SLOVENSKI STANDARD
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Coaxial cables used in cabled distribution networks - Part 1: Generic specification - Amendment A1

Coaxial cables used in cabled distribution networks -- Part 1: Generic specification

Koaxialkabel für Kabelverteilanlagen -- Teil 1: Fachgrundspezifikation

Câbles coaxiaux pour réseaux câblés de distribution -- Partie 1: Spécification générique

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Coaxial cables used in cabled distribution networks
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Câbles coaxiaux pour réseaux câblés de distribution
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Koaxialkabel für Kabelverteilanlagen
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This amendment A1 modifies the European Standard EN 50117-1:1995; it was approved by CENELEC on 1995-11-28. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment 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 amendment 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

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Foreword

This amendment was prepared by SC 46XA, Coaxial cables, of Technical Committee CENELEC TC 46X, Communication cables.

The text of the draft was submitted to the formal vote and was approved by CENELEC as amendment A1 to EN 50117-1:1995 on 1995-11-28.

The following dates were fixed:

- latest date by which the amendment has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 1997-12-01
- latest date by which the national standards conflicting with the amendment have to be withdrawn (dow) 1997-12-01

ADD :

Section 12 QUALITY ASSESSMENT FOR COAXIAL CABLES

12.1 Purpose

The purpose of quality assessment is to provide assurance that the product conforms to the requirements of the relevant specifications. This assurance is achieved by implementing relevant systems and procedures during the design, development, production, inspection and test of the product supplied. Although the systems and procedures may vary with different quality assessment schemes, the purpose of assuring product conformance is common to each scheme.

The choice of quality assessment scheme is a matter for agreement between customer and supplier. Qualification Approval and Capability Approval schemes are available for selection where appropriate, and all recognised approved schemes invoke the requirements of EN29000.

An outline of two principle schemes which remain under consideration for this generic specification is given below in sections A.12.3 (Qualifications Approval) and A.12.4 (Capability Approval).

12.2 General

12.2.1 Related Documents

EN29000
EN29001
EN29002
EN29003
CECC 00114:RP14
CECC 00107

12.2.2 Standard and Preferred Values

Whenever possible, standard and preferred values according to the generic specification and the relevant sectional specifications shall be used.

12.2.3 Terminology

12.2.3.1 The Capability Manual

The Capability Manual (CM) of a manufacturer is a complete description of design rules, manufacturing processes, and test procedures, including their limits and verification procedures. The Capability Manual is the basic document required in support of Capability Approval.

12.2.3.2 The Quality Manual

The Quality Manual describes either directly, or by reference to the manufacturer's internal documents, the procedures used by the manufacturer to ensure conformity of his products with the applicable specifications. The Quality Manual is required for both Qualification and Capability Approval.

12.2.3.3 Capability Qualifying Component (CQC)

CQC's are test specimens specially designed or taken from production and used for verifying capability limits in accordance with the Capability Manual.

12.2.3.4 Primary Stage of Manufacture

The Primary Stage of Manufacture is the first activity under the control of the manufacturer according to the Capability Manual, and shall be in accordance with the generic specification.

12.3 Qualification Approval

12.3.1 Introduction

Qualification Approval is appropriate when products are made to standard patterns and (usually) in continuous production.

Qualification Approval can only be achieved for existing detail specifications.

The relevant specifications state the requirements for the Qualification Approval of the cable assembly (test schedule, number of specimens, number of defectives permitted, etc.).

12.3.2 How to obtain Qualification Approval

To obtain Qualification Approval the following steps shall be performed:

a) Approval of the manufacturer on the basis of his ability to produce and inspect products in conformance with the specification and the agreed rules of procedure, limited to specified organisation and facilities, and verified by audits on the manufacturers quality system as described in the Quality Manual by the NSI in accordance with, for instance, EN29001 or EN29002.

b) Successful completion of qualification tests, usually made on production items, according to the relevant specification.

12.3.3 How to maintain Qualification Approval

To maintain Qualification Approval the manufacturer shall comply with the following conditions to the satisfaction of the NSI:

a) Results of periodic audits by the NSI on the Quality Manual shall be satisfactory.

b) Delivered products shall fulfil the specified Quality Assurance requirements.

c) An inspection of current production is carried out in accordance with the relevant specifications. Products from lots which do not fulfil the specifications shall not be permitted to be delivered.

d) Successful completion of periodic tests according to the detail specification.

12.3.4 Modifications likely to affect Qualification Approval

Modifications likely to affect Qualification Approval shall be carried out in accordance with the requirements of rules of procedures CECC 00107/1.

The manufacturer shall report to the NSI any technical modifications, including changes of place of manufacturer, which could affect the results obtained if Qualification Approval procedures were to be repeated.

The NSI shall then decide whether it is necessary to repeat all or some of the Qualification Approval tests before any components subject to the modifications are delivered under the system.

The NSI shall, as part of its surveillance, ensure that the reporting of modifications has taken place.

12.4 Capability Approval

12.4.1 Introduction

As Capability Approval is process orientated, it is appropriate when the cable manufacturing process technologies are fully controlled and the requirements of the customer and the product application are not affected by design changes.

Capability Approval is valid for all existing and future detail specifications within the Capability limits.

The Capability Manual stated the requirements for the Capability Approval of all products within the Capability limits.

12.4.2 How to obtain Capability Approval

To obtain Capability Approval the following steps shall be performed:

a) Approval of the manufacturer on the basis of his ability to produce and inspect components according to the specifications and the agreed rules of procedure limited to specified organisation and facilities checked by audit on the Quality Manual by the NSI according to EN29001 or EN29002.

b) Approval of the manufacturer on the basis of his Capability Manual by the NSI.

c) Successful completion of qualification test on CQC's specified by the Chief Inspector according to the Capability Manual and the relevant specifications.

12.4.3 How to maintain Capability Approval

To maintain Capability Approval the manufacturer shall comply with the following conditions to the satisfaction of the NSI:

a) Evidence that the Capability limits stay valid by periodic testing of the CQC's according to the Capability Manual.

b) Results of periodic audits on the Quality Manual led by the NSI shall be satisfactory.

c) The delivered products shall fulfil their Quality Assurance requirements.

d) The Capability Manual shall be regularly updated.

e) The register of the associated products shall regularly updated.

12.4.4 Procedure for Reduction, Extension or Change of Capability

Where an approved manufacturer wishes to reduce, extend or change the scope of his Capability Approval, it is the responsibility of the Chief Inspector to decide whether the reduction, extension or change is significant or not.

Where the reduction, extension or change is not significant, it shall be recorded by the manufacturer who may proceed without the approval of the NSI.

Where the reduction, extension or change is significant the manufacturer shall notify the NSI in advance.

The results of the tests carried out to demonstrate the effect of the change on the products shall be made available to the NSI.

12.4.5 Contents of the Capability Manual

12.4.5.1 Object

This section shall give in general terms, details of the products covered by the Capability Approval, and shall make reference to the relevant generic and/or sectional specifications'.

12.4.5.2 List of Revision

The validation of Capability Manual updates is part of the audit procedure.

Revisions shall be identified by an index and the date of the revision.

When a revision takes place, a complete list of all changes shall be made which occurred during the preceding period.

12.4.5.3 Related Documents

The Capability Manual shall make reference to all relevant documents.

12.4.5.4 Capability, Domain, Capability Limits and their related CQC's

This section shall define the Capability domain in terms if relevant design parameters (materials, dimensions, construction, testing, etc...)

The section shall also give a reference list of the Capability limits and the CQC's chosen to assess these limits from the primary stage of manufacture through to the final product.

12.4.5.5 Flow Chart, including Process Parameters

This section shall include:

a) General flow charts giving the full sequence of manufacturing and inspection processes, from the primary stage of manufacture to delivery, making reference to the corresponding CQC's.

b) Work instructions and inspection procedures for all processes contained on the flow chart, generally by reference to in-house documentation.

c) Flow Charts for CQC's.

12.4.5.6 Purchased Raw Materials

This section shall identify purchasing specifications for the raw materials used in the manufacturing processes.

12.4.5.7 Design Rules

Unless covered by Quality Manual, the manufacturer's design rules shall be stated either directly or by reference to the manufacturer's internal documents.