Elamute telekommunikatsioonipaigaldiste kaablid. Osa 1: Varjestamata kaablid. Aste 1

Cables for indoor residential telecommunication installations Part 1: Unscreened cables - Grade 1

EESTI STANDARDIKESKUS
ESTONIAN CENTRE FOR STANDARDISATION

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 50441-1:2012 sisaldab Euroopa standardi EN 50441-1:2012 ingliskeelset teksti.	This Estonian standard EVS-EN 50441-1:2012 consists of the English text of the European standard EN 50441-1:2012.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 09.03.2012.	Date of Availability of the European standard is 09.03.2012.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 33.120.10

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 50441-1

March 2012

ICS 33.120.10

Supersedes EN 50441-1:2006

English version

Cables for indoor residential telecommunication installations - Part 1: Unscreened cables - Grade 1

Câbles pour les installations résidentielles de télécommunications en intérieur - Partie 1: Câbles non écrantés - Classe 1

Innenkabel für Telekommunikationseinrichtungen im Wohnbereich - Teil 1: Ungeschirmte Innenkabel - Klasse 1

This European Standard was approved by CENELEC on 2012-01-23. 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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

CENELEC

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

Management Centre: Avenue Marnix 17, B - 1000 Brussels

Ref. No. EN 50441-1:2012 E

Contents

Figures

Tables

Foreword

This document (EN 50441-1:2012) has been prepared by SC 46XC, "Multicore, multipair and quad data communication 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)	2013-01-23
• latest date by which the national standards conflicting with this document have to be withdrawn	(dow)	2015-01-23

This document supersedes EN 50441-1:2006.

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

This standard covers the Principle Elements of the Safety Objectives for Electrical Equipment Designed for Use within Certain Voltage Limits (LVD - 2006/95/EC).

1 Scope

This European Standard specifies the constructional details and performances requirements for cables for indoor residential cabling systems characterized up to 100 MHz. Cables in this European Standard are based on the common design rules specified in EN 50290-2-1 and are specifically intended for supporting ICT and BCT applications (telephone, computer and TV services) as specified in EN 50173-4.

The cables covered in this European Standard are intended to operate with voltages and currents normally encountered in communications systems. These cables are not intended to be used in conjunction with low impedance sources, for example, the electrical power supply of public utility mains.

Cables covered in this European Standard may however be subjected to voltages of not more than 300 V a.c. or 450 V d.c. and comply with the requirements of the Low Voltage Directive.

The maximum current rating per conductor is 3 A/mm² unless otherwise specified in the relevant detail specification.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 50173-1	*Information technology – Generic cabling systems - Part 1: General requirements*
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 50289-1-6	*Communication cables – Specifications for test methods – Part 1-6: Electrical test methods – Electromagnetic performance*
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 50289-1-9	*Communication cables – Specifications for test methods – Part 1-9: Electrical test methods – Unbalance attenuation (longitudinal conversion loss, longitudinal conversion transfer loss)*
EN 50289-1-10	*Communication cables – Specifications for test methods – Part 1-10: Electrical test methods – Crosstalk*
EN 50289-1-11	*Communication cables – Specifications for test methods – Part 1-11: Electrical test methods – Characteristic impedance, input impedance, return loss*
EN 50289-3-7	*Communication cables – Specifications for test methods – Part 3-7: Mechanical test methods – Abrasion resistance of the cable sheath*
EN 50289-3-9:2001	*Communication cables – Specifications for test methods – Part 3-9: Mechanical test methods – Bending tests*

EN 50289-3-17	*Communication cables – Specifications for test methods – Part 3-17: Mechanical test methods – Adhesion of dielectric and sheath*
EN 50290-2-1	*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 50290-2-23	*Communication cables – Part 2-23: Common design rules and construction – PE insulation*
EN 50290-2-27	*Communication cables – Part 2-27: Common design rules and construction – Halogen free flame retardant thermoplastic sheathing compounds*
EN 60332-1-2	*Tests on electric and optical fibre cables under fire conditions – Part 1-2: Test for vertical flame propagation for a single insulated wire or cable – Procedure for 1 kW pre-mixed flame* (IEC 60332-1-2)
EN 60794-1-2	*Optical fibre cables – Part 1-2: Generic specification – Basic optical cable test procedures* (IEC 60794-1-2)
EN 60811-1-1	*Insulating and sheathing materials of electric and optical cables – Common test methods – Part 1-1: General application – Measurement of thickness and overall dimensions – Tests for determining the mechanical properties* (IEC 60811-1-1)
HD 402 S2:1984	*Standard colours for insulation for low-frequency cables and wires* (IEC 60304:1982)

3 Quality control

Not applicable.

4 Cable construction

4.1 Conductors

4.1.1 Conductor construction

Conductor construction shall be in accordance with EN 50290-2-1.

NOTE Constructions with ''Copper Clad'' conductors do not meet the requirements.

4.1.2 Conductor type

The conductor shall be a solid wire of annealed copper with a minimum diameter of 0,5 mm in accordance with EN 50290-2-1

NOTE Diameters < 0,5 mm and > 0,65 mm may cause problems with connecting hardware. Diameters larger than 0,8 mm could cause connectorisation problems.

4.2 Insulation

4.2.1 Insulation material

The insulation shall be polyethylene in accordance with EN 50290-2-23. Other materials may be used providing that they do not affect compliance with this European Standard and any local regulations (e.g. Environmental Directives).

4.2.2 Thickness of the insulation

The thickness of the insulation shall be compatible with the electrical requirements specified in Clause 7.