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STN	**Koaxiálne káble** **Časť 1: Kmeňová špecifikácia**	**STN** **EN 50117-1** 34 7740

Coaxial cables - Part 1: Generic specification

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 06/19

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Supersedes EN 50117-1:2002

English Version

Coaxial cables - Part 1: Generic specification

Câbles coaxiaux - Partie 1: Spécification générique

Koaxialkabel - Teil 1: Fachgrundspezifikation

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

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EN 50117-1:2019 (E)

Contents

Page

European foreword

This document (EN 50117-1:2019) has been prepared by SC 46XA, "Coaxial cables", of CLC/TC 46X, "Communication cables".

The following dates are fixed:

• latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2020-02-28
• latest date by which the national standards conflicting with this document have to be withdrawn	(dow)	2022-02-28

This document supersedes EN 50117-1:2002.

EN 50117-1:2019 includes the following significant technical changes with respect to EN 50117-1:2002:

— In the European foreword, reference to LVD, REACH and ROHS directives was added;

— in Clause 2, "60811-1-1" was replaced by "60811-201/202/203" and "EN 50356, Method for spark testing of cables" was replaced by "EN 62230, Electric cables - Spark-test method";

— in 4.1, “i.e. the temperature rise due to the current is below the continuous maximum permitted temperature of the dielectric and the sheath material” was added;

— in 4.2.1: a) b) c) text was added;

— in 4.3, foam dielectric was added, EN 50290-2 series (EN 50290-2-20:2016, Table A.1) was corrected;

— in 4.4, silvered wires were added,

  — f) as in item a) above, applied over the film; was deleted;

  — h) “Any combination of the above designs” was added;

— in 4.5, “Longitudinal water tightness may be achieved also by other solutions like swelling powder, yarns, tapes” was added;

— in 4.8, “EN 50290-2 series (EN 50290-2-20:2016, Table A.1)” was corrected;

— In 4.9, "Metallic protection" was changed into: "Cable protection" and “glass yarns or aramid” was added;

— In 4.13, “metallic sheath of lead or suitable lead alloy” was deleted, and “Other materials, e.g. FEP or specific PUR may also be suitable” was added;

— In Table 1:

5.1.1.7	Voltage proof	EN 50289-1-3

was deleted;

EN 50117-1:2019 (E)

— In Table 2:

5.1.3.5	Regularity of impedance	IEC 61196-1-115
5.1.3.6	Transfer impedance	IEC 62153-4-3 Ed2.0
5.1.3.7	Screening attenuation	IEC 62153-4-4 Ed2.0
5.1.3.8	Power rating (calculation)	IEC 60096-0-1

was added;

— In Table 4:

5.3.9	Tin and silver coating finish	IEC 61196-1-303

was added;

— a Bibliography was added.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

This document has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association.

All materials used for cables according to this standard will fulfil the requirements of the current REACH Regulation and ROHS Directive.

1 Scope

This document covers coaxial cables for use in analogue and digital systems. This document should be used in conjunction with EN 50290-1-1.

Coaxial cables covered by this document operate in transverse electromagnetic mode (TEM) and are suitable for use in a wide range of digital and analogue applications including CATV, radio frequency systems, instrumentation, broadcasting, telecommunications and data network systems. Various constructions and materials provide for indoor and outdoor applications, including underground and overhead installations, and other environmental protection characteristics.

Generally, cables are designed for use in 50 Ohm and 75 Ohm characteristic impedance systems, although other types (e.g. 93/95 Ohm) are also covered.

Coaxial cables defined by this document may be incorporated into hybrid cable constructions with optical fibre or multi-element cable components.

All cables covered by this document may be subjected to voltages greater than 50 V AC or 75 V DC according to the relevant sectional or detail specification. However, these cables are not intended for direct connection to the mains electricity supply or other low impedance sources.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 50289-1-2, *Communication cables - Specifications for test methods - Part 1-2: Electrical test methods - DC resistance*

EN 50289-1-3, *Communication cables - Specifications for test methods - Part 1-3: Electrical test methods - Dielectric strength*

EN 50289-1-4, *Communication cables - Specifications for test methods - Part 1-4: Electrical test methods - Insulation resistance*

EN 50289-1-5, *Communication cables - Specifications for test methods - Part 1-5: Electrical test methods - Capacitance*

EN 50289-1-7, *Communication cables - Specifications for test methods - Part 1-7: Electrical test methods - Velocity of propagation*

EN 50289-1-8, *Communication cables - Specifications for test methods - Part 1-8: Electrical test methods - Attenuation*

EN 50289-1-11, *Communication cables - Specifications for test methods - Part 1-11: Electrical test methods – Characteristic impedance, input impedance, return loss*

EN 50289-3-2, *Communication cables - Specifications for test methods - Part 3-2: Mechanical test methods - Tensile strength and elongation for conductor*

EN 50289-3-5, *Communication cables - Specifications for test methods - Part 3-5: Mechanical test methods - Crush resistance of the cable*

EN 50289-3-6, *Communication cables - Specifications for test methods - Part 3-6: Mechanical test methods - Impact resistance of the cable*

EN 50289-3-7, *Communication cables - Specifications for test methods - Part 3-7: Mechanical test methods - Abrasion resistance of the cable sheath*

EN 50289-3-8, *Communication cables - Specifications for test methods - Part 3-8: Mechanical test methods - Abrasion resistance of cable sheath markings*

EN 50289-3-9, *Communication cables - Specifications for test methods - Part 3-9: Mechanical test methods - Bending tests*

EN 50289-3-16, *Communication cables - Specifications for test methods - Part 3-16: Mechanical test methods - Cable tensile performance*

EN 50289-3-17, *Communication cables - Specifications for test methods - Part 3-17: Mechanical test methods - Adhesion of dielectric and sheath*

EN 50289-4-2, *Communication cables - Specifications for test methods - Part 4-2: Environmental test methods - Water penetration*

EN 50289-4-4, *Communication cables - Specifications for test methods - Part 4-4: Environmental test methods - Resistance to solvents and contaminating fluids*

EN 50289-4-6, *Communication cables - Specifications for test methods - Part 4-6: Environmental test methods - Temperature cycling*

EN 50289-4-7, *Communication cables - Specifications for test methods - Part 4-7: Environmental test methods - Damp heat, steady state*

EN 50289-4-17, *Communication cables - Specifications for test methods - Part 4-17: Test methods for UV resistance evaluation of the sheath of electrical and optical fibre cable*

EN 50290-1-1, *Communication cables - Part 1-1: General*

EN 50290-1-2, *Communication cables - Part 1-2: Definitions*

EN 50290-2-20:2016, *Communication cables - Part 2-20: Common design rules and construction - General*

EN 50290-2-28, *Communication cables - Part 2-28: Common design rules and construction - Filling compounds for filled cables*

EN 50290-4-1:2014, *Communication cables - Part 4-1: General considerations for the use of cables - Environmental conditions and safety aspects*

EN 62230, *Electric cables - Spark-test method (IEC 62230)*

EN 60811-201, *Electric and optical fibre cables - Test methods for non-metallic materials - Part 201: General tests - Measurement of insulation thickness (IEC 60811-201)*

EN 60811-202, *Electric and optical fibre cables - Test methods for non-metallic materials - Part 202: General tests - Measurement of thickness of non-metallic sheath (IEC 60811-202)*

EN 60811-203, *Electric and optical fibre cables - Test methods for non-metallic materials - Part 203: General tests - Measurement of overall dimensions (IEC 60811-203)*

IEC 60096-0-1, *Radio frequency cables - Part 0-1: Guide to the design of detail specifications - Coaxial cables*

IEC 60028, *International standard of resistance for copper*

IEC 61196-1-115, *Coaxial communication cables - Part 1-115: Electrical test methods - Test for regularity of impedance (pulse/step function return loss)*

IEC 61196-1-303, *Coaxial communication cables - Part 1-303: Mechanical test methods - Test for silver and tin plating thickness*

IEC 61196-1-325, *Coaxial communication cables - Part 1-325: Mechanical Test methods - Aeolian vibration*

IEC 62153-4-3, *Metallic communication cable test methods - Part 4-3: Electromagnetic compatibility (EMC) - Surface transfer impedance – Triaxial method*

IEC 62153-4-4, *Metallic communication cable test methods - Part 4-4: Electromagnetic compatibility (EMC) - Test method for measuring of the screening attenuation as up to and above 3 GHz, triaxial method*