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DIGITAALSIGNAALIDE EDASTAMISEKS KASUTATAVATE
KOAKSIAALKAABLITE LIIGITUS. JAOTUS- JA
LIINIKAABLID SAGEDUSEL 5 MHZ KUNI 1000 MHZ
TALITLEVATELE SÜSTEEMIDELE

Coaxial cables - Part 11-1: Sectional specification for
coaxial cables for analogue and digital signal
transmission - Distribution and trunk cables for
systems operating at 5 MHz - 1 000 MHz

EESTI STANDARDI EESSÕNA

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See Eesti standard EVS-EN 50117-11-1:2019 sisaldab Euroopa standardi EN 50117-11-1:2019 ingliskeelset teksti.	This Estonian standard EVS-EN 50117-11-1:2019 consists of the English text of the European standard EN 50117-11-1:2019.
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English Version

Coaxial cables - Part 11-1: Sectional specification for coaxial cables for analogue and digital signal transmission - Distribution and trunk cables for systems operating at 5 MHz - 1 000 MHz

Câbles coaxiaux - Partie 11-1: Spécification intermédiaire pour câbles coaxiaux pour la transmission de signaux analogiques et numériques - Câbles de distribution et de transport pour les systèmes fonctionnant entre 5 MHz et 1 000 MHz

Koaxiale Kabel - Teil 11-1: Rahmenspezifikation für koaxiale Kabel für analoge und digitale Signalübertragung - Verteiler und Linienkabel für Systeme im Bereich von 5 MHz - 1 000 MHz

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European foreword

This document (EN 50117-11-1:2019) has been prepared by CLC/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) 2019-09-29
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) 2022-03-29

This document supersedes EN 50117-2-3.

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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 should fulfil the requirements of the current REACH Regulation and ROHS Directive.

1 Scope

This part of EN 50117 which is a sectional specification applies to coaxial distribution and trunk cables for analogue and digital one and two way signal transmission, e.g. for cable networks for television signals, sound signals and interactive services in accordance with EN 60728-1, EN 60728-1-1, EN 60728-101, EN 60728-10, EN 50173-1 and EN 50173-4. This includes also the transmission of BCT signals provided by a CATV, MATV or SMATV cable network.

The purpose of this European Standard is to specify the applicable test methods and requirements for the electrical, mechanical and environmental characteristics and for fire performance of the cables.

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 50117-1:2019, *Coaxial cables - Part 1: Generic specification*

EN 50173-1, *Information technology - Generic cabling systems - Part 1: General requirements*

EN 50173-4, *Information technology - Generic cabling systems - Part 4: Homes*

EN 50289-3-9:2001, *Communication cables - Specifications for test methods - Part 3-9: Mechanical test methods - Bending tests*

EN 50290-1-2:2004, *Communication cables - Part 1-2: Definitions*

EN 50290-2-1:2005, *Communication cables - Part 2-1: Common design rules and construction*

EN 50290-2-22, *Communication cables - Part 2-22: Common design rules and construction - PVC sheathing compounds*

EN 50290-2-27, *Communication cables - Part 2-27: Common design rules and construction - Halogen free flame retardant thermoplastic sheathing compounds*

EN 50290-2-37, *Communication cables - Part 2-37: Common design rules and construction - Polyethylene insulation for coaxial cables*

EN 50290-2-38, *Communication cables - Part 2-38: Common design rules and construction - Polypropylene insulation for coaxial cables*

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

EN 50290-4-2:2014, *Communication cables - Part 4-2: General considerations for the use of cables - Guide to use*

EN 60728-1, *Cable networks for television signals, sound signals and interactive services - Part 1: System performance of forward paths (IEC 60728-1)*

EN 60728-1-1, *Cable networks for television signals, sound signals and interactive services - Part 1-1: RF cabling for two way home networks (IEC 60728-1-1)*

EN 60728-10, *Cable networks for television signals, sound signals and interactive services - Part 10: System performance for return paths (IEC 60728-10)*

EN 60728-101, *Cable networks for television signals, sound signals and interactive services - Part 101: System performance of forward paths loaded with digital channels only (IEC 60728-101)*

EN 62153-1-1, *Metallic communication cables test methods - Part 1-1: Electrical - Measurement of the pulse/step return loss in the frequency domain using the Inverse Discrete Fourier Transformation (IDFT) (IEC 62153-1-1)*

IEC 61196-1-112, *Coaxial communication cables - Part 1-115: Electrical test methods - Test for return loss (uniformity of impedance)*

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

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*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 50290-1-2:2004, EN 50117-1:2019 and the following apply.

3.1

distribution and trunk cable

coaxial cable which is used to connect from:

- a) head end to head end,
- b) head end to amplifier,
- c) amplifier to amplifier,
- d) amplifier to splitter or directional coupler,
- e) splitter, directional coupler or subscriber tap to splitter, directional coupler or subscriber tap

Note 1 to entry: For systems which use an integrated directional coupler and system outlet (looped system outlet), the interconnection cables shall be defined as trunk and distribution cables.

4 Requirements for cable construction and design

4.1 General

Cables according to this standard are designed for an operating temperature range from $-40\text{ }^{\circ}\text{C}$ to $+70\text{ }^{\circ}\text{C}$ ¹⁾ and at frequencies between 5 MHz and 1 000 MHz.

When designing the cable, consideration should be given to the maximum admissible current stated in the detail specification. It is assumed that the raise of temperature of the inner conductor when submitted to the maximum current under nominal ambient conditions does not affect the mechanical and electrical properties of the cable.

1) This value is valid for applications without ampacity only, see also Table A.1 concerning max. DC current.