

---

**Blank Detail Specification: Aluminium electrolytic capacitors with non-solid electrolyte**

Blank Detail Specification: Aluminium electrolytic capacitors with non-solid electrolyte

Vordruck für Bauartspezifikation: Aluminium-Elektrolyt-Kondensatoren mit flüssigem Elektrolyten

**iTeh STANDARD PREVIEW**

Spécification particulière cadre: Condensateurs électrolytiques à l'aluminium à électrolyte non solide

[SIST EN 130301:2003](https://standards.iteh.ai/catalog/standards/sist/847278c7-8ebe-4c27-99df-841da647316/sist-en-130301-2003)

**Ta slovenski standard je istoveten z: EN 130301:2002**

---

**ICS:**

31.060.50	Aluminijski elektrolitni kondenzatorji	Aluminium electrolytic capacitors
-----------	--	-----------------------------------

**SIST EN 130301:2003**

**en**

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

[SIST EN 130301:2003](#)

<https://standards.iteh.ai/catalog/standards/sist/847278c7-8ebe-4c27-99df-84ffdae47316/sist-en-130301-2003>

EUROPEAN STANDARD

**EN 130301**

NORME EUROPÉENNE

EUROPÄISCHE NORM

January 2002

ICS 31.060.50

Supersedes CECC 30 301:1988

English version

**Blank Detail Specification:  
Aluminium electrolytic capacitors with non-solid electrolyte**

Spécification particulière cadre:  
Condensateurs électrolytiques  
à l'aluminium à électrolyte non solide

Vordruck für Bauartspezifikation:  
Aluminium-Elektrolyt-Kondensatoren  
mit flüssigem Elektrolyten

## iTeh STANDARD PREVIEW

This European Standard was approved by CENELEC on 1996-07-02. 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 30 301:1988, Issue 2, with its amendments A1 and A2 and documents CECC(Secretariat)2456, 2640, 2641, 3063 and 3064, 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)3206, was approved as EN 130301 on 1992-10-14.

A draft amendment was submitted to the Unique Acceptance Procedure and was approved by CENELEC on 1996-07-02.

During its meeting in March 2000 in Brussels, the Technical Committee CENELEC TC 40XA, Capacitors, confirmed the need to publish the combined text of the above drafts as EN 130301.

This European Standard supersedes CECC 30 301:1988 and its amendments.

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) 2002-08-01
- latest date by which the national standards conflicting  
with the EN have to be withdrawn (dow) 2002-08-01

---

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

SIST EN 130301:2003

<https://standards.iteh.ai/catalog/standards/sist/847278c7-8ebe-4c27-99df-84ffdae47316/sist-en-130301-2003>

### Identification of the detail specification and the component

The first page of the detail specification should have the layout recommended on page 4 of this blank detail specification. The numbers in square brackets correspond to the following information which shall be inserted at the position indicated:

- [1] the name of the National Standards Organization under whose authority the detail specification is published and, if applicable, the organization from whom the detail specification is available;
- [2] the CECC symbol and number allotted to the detail specification by the CENELEC Central Secretariat;
- [3] the number and issue number of the CECC generic and sectional specification as relevant; also national reference if different;
- [4] if different from the CECC 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;
- [5] a brief description of the component or range of components;
- [6] information on typical construction when applicable;

For [5] and [6], the text to be given in the detail specification should be suitable for an entry in CECC 00 200 (Register of Approvals) and CECC 00 300 (Register of National Documents).

- [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. 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;
- [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 for similar, applications.



## 1 General data

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

See 1.3.2 of EN 130300.

### 1.2 Dimensions

Table 1

Case size reference	Dimensions mm					
	D	L	H	d	....	...

NOTE 1 When there is no case size reference, Table 1 may be omitted and the dimensions shall be given in Table 2A, which then becomes Table 1.

NOTE 2 The dimensions shall be given as maximum dimensions or as nominal dimensions with a tolerance.

### 1.3 Ratings and characteristics

Capacitance range  $C_R$  (see Table 2A)

Tolerance on rated capacitance

Rated voltage  $U_R$  (see Table 2A)

Category voltage  $U_C$  (if applicable) (see Table 2A)

Climatic category [SIST EN 130301:2003](https://standards.iteh.ai/catalog/standards/sist/847278c7-8ebe-4c27-99df-84ffdae47316/sist-en-130301-2003)

Rated temperature <https://standards.iteh.ai/catalog/standards/sist/847278c7-8ebe-4c27-99df-84ffdae47316/sist-en-130301-2003>

Rated ripple current (see Table 2B)

Tangent of loss angle ( $\tan \delta$ ) (see Table 2B)

Leakage current

Impedance (if required) (see Table 2B)

Reverse voltage (if required)

Insulation resistance (if applicable)

NOTE Instead of the tangent of loss angle ( $\tan \delta$ ), the equivalent series resistance ESR may be specified in accordance with 4.3.3.2 d) of EN 130300.

Table 2A  
Values of capacitance related to voltages and case sizes

Rated voltage in V				
Category voltage in V <sup>1)</sup>				
Rated capacitance in $\mu\text{F}$	Case size	Case size	Case size	Case size
1) If different from the rated voltage.				

**Table 2B**  
**Tangent of loss angle, impedance and rated ripple current**

$U_R$ (V)	$C_R$ ( $\mu\text{F}$ )	Tangent of loss angle ( $\tan \delta$ ) at ... °C and ... Hz or ESR ( $\Omega$ )	Impedance ( $\Omega$ ) at ... °C and ... Hz (if required)	Rated ripple current (A) at ... °C and ... Hz

#### 1.4 Related documents

Generic specification: EN 130000

Sectional specification: EN 130300

#### 1.5 Marking

The marking of the capacitor, if any, and the packing shall be in accordance with 1.5 of EN 130300.

NOTE 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 coded form, the following minimum of information:

- 1) rated capacitance;
- 2) tolerance on rated capacitance;
- 3) rated voltage;
- 4) number and issue reference of the detail specification and style reference.

SIST EN 130301:2003  
<https://standards.iteh.ai/catalog/standards/sist/847278c7-8ebe-4c27-99df-84fda647316/sist-en-130301-2003>

#### 1.7 Certified test records of released lots

Required / not required.

#### 1.8 Additional information (not for inspection purposes)

##### 1.8.1 Useful life

If useful life is to be indicated, the following definition of useful life applies:

##### a) Load conditions

Load conditions for definition of useful life are:

- rated voltage,
- rated ripple current (the peak voltage of the alternating voltage superimposed on the d.c. voltage must not exceed the value of the rated voltage),
- rated temperature.



**b) Failure criteria**

Failures are specified as follows:

- short or open circuit;
- capacitance change exceeding 3 times the limit for endurance testing given in the sectional specification or 50 % (whichever is the smaller);
- $\tan \delta$  or ESR exceeding 3 times the initial limit;
- HF impedance exceeding 3 times the initial limit;
- leakage current exceeding the initial limit;
- unusable terminations;
- several damaged insulation;
- external shorting of the terminations by electrolyte;
- operation of pressure relief device.

(When the detail specification indicates that a repetitive pressure relief device is applied at the capacitor, the effects of the intended operation of the device - e.g. slight colouring or discolouring, slight wetting etc. - shall not be considered as failure. Seepage, however, is not permitted.)

**c) Failure percentage**

End of life is reached when the failure percentage is exceeding 1 %.

**1.9 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.

**ITeH STANDARD PREVIEW**  
(standards.iteh.ai)

**Table 3**  
**Other characteristics**

SIST EN 130301:2003

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**

2.1.1 For Qualification Approval, the procedures shall be in accordance with 3.4 of EN 130300.

2.1.2 For Quality Conformance Inspection, the test schedule (Table 4) includes sampling, periodicity, severities and requirements. The formation of inspection lots is covered by 3.5.1 of EN 130300.