20 Solvent resistance of the marking				
4.4.2 Final measurements		Visual examination		No visible damage
		Capacitance		See Table 11
		Resistance[3]		See Table 11
Group 2	D		See Table 2	
4.12 Damp heat, steady state				
4.12.1 Initial measurements		Have been made in Group 0		
4.12.2 Test conditions		Ceramic capacitors: half of the sample: U_R other half: no voltage		
4.12.3 Final inspection and measurements		Visual examination		No visible damage Legible marking
		Capacitance		See Table 13
		Resistance[3]		See Table 13
		Voltage proof		See Table 13
		Insulation resistance		See Table 13