SLOVENSKI STANDARD
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Blank detail specification: Cathode ray tubes

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Vordruck für Bauartspezifikation: Kathodenstrahlröhren

Spécification particulière cadre: Tubes à rayons cathodiques

Ta slovenski standard je istoveten z: **EN 111001:1991**

ICS:

31.120	Elektronske prikazovalne naprave	Electronic display devices

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EUROPEAN STANDARD
NORME EUROPÉENNE
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Descriptors: Quality, electronic components, tubes

English version

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This European Standard was approved by the CENELEC Electronic Components Committee (CECC) on 20 November 1991. The text of this standard consists of the text of CECC 11001 Issue 1 1986 of the corresponding CECC Specification. CENELEC members are bound to comply with 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 General Secretariat of the CECC 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

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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

Ref. No. EN 111001:1991 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 recognised Mark, or Certificate, of Conformity. The components produced under the System are thereby accepted by all member countries without further testing.

This document has been formally approved by the CECC, and has been prepared for those member countries taking part in the System who wish to issue national harmonized specifications for CATHODE RAY TUBES. It should be read in conjunction with document CECC 00100: Basic Rules (1974).

At the date of printing of this document the member countries of the CECC are Belgium, Denmark, France, Germany, Ireland, Italy, the Netherlands, Norway, Sweden, Switzerland, and the United Kingdom, and copies of it can be obtained from the addresses shown on the inside cover.

Preface

This blank detail specification was proposed by CECC Working Group 11: "ELECTRO-OPTICAL DEVICES".

It is a blank detail specification for Cathode Ray Tubes relating to the generic specification printed as CECC 11000.

The text of this specification was circulated to the CECC for voting in the documents listed below

CECC (Secretariat)304

CECC (Secretariat)305

CECC (Secretariat)327

in September 1974 and January 1975, and following ratification of the Report on the Voting in CECC (Secretariat)553 in December 1976, was approved by the CECC Management Committee for printing as a CECC Specification.

It is recognised that the layout proposed cannot be applied to all detail specifications based on this document.

The CECC Management Committee at its meeting in Copenhagen in March 1979 decided that as the German National Authorized Institution would not be implementing the requirements of this CECC generic specification, the text should be published in the English and French versions only.

Key for page 4

The numbers between square brackets on page 4 correspond to the following indications which should be given:

Identification of the detail specification

[1] The name of the National Standards Organization under whose authority the detail specification is drafted

[2] The CECC Symbol and the number allotted to the national detail specification by the CECC General Secretariat

[3] The number and issue number of the national generic and sectional specifications

[4] The national number of the detail specification, date of issue and any further information required by the national system, together with any amendment numbers, if issued.

Identification of the component

[5] A short description of the type of the cathode ray tube

[6] Information on typical construction (where applicable)

[7] Outline drawing and/or reference to the relevant document for outlines

[8] Application or group of applications covered (see note below)

[9] Reference data on the most important properties, to allow comparison between the various component types.

NOTE When a device is so designed that it can satisfy several applications, this shall be stated in the detail specification. Requirements relevant to these applications shall be met simultaneously (these may appear in different columns of a detail specification or in different detail specifications, as the case may be).

[1]	Page: Of:	[2] CECC 11001-XXX
ELECTRONIC COMPONENT OF ASSESSED QUALITY IN ACCORDANCE WITH: [3]		[4]

[5]

DETAIL SPECIFICATION FOR: CATHODE RAY TUBE(S) FOR[a] DISPLAY TYPE NUMBER(S)

DESCRIPTION and CONSTRUCTION (as applicable): Method of focusing and deflection [6]
Dimensions of viewing screen
colour of display, and persistence of display
(see **2.3.1** of CECC 11000)
External coating if present.

[7]	[8]
OUTLINE DRAWING (not for inspection purposes) or REFERENCE TO THE OUTLINE DRAWING CONNECTIONS AND DESIGNATION OF ELECTRODES	APPLICATION(S) LEVEL OF QUALITY ASSESSMENT

DATA (not for inspection purposes) [9]

Mechanical

Mounting position and accessories

Mass (weight)

Environmental (where appropriate)

Limiting values (absolute maximum rating system — IEC 134)	Min	Max	Units
Heater voltage	a	a	V
Heater to cathode, positive voltage		a	V
negative voltage		a	V
Intensity modulator electrode negative voltage		a	V
Intensity modulator electrode positive voltage		a	V
Other electrode voltages		a	V
Cathode mean current		a	A
Intensity modulator electrode cathode circuit resistance		a	Ω
Beam blanking voltage	a	a	V
PDA ratio		a	

DATA CONTINUED ON NEXT PAGE

See the relevant Qualified Products List for availability of components made to this detail specification.

[a] Denotes that a value shall be inserted in the detail specification.

Operating conditions and typical characteristics (not for inspection purpose)

The detail specification shall select from the following operating conditions and characteristics those conditions/characteristics as required for the tube design. When the tube is operated under the conditions given below, the characteristic values which follow them are attainable:

V_{g_1} = [1]V; V_{g_2} = [1]V; V_{g_3} = [1]V; V_{g_4} = [1]V; Beam current = [1]μA; Electrode current (or electrodes as designated on the preceding page) = [1]μA; PDA ratio = [1].

Type(s) of coil(s) and position(s)[1]

	Min	Max	Units
Heater voltage/heater current	1)	1)	V/A
Focusing requirements	1)	1)	V/A
Voltage required on the intensity modulator electrode for cut-off	1)	1)	V
Useful screen dimensions	1)X1)		mm
Scan dimensions of secondary deflection system	1)	1)	mm
X Plate mean value	1)	1)	V
X deflection coefficient(s) (primary or secondary system)	1)	1)	V/cm
Y deflection coefficient(s) (primary or secondary system)	1)	1)	V/cm
For control of astigmatism, the voltage between the astigmatism corrector electrode and the mean Y plate potential	1)	1)	V
For correction of raster shape, the voltage between the geometry corrector electrode and the mean X plate potential	1)	1)	V
Voltage required between the beam blanking electrode and grid[1] to achieve visual cut-off	1)	1)	V
Voltage required between the alignment corrector electrode and grid[1] to achieve coincidence of vertical traces	1)	1)	V

Marking

Ordering information

Related documents

Structural similarity

X-radiation

Additional information (not for inspection purpose)

TEST CONDITIONS AND INSPECTION REQUIREMENTS

These are given in the following tables: The test conditions to be used shall be specified in the detail specification as required for a given type, in line with the requirements given in CECC 11000 for the relevant test.

All references to clause numbers are made with respect to CECC 11000 unless otherwise stated.

[1] Denotes that a value shall be inserted in the detail specification.

The specification shall include the following tests unless precluded by the tube design.

GROUP A — Lot by lot General test conditions[a] (unless stated otherwise for particular tests) All potentials are defined with respect to the cathode unless otherwise stated. All tests are non destructive								
			AQL: given in %					
Inspection or test	**Reference CECC 11000**	**Conditions of test**	**Inspection requirements**					
			Min	**Max**	**Units**	**IL**	**AQL**
SUB-GROUP A1						100 %	
— Visual inspection	**4.3**	As specified	See **4.3**				
— Gas content coefficient	**4.6.1**	As specified		[a]	[a]		
— Intensity modulator electrode cut-off voltage	**4.6.2**	As specified	[a]	[a]	V		
— Cathode emission	**4.6.3**	As specified	[a]		[a]		
— Quality of fluorescent screen and face plate	**4.6.10**	As specified	See blemish specification				
SUB-GROUP A2						II	1,5
— Focus characteristics	**4.6.25**	As specified					
(1) Focus electrode voltage			[a]	[a]	V		
(2) Astigmatism corrector voltage			[a]	[a]	V		
— Mechanical spot displacement	**4.6.5**	As specified		[a]	mm		
— Luminance characteristics or	**4.6.4**	As specified	According to type of tube				
— Average peak line luminance	or **4.6.29**	As specified					
SUB-GROUP A3						S4	6,5
— Heater voltage and/or current	**4.6.8**	As specified	[a]	[a]	[a]		
— Heater-cathode leakage	**4.6.9**	As specified					
(1) Heater positive w.r.t. cathode			—	[a]	µA		
(2) Heater negative w.r.t. cathode			—	[a]	µA		
— Intensity modulator electrode total negative current	**4.6.12** Method[a]	As specified	According to type of tube				
— Electrical spot displacement	**4.6.23**	As specified	—	[a]	mm		
Also the following tests for tubes with ratings above 10kV							
— Stray emission	**4.6.6**	As specified	See **4.6.6**				
— Flashover	**4.6.7**	As specified	See **4.6.7**				
[a] Denotes that a value shall be inserted in the detail specification.							

GROUP B — Lot by lot

General test conditions — as for Group A

Only tests marked (D) are destructive — AQL: given in %

Inspection or test	Reference CECC 11000	Conditions of test	Inspection requirements				
			Min	Max	Units	IL	AQL
— Dimensions, major	4.4	See 4.4	See inspection drawing			S4	4,0

If the detail specification includes additional tests which are destructive tests, these shall be marked (D).

GROUP C — PERIODIC

General test conditions — as for Group A

Only tests marked (D) are destructive — AQL: given in %

Inspection or test	Reference CECC 11000	Conditions of test	Inspection requirements				
			Min	Max	Units	IL	AQL
General test conditions — as for Group A							
SUB-GROUP C1	Periodicity up to three months. Sample size 8, one reject permitted.						
— Electrode leakage current	4.6.11	As specified	—	[a]	µA		
— Resolution		As specified	According to type of tube				
The detail specification shall include one of the following:							
(1) Expanced rastor or	4.6.14.1 or						
(2) Elliptical or circular trace or	4.6.14.2 or						
(3) Pulsed line or	4.6.14.3 or						
(4) Shrinking rastor or	4.6.14.4 or						
(5) Narrow slit or	4.6.14.5 or						
(6) Variable slit or	4.6.14.6 or						
(7) Spatial frequency	4.6.14.7						

[a] Denotes that a value shall be inserted in the detail specification.