



SLOVENSKI STANDARD

SIST EN 165000-3:2002

01-september-2002

Film and hybrid integrated circuits - Part 3: Self-audit checklist and report for film and hybrid integrated circuits manufacturers

Film and hybrid integrated circuits -- Part 3: Self-audit checklist and report for film and hybrid integrated circuit manufacturers

Integrierte Hybrid- und Schichtschaltungen -- Teil 3: Selbst-Auditierungs Checkliste und Bericht für Hersteller von Integrierten Schicht- und Hybridschaltungen

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Ta slovenski standard je istoveten z: **EN 165000-3:1996**

ICS:

31.200	Integrirana vezja, mikroelektronika	Integrated circuits. Microelectronics
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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 165000-3

April 1996

ICS 31.200

Descriptors: Quality, generic specification, hybrid circuits

English version

**Film and hybrid integrated circuits
Part 3: Self-audit checklist and report for film and
hybrid integrated circuit manufacturers**

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This European Standard was approved by CENELEC on 1996-03-05. 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, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, 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

This European Standard was prepared by CLC/TC CECC SC 47AX (former CECC/WG 21), Film and hybrid integrated circuits.

The text of the draft was submitted to the Unique Acceptance Procedure and was approved by CENELEC as EN 165000-3 on 1996-03-05.

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) 1997-03-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 1997-03-01

The present standard, EN 165000-3, Film and hybrid integrated circuits - Part 3: Self-audit checklist and report for film and hybrid integrated circuit manufacturers, is intended to be read in conjunction with the other parts of EN 165000, which are:

Part 1: Generic Specification - Capability approval procedure

Part 2: Part 2: Internal visual inspection and special tests

Part 4: Customer information, product assessment level schedules and blank detail specification

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This part 3 is primarily intended as a pro-forma for the manufacturer and is not considered *essential* for a customer *in this form*.

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Part 4 is considered an essential document for all users; in particular it includes a helpful introductory section which is aimed at potential customers and seeks to explain the underlying philosophy upon which the whole standard is based.



TABLE OF CONTENTS

	Page No.
1. SCOPE	5
2. DOCUMENT INFORMATION	
2.1 Introduction and use	5
2.2 Related documents	5
3. GENERAL REQUIREMENTS	
3.1 Report front sheets and authentication	7
3.2 Description of report/company structure	8
3.3 Approval information	11
3.4 Summary of testing	13
3.5 Analytical methods	15
3.6 Control of procurement sources and incoming material	17
3.7 Environmental control and static handling	19
3.8 Major change notification	20
3.9 Hybrid design	21
4. THICK FILM PROCESSING	
4.1 Artwork & Screen fabrication	24
4.2 Substrates	25
4.3 Substrate saw or scribe and break and substrate hole drilling	26
4.4 Thick film pastes and printing	27
4.5 Drying and firing	31
4.6 Resistor trimming	33
4.7 Inspection and test of processing	34
4.8 Rework	35
5. THIN FILM PROCESSING	
5.1 Artwork and mask fabrication	37
5.2 Substrates	38
5.3 Substrate saw or scribe and break and substrate hole drilling	40
5.4 Thin film processing materials and pattern forming	41
5.5 Drying and stabilization	43
5.6 Resistor trimming	44
5.7 Rework	45
6. HYBRID ASSEMBLY	
6.1 Solder assembly	47
6.1.1 Kitting	47
6.1.2 Cleaning	48
6.1.3 Component placement	49
6.1.4 Substrate attach	51
6.1.5 Soldering	52
6.1.6 Encapsulation	53
6.1.7 Rework	54
6.1.8 Marking	55

TABLE OF CONTENTS, continued

	Page No.
6.2 Chip & Wire	56
6.2.1 Kitting	56
6.2.2 Cleaning	57
6.2.3 Component placement	58
6.2.4 Substrate attach	62
6.2.5 Wirebonding	63
6.2.6 Package seal	65
6.2.7 Rework	67
6.2.8 Marking	68
7. TEST AND SHIPPING	
7.1 Electrical tests	70
7.2 Burn-in	72
7.3 Endurance	74
7.4 Dry heat (stabilization bake)	76
7.5 Change of temperature	77
7.6 Damp heat testing	78
7.7 Particle impact noise detection	80
7.8 Fine leak testing	81
7.9 Gross leak testing	82
7.10 Resistance to soldering heat	83
7.11 Termination robustness	84
7.12 Acceleration	85
7.13 Vibration	86
7.14 Shock	87
7.15 Dimensions	88
7.16 Bond-pull testing	89
7.17 Salt mist	90
7.18 Flammability	91
7.19 Solderability	92
7.20 Resistance to solvents	94
7.21 Internal visual inspection	95
7.22 External visual inspection	96
7.23 Radiographic inspection	97
7.24 Acceptance to dispatch	98

1. SCOPE

This checklist is intended for the use of a hybrid microcircuit manufacturer's internal assessment team. It will provide the hybrid manufacturer and the ONS with ongoing information on process control demonstrating compliance with EN 165000-1. It is not intended to include Quality System requirements.

2. DOCUMENT INFORMATION

2.1 Introduction

The checklist and subsequent report is for submission to the ONS in support of an application for approval to EN 165000-1 or as demonstration of continuing compliance at intervals not exceeding 1 year. Each section shall be completed or marked not applicable; sections which invoke mandatory process or inspection requirements are shown in *bold italics*.

It should be noted that it is not the requirement or the intention that each section has to be answered with an affirmative, excepting mandatory requirements. The objective of the report is for the manufacturer to demonstrate that all manufacturing processes are under control by whatever means this is achieved.

Where supporting evidence is included, for example Engineering reports, SPC data etc, it should be appended to the report.

The manufacturer may use his own style of typeface to reproduce this document and produce his report.

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The ONS may subsequently validate any part of the submission as a process assessment.

2.2 Related documents.

EN 165000-1	Generic Specification for film and hybrid integrated circuits, capability approval procedure
EN 100114-1	Quality assessment procedures: Approval of manufacturers and other organisations.
CECC 00114/111	Quality assessment procedures. Capability approval of an electronic component manufacturing activity.
EN 100012	Basic specification: Radiographic inspection of electronic components.
EN 100015	Basic specification: Protection of electrostatic sensitive devices.
CECC 00016	Basic specification: Basic requirements for the use of statistical process control (SPC) in the CECC system.

3. GENERAL REQUIREMENTS

The following pages contain:

- 3.1 Report front sheets and authentication.
- 3.2 Description of report/company structure
- 3.3 Approval information
- 3.4 Summary of testing
- 3.5 Analytical methods
- 3.6 Control of procurement sources and incoming material
- 3.7 Environmental control and static handling
- 3.8 Major change notification
- 3.9 Hybrid design

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3.1 SELF-AUDIT CHECKLIST AND REPORT FOR THICK AND THIN FILM HYBRID INTEGRATED CIRCUIT MANUFACTURERS

Report No: _____ Date: _____

Previous report No: _____ Date: _____

Approval: Application/Periodic review/Extension/Major change*

Company name:

Address:

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Postcode:

Telephone:

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Telex: _____ Facsimile: _____

Company declaration.

The information contained herein is a true and accurate record of appraisals carried out between
/ / and / / .

Report compiled by: _____ signed: _____ date: / /

Report approved by: _____ signed: _____ date: / /

ONS Countersignature.

The information supplied in this report fully supports the Application/Periodic review/Extension/Major change* as detailed.

The following sections of this report have been subject to subsequent evaluation by the ONS:

For ONS: _____ Signed: _____ date: / /

* delete as appropriate.

3.2 Description of Report/Company Structure

Provide a description for the purpose of this report.

- a. For a new approval application - State the extent of the technology sought in terms of materials, complexity, packaging etc. together with the maximum screening/test level applied for from EN 165000-4.
- b. For an extension/major change - Nature of technology extension required, or details of process/equipment change.

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3.2 Description of Report/Company Structure, continued**Senior management:**

Name:	Position:	Location:
Name:	Position:	Location:
Name:	Position:	Location:
Name:	Position:	Location:
Name:	Position:	Location:
Name:	Position:	Location:
Name:	Position:	Location:
Name:	Position:	Location:
Name:	Position:	Location:

Quality department:

Name: Position: Quality Manager Reports to:
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Name: Position: Deputy Quality Manager

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Number of Quality Engineers:

Number of Inspectors per shift:

Number of Employees Engaged in Hybrid Production:

Total:

Administration:

Production Engineers:

Production Operators:

Production Inspection:

Design Engineers:

Reliability Engineers:

Supervisors:

3.2 Description of Report/Company Structure, continued

Production:

Thick film substrate production:	YES/NO.*	Number of shifts:
Thin film substrate production:	YES/NO.*	Number of shifts:
Solder assembly:	YES/NO.*	Number of shifts:
Chip and wire:	YES/NO.*	Number of shifts:
Test and environmental:	YES/NO.*	Number of shifts:
Quality engineering:	YES/NO.*	Number of shifts:
Quality inspection:	YES/NO.*	Number of shifts:
Production supervision:	YES/NO.*	Number of shifts:

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Production line (Space allocations):

Design:	SIST EN 165000-3:2002 https://standards.iteh.ai/catalog/standards/sist/fb1f6b48-83df-4838-8239-708894476d5a/sist-en-165000-3-2002	area in m ² .
Development:		area in m ² .
Production:		area in m ² .
Test and environmental:		area in m ² .

Market:

Space: % Military: % Telecom: % Automotive: % Others: %

* delete as appropriate.

3.3 Approval Information

Approved Quality System to CECC 00114: YES/NO.* Approval No: Assessed: / /

Approved to EN 165000-1: YES/NO.* Approval No: Assessed: / /

Other National/International Approvals Held:

Approval Type: Approval No: Assessed: / /

Approval Type: Approval No: Assessed: / /

Approval Type: Approval No: Assessed: / /

Approval Type: Approval No: Assessed: / /

Approval Type: Approval No: Assessed: / /

Commercial Approvals (e.g. Ford, IBM etc.) Held:

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Approval Type: Approval No: Assessed: / /

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Approval Type: Approval No: Assessed: / /

Notes.

* delete as appropriate.

3.3 Approval Information, continued

Example of abstract of capability approval.

EN 165000-1 Approval Number ABC123

Thick Film Technology:

General:

In 1937 Welwyn was set up to manufacture high grade resistors primarily for use by the telecommunications industries. During 1962 the company began production of Custom Electronic Hybrid Integrated Circuits for Industrial, Telecommunications and Military customers.

Today Welwyn uses the latest technology to design and produce high reliability hybrids conforming to the most exacting requirements of customer applications, for customers requiring a wide range of electronic circuit complexity/density and for quantities of hybrids ranging from small batch production to high volume production. In addition 100% screening tests and customer design evaluation testing programmes are also available to provide the highest level of Quality Assurance required by any customer.

Current levels of release available:

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	Maximum Dimensions	EN 165000-4 reference
Surface-mount, Non-Hermetic Technology	50.8 x 25.4mm	- PALS 5
Surface-mount, Hermetic Technology	54.5 x 29.2mm	- PALS 8
Chip and Wire, Non-Hermetic Technology	50.8 x 25.4mm	- PALS 5
Chip and Wire, Hermetic Technology	54.5 x 29.2mm	- PALS 8

Sub-contracted processes: None.

Address:

Welwyn Microcircuits
Factory D
BEDLINGTON
Northumberland
NE22 7AA
UNITED KINGDOM

Tel: +44 1670 822181
Fax: +44 1670 530123
Telex: 53514

Contacts:

Commercial Manager: Mr G Thompson, Ext. 421

Quality Manager: Mr D Oliver, Ext. 430

3.4 Summary of Testing

The product testing record example shown below and overleaf is for guidance as to the required information. The manufacturer's own records may provide this information without amendment. Prior agreement should be reached with the ONS as to the form and content of supplied records.

PRODUCT TESTING RECORD				
MANUFACTURERS NAME AND ADDRESS		Product type No: PALS release level: Package type: Technology description:		
DESIGN EVALUATION				
TEST	No. tested	No. failed	Date.	Structural similarity claimed type No(s).
Endurance				
Damp heat				
Resistance to soldering heat				
Termination robustness				
Acceleration				
Vibration				
Shock				
Solderability				
Flammability				
Resistance to solvents				
Internal moisture content				
Radiographic inspection				
Salt mist				
Others				