

This document is a preview generated by EVS

Elamute telekommunikatsioonipaigaldiste kaablid.
Osa 3: Varjestatud kaablid. Aste 3

Cables for indoor residential telecommunication installations Part 3: Screened cables - Grade 3

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 50441-3:2006 sisaldb Euroopa standardi EN 50441-3:2006 ingliskeelset teksti.	This Estonian standard EVS-EN 50441-3:2006 consists of the English text of the European standard EN 50441-3:2006.
Standard on kinnitatud Eesti Standardikeskuse 22.09.2006 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.	This standard is ratified with the order of Estonian Centre for Standardisation dated 22.09.2006 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.
Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kätesaadavaks tegemise kuupäev on 23.06.2006.	Date of Availability of the European standard text 23.06.2006.
Standard on kätesaadav Eesti standardiorganisatsionist.	The standard is available from Estonian standardisation organisation.

ICS 33.120.10

Võtmesõnad:

Standardite reproduutseerimis- ja levitamisõigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonilisse süsteemi või edastamine ükskõik millises vormis või millisel teel on keelatud ilma Eesti Standardikeskuse poolt antud kirjaliku loata.

Kui Teil on küsimusi standardite autorikaitse kohta, palun võtke ühendust Eesti Standardikeskusega:
Aru 10 Tallinn 10317 Eesti; www.evs.ee; Telefon: 605 5050; E-post: info@evs.ee

English version

**Cables for indoor residential telecommunication installations
Part 3: Screened cables - Grade 3**

Câbles pour les installations résidentielles
de télécommunications en intérieur
Partie 3: Câbles écrantés - Classe 3

Innenkabel für
Telekommunikationseinrichtungen im
Wohnbereich
Teil 3: Geschirmte Innenkabel - Klasse 3

This European Standard was approved by CENELEC on 2005-12-06. 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, 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 and the 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 SC 46XC, Multicore, Multipair and Quad Data communication cables, of Technical Committee CENELEC TC 46X, Communication cables.

The text of the draft was submitted to the Unique Acceptance Procedure and was approved by CENELEC as EN 50441-3 on 2005-12-06.

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) 2007-01-01
 - latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2009-01-01
-

Contents

1	Scope	5
2	Normative references	5
3	Quality control	6
4	Cable construction	7
4.1	Conductors.....	7
4.1.1	Conductor construction.....	7
4.1.2	Conductor Type	7
4.2	Insulation.....	7
4.2.1	Insulation material.....	7
4.2.2	Thickness of the insulation.....	7
4.2.3	Colour of the insulated conductor	7
4.3	Cable element	7
4.4	Screening of the cable element.....	7
4.5	Cabling	7
4.6	Spare pairs	8
4.7	Colour code.....	8
4.8	Screening and wrapping of the core	8
4.8.1	Core wrapping	8
4.8.2	Screen 8	
4.9	Sheath.....	8
4.9.1	Sheath material.....	8
4.9.2	Sheath construction.....	8
4.9.3	Thickness of the sheath.....	8
4.10	Ripcord	9
4.11	Overall diameter	9
4.12	Identification.....	9
4.12.1	Sheath marking.....	9
4.12.2	Identification thread.....	9
4.13	Delivery length.....	10
4.13.1	Labelling.....	10
4.13.2	End caps	10
5	Mechanical requirements.....	10
5.1	Conductor	10
5.2	Insulation	10
5.3	Sheath.....	10
5.4	Finished cable	10
5.4.1	Sheath integrity.....	10
5.4.2	Static bending radius	10
5.4.3	Abrasion resistance of the sheath.....	11
5.4.4	Kink test 11	
5.4.5	Cut-through test	11
5.4.6	Adhesion of the sheath	11

5.4.7 Installation capability	11
6 Environmental and climatic requirements	14
6.1 Insulation	14
6.2 Sheath.....	14
6.3 Fire behaviour	14
7 Electrical requirements.....	14
7.1 Conductor resistance	14
7.2 Dielectric strength.....	14
7.3 Insulation resistance	14
7.4 High frequency characteristics	14
7.4.1 Impedance.....	15
7.4.2 Return loss	15
7.4.3 Attenuation.....	15
7.4.4 Crosstalk	16
7.5 Electromagnetic behaviour	16
7.5.1 Transfer impedance.....	16
7.5.2 Coupling attenuation.....	17
7.6 Unbalance attenuation	17
7.7 Environmental and safety aspects	17
Figure 1 - Test fixture	12
Figure 2 - Installation test system	13
Table 1 - Cable impedance.....	15
Table 2 - Minimum NEXT	16

1 Scope

These cables are for installation in indoor Residential Cabling Systems. They are specified up to 1 000 MHz. Their design is based on the requirements of the EN 50290-2-1. They are specifically designed for cabling in residential environment supporting ICT and BCT applications. (Telephone, Computer and TV services). This specification defines the constructional details as well as the specific performances of the cables.

Unless otherwise specified, all cables covered by this standard may be subjected to voltages not more than 300 V a.c. or 450 V d.c. and shall meet the essential requirements of the low voltage directive. Due to current limitation related to the conductor cross sectional area, they are not intended for direct connection to mains electricity supply. The maximum current rating per conductor is less than or equal to 3 A/mm² unless otherwise specified in the relevant detail specification.

2 Normative references

The following referenced documents are indispensable for the application 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.

<u>Publication</u>	<u>Title</u>
EN 50265-2-1	Common test methods for cables under fire conditions - Test for resistance to vertical flame propagation for a single insulated conductor or cable Part 2-1: Procedures - 1 kW pre-mixed flame
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 50289-1-8	Communication cables - Specifications for test methods Part 1-8: Electrical test methods - Attenuation
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	Communication cables - Specifications for test methods Part 3-9: Mechanical test methods - Bending tests
EN 50289-3-11	Communication cables - Specifications for test methods Part 3-11: Mechanical test methods - Cable cut-through resistance
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 50290-3 ¹⁾	Communication cables Part 3: Quality assessment
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	Standard colours for insulation for low-frequency cables and wires (IEC 60304)

3 Quality control

According to EN 50290-3.

¹⁾ under consideration