

Analoog- ja digitaalkommunikatsioonis ja -juhtimises kasutatavad mitmeelemendilised metallkaablid. Osa 8: Tüüpi 1 kuuluvate, sagedusega kuni 2 MHz iseloomustatavate kaablite spetifikatsioon

Multi-element metallic cables used in analogue and digital communication and control - Part 8: Specification for type 1 cables characterised up to 2 MHz

EESTI STANDARDI EESSÕNA

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**Multi-element metallic cables used in analogue and digital communication
and control -**

Part 8: Specification for type 1 cables characterised up to 2 MHz

Câbles métalliques à éléments multiples
utilisés pour les transmissions et les
commandes analogiques et numériques -
Partie 8: Spécification pour les câbles de
type 1 pour applications jusqu'à 2 MHz

Mehradrige metallische Daten- und
Kontrollkabel für analoge und digitale
Übertragung -
Teil 8: Spezifikation für Typ 1 Kabel bis 2
MHz

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CENELEC

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Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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Foreword

This document (EN 50288-8:2012) 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- latest date by which the national standards conflicting with this document have to be withdrawn (dow) 2015-01-23

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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 defines 1 to 7 multi-pair cables for use in analogue, digital telecommunication networks and control with their relative definitions and requirements.

It covers indoor cables, characterised up to 2 MHz, to be used in Small Office Home Office (SOHO) type 1 cable application.

The electrical, mechanical, transmission and environmental performance characteristics of the screened cables, related to their reference test methods, are detailed.

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 50090-2-2:1996, *Home and Building Electronic Systems (HBES) — Part 2-2: System overview — General technical requirements*

EN 50288-1:2003, *Multi-element metallic cables used in analogue and digital communication and control — Part 1: Generic specification*

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

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

EN 50289-3-4, *Communication cables — Specifications for test methods — Part 3-4: Mechanical test methods — Tensile strength, elongation and shrinkage of insulation and sheath*

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 50289-3-8, *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 50289-4-6, *Communication cables — Specifications for test methods — Part 4-6: Environmental test methods — Temperature cycling*

EN 50290-2 Series, *Communication cables*

EN 50290-2-23, *Communication cables — Part 2-23: Common design rules and construction — PE insulation*

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

EN 60708, *Low-frequency cables with polyolefin insulation and moisture barrier polyolefin sheath* (IEC 60708)

IEC 60189-2, *Low-frequency cables and wires with PVC insulation and PVC sheath — Part 2: Cables in pairs, triples, quads and quintuples for inside installations*

IEC/TR 60344, *Calculation of d.c. resistance of plain and coated copper conductors of low-frequency cables and wires — Application guide*

3 Terms, definitions, symbols and abbreviations

For the purposes of this document, the terms and definitions given in EN 50288-1:2003, Clause 3, apply.

4 Cable construction

4.1 Conductor

The conductor shall be solid copper and meet the requirements of EN 50288-1:2003, 4.1. The conductor shall be plain or metal coated. The nominal conductor diameter shall be between 0,4 mm and 0,8 mm.

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

4.2 Insulation

Conductor insulation shall be composed of solid, cellular or composite (e.g. foam skin) polyolefin according to the appropriate part of EN 50290-2-23.

4.3 Cabling elements

The cable element shall be a pair. The number of twist per meter shall be at least 5.

4.4 Identification of cabling elements

Unless otherwise specified, the colour coding for identification is given in IEC 60189-2 or EN 60708, as appropriate. The colours shall meet the requirements of EN 50288-1:2003, 4.4.

4.5 Screening of cabling elements

Where appropriate, screening of the cabling elements shall be applied in accordance with EN 50288-1:2003, 4.5. When a braid is used the minimum braid coverage (for mechanical purposes) shall be 60 %. When a foil and braid are used the minimum braid coverage (for mechanical purposes) shall be 30 %. Coverage is defined in EN 50290-1-2.

4.6 Cable make-up

The cable elements shall be laid up in concentric layer(s) or units to form the cable core. The number of cores shall be 1 to 7 twisted pairs.

4.7 Filling compound

When required the interstices of the cable core shall be filled continuously with a compound suitable to prevent water penetration within the cable. The filling compound shall meet the requirements specified in EN 50290-2-28.