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Blank detail specification: Fixed capacitors with metallized electrodes and polypropylene dielectric

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EUROPEAN STANDARD

**EN 131201**

NORME EUROPÉENNE

EUROPÄISCHE NORM

May 2002

ICS 31.060.30

Supersedes CECC 31 201:1981

English version

**Blank Detail Specification:  
Fixed capacitors with metallized electrodes  
and polypropylene dielectric**

Spécification particulière cadre:  
Condensateurs fixes à électrodes  
métallisés et à diélectrique en  
polypropylène

Vordruck für Bauartspezifikation:  
Festkondensatoren mit metallisierten  
Polypropylenfolien als Dielektrikum

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This European Standard was approved by CENELEC on 1992-10-14. 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 Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

**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**

### Foreword

The text of CECC 31 201:1981, Issue 1, with its amendment A1 and documents CECC(Secretariat)2456, 2491, 3063, 3080 and 3081 was submitted to the formal vote for conversion into a European Standard.

The text of the draft, together with the voting report, circulated as document CECC(Secretariat)3221, was approved as EN 131201 on 1992-10-14.

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) 2002-12-01
  - latest date by which the national standards  
conflicting with the EN have to be withdrawn (dow) 2002-12-01
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### Identification of the detail specification (DS) and the component

The first page of the DS should have the following layout. The numbers in square brackets correspond to the indications to be completed thereunder.

- [1] The name of the National Standards Organization under whose authority the DS is published and, if applicable, the organization from whom the DS is available.
- [2] The CECC symbol and the number allotted to the DS by the CECC General Secretariat.
- [3] The number and issue number of the specification as relevant; also national reference if different.
- [4] If different from the CECC number, the national number of the DS, date of issue and any further information required by the national system, together with any amendment numbers.
- [5] A brief description of the type of capacitor.
- [6] Information on typical construction (see examples in the form below).

For [5] and [6] the text to be given in the DS should be suitable for any entry in the Register of firms, products and services approved under the CECC system (Register of approvals), CECC 00200, and the Register of national documents implementing CECC publications and CECC European standards, CECC 00300.

- [7] An outline drawing with main dimensions which are of importance for interchangeability, and/or reference to the appropriate national or international document for outlines.
- [8] Quick reference data (see examples in the form below) and level(s) of quality assessment covered by the DS.
- [9] Circuit diagram (if applicable).

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NATIONAL STANDARDS ORGANIZATION [1]	EN 131201 - XXX [2]
ELECTRONIC COMPONENTS OF ASSESSED QUALITY IN ACCORDANCE WITH: (Number of national generic and sectional specifications) [3]	(National number of detail specification, date of issue, national type number, if any) [4]
DETAIL SPECIFICATION FOR FIXED METALLIZED POLYPROPYLENE FILM DIELECTRIC D.C. CAPACITORS [5]	
TYPICAL CONSTRUCTION: (Examples)	cylindrical / rectangular non-metallic / metallic case insulated / non-insulated axial / radial terminations [6]
OUTLINE DRAWING [7]	QUICK REFERENCE DATA: Rated capacitance range Capacitance tolerance D.C. rated voltage range Climatic category Performance grade Stability grade (if applicable) ASSESSMENT LEVEL [8]
Circuit diagram (if applicable)	[9]
See the relevant Qualified Products List for the availability of components qualified to this detail specification.	

**1 General data**

**1.1 Method of mounting for vibration and bump or shock tests**

The method shall be specified in the detail specification. See **1.3.3** of EN 131200:2002.

**1.2 Dimensions**

Dimensions shall be specified in Table 1, unless there is no case size reference, when table 1 may be omitted and the dimensions shall be given in table 2, which then becomes table 1.

**Table 1 - Dimensions**

Case size Reference <sup>1)</sup>	Dimensions <sup>1)</sup> (mm)					
	$\phi_{max}$ .	L <sub>max</sub> .	H <sub>max</sub> .	d ± tol.	2)	2)

**1.3 Ratings and characteristics**

The following ratings and characteristics shall be specified in the DS:

- performance grade
- stability grade (if applicable)
- capacitance range (See Table 2)
- tolerance on rated capacitance
- rated voltage (See Table 2)
- category voltage (if applicable) (See Table 2)
- rated temperature
- tangent of loss angle
- insulation resistance
- vibration severity
- climatic category
- bump severity (if applicable)
- shock severity (if applicable)

NOTE Information on the above characteristics may be given in tabular form, if necessary.

**Table 2 - Values of capacitance and of voltage related to case sizes**

Rated voltage (V)				
Category voltage <sup>1)</sup>				
Rated capacitance				

<sup>1)</sup> If different from the rated voltage.

1) Body dimensions should preferably be expressed as maxima but, when necessary be nominal with tolerance.  
 2) Other important dimensions should be included as additional information.

## 1.4 Related documents

Generic specification	EN 130000
Sectional specification	EN 131200

## 1.5 Marking

The marking of the capacitor and the packing shall be in accordance with **1.5** of EN 131200:2002.

## 1.6 Ordering information

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

- a) rated capacitance;
- b) tolerance on rated capacitance;
- c) rated d.c. voltage;
- d) number of the detail specification and style reference;
- e) performance and stability grade (if necessary);

together with other information to identify a specific size, constructional details, etc. as necessary.

An example of ordering information shall be given.

## 1.7 Certified test records

Certified test records shall be as required in accordance with EN 131200.

## 1.8 Additional information (not for inspection purposes)

Additional information shall be given in this clause of the DS.

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

Additions or increased requirements shall be stated in Table 3.

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

**Table 3 - Other characteristics**

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

## 2 Inspection requirements

### 2.1 Procedures

2.1.1 For qualification approval the procedures shall be in accordance with **3.3** of EN 131200:2002.

2.1.2 For quality conformity inspection the test schedule (Table 4) includes sampling, periodicity, severities and requirements. The formation of inspection lots is covered by **3.4.1** of EN 131200:2002.



**Table 4A - Lot-by-lot inspection (groups A and B)**

Clause number and test <sup>1)</sup>	Conditions of test <sup>1)</sup>	IL <sup>2)</sup>	AQL <sup>2)</sup> %	Performance requirements <sup>1)</sup>
<u>Group A1</u> <b>4.1</b> Visual examination Marking  Dimensions	Nondestructive	S4	2,5	No visible damage Marking legible See Table 1
<u>Group A2</u> <b>4.2.2</b> Capacitance	Nondestructive See 4.4	II	1,0	Within tolerance limits for $C_R$
<b>4.2.3</b> Tangent of loss angle	Frequency: 1 kHz and for $C_R \leq 1 \mu\text{F}$ additional to 10 kHz Peak voltage $\leq 0,03U_R$			See Table in <b>4.2.3</b>
<b>4.2.1</b> Voltage proof (Test point 1a)	Grade 1: $1,6U_R$ Grade 2: $1,4U_R$			No breakdown or flashover
<b>4.2.4</b> Insulation resistance (Test point 1a)				
<u>Group B1</u> <b>4.4.2</b> Solderability	Nondestructive Method	S3	2,5	

<sup>1)</sup> Refers to clause 4 of EN 131200:2002.

<sup>2)</sup> Inspection Levels (IL) and Acceptance Quality Levels (AQL) are selected from IEC 60410.

<sup>3)</sup> Capacitors which have been submitted to the tests of subgroup B1 may be released provided they have not been submitted to ageing and are resubmitted to the tests of group A and pass those tests. It is permitted to submit electrically defective capacitors or detached terminations instead of completed capacitors to this test provided they have been subjected to the same process treatments as a completed capacitor.