SLOVENSKI STANDARD

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Cables for indoor residential telecommunication installations – Part 2: Screened cables – Grade 2

ICS 33.120.10

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EUROPEAN STANDARD

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EN 50441-2

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English version

Cables for indoor residential telecommunication installations Part 2: Screened cables - Grade 2

Câbles pour les installations résidentielles de télécommunications en intérieur
Partie 2: Câbles écrantés -
Classe 2

Innenkabel für Telekommunikationseinrichtungen im Wohnbereich
Teil 2: Geschirmte Innenkabel -
Klasse 2

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.

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

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Ref. No. EN 50441-2:2006 E

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 50441-2 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–	latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2009-01-01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

These cables are for installation in indoor Residential Cabling Systems. They are specified up to 100 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.

Publication	Title
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 50289-3-17 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

4 Cable construction

4.1 Conductors

4.1.1 Conductor construction

According to 4.1 of EN 50290-2-1.

4.1.2 Conductor Type

According to 4.1.1 of EN 50290-2-1, the conductor is a solid wire of annealed copper with a minimum diameter of 0,5 mm (diameters larger than 0,8 mm could cause connectorisation problems).

NOTE Diameter < 0,5 mm and > 0,65 mm may cause problems with connecting hardware.

4.2 Insulation

4.2.1 Insulation material

The insulation of the conductor shall be polyethylene in accordance with EN 50290-2-23. Other relevant materials may be used providing that they would not affect the compliance of the cable against 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 as defined in Clause 7.

4.2.3 Colour of the insulated conductor

The colour of insulation should be a reasonable match to HD 402 S2.

4.3 Cable element

The cable element shall be a pair or a quad.

The lay length shall be in accordance with EN 50290-2-1.

4.4 Screening of the cable element

Not specified but might be needed to meet local regulation for EMC performance.

4.5 Cabling

The cables shall have at least 4 pairs or 2 quads. The core of the cable shall be such that 7.4 and 7.5 are fulfilled.

4.6 Spare pairs

Not applicable.