

**Information technology -
Generic cabling systems -
Part 99-3: Home cabling infrastructures up to 50 m in length to support
simultaneous and non simultaneous provision of applications**

Technologies de l'information -
Systèmes de câblage générique -
Partie 99-3: Infrastructure de câblage
résidentiel de 50 m de longueur maximale
supportant des applications simultanées
et non-simultanées

Informationstechnik -
Anwendungsneutrale
Kommunikationskabelanlagen -
Teil 99-3: Infrastruktur von
Heimverkabelungen bis zu 50 m Länge
zur gleichzeitigen oder nicht-gleichzeitigen
Bereitstellung von Netzanwendungen

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CENELEC

European Committee for Electrotechnical Standardization
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Foreword

This document (CLC/TR 50173-99-3:2012) has been prepared by CLC/TC 215 "Electrotechnical aspects of telecommunication equipment".

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Introduction

EN 50173-4 specifies generic cabling in homes, installed to support one or more of the following groups of applications and based upon balanced and coaxial cabling as appropriate:

- a) Information and Communication Technologies (ICT);
- b) Broadcast and Communication Technologies (BCT);
- c) Command, Controls and Communications in Buildings (CCCB).

EN 50083 (all parts) and EN 60728 (all parts) standards deal with cable networks including equipment and associated methods of measurement for headend reception, processing and distribution of television signals, sound signals and their associated data signals and for processing, interfacing and transmitting all kinds of signals for interactive services using all applicable transmission media including community antenna television (CATV) and master antenna television/satellite master antenna television (MATV/SMATV) networks.

The EN 50174 series specify the specification, planning and practices applicable to installation of telecommunications cabling within homes.

This Technical Report describes a grading system applicable to telecommunications cabling within homes which provides a range of implementation solutions to support both non-simultaneous and simultaneous provision of applications incorporating:

- 1) a cabling structure in accordance with, but less complex than that of, EN 50173-4 and with defined connecting hardware pin assignment for certain applications;
- 2) components meeting or exceeding the requirements of EN 50173-4;
- 3) shorter cabling channels than those specified in EN 50173-4 (simultaneous transmission of telephony and 100BASE-T is supported by the reduced channel attenuation resulting from the restriction of maximum channel lengths to 50 m).

1 Scope

This Technical Report describes a grading system applicable to telecommunications cabling within homes which provides a range of implementation solutions to support both non-simultaneous and simultaneous provision of applications incorporating:

- a) a cabling structure in accordance with, but less complex than that of, EN 50173-4 and with defined connecting hardware pin assignment for certain applications;
- b) components meeting or exceeding the requirements of EN 50173-4;
- c) shorter cabling channels than those specified in EN 50173-4.

Safety (electrical safety and protection, optical power, fire, etc.) and electromagnetic compatibility (EMC) requirements are outside the scope of this Technical Report and are covered by standards and regulations. However information given in this Technical Report may be of assistance in meeting these standards and regulations.

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 50XXX ¹⁾, *Information technology — Access network cabling within multi-subscriber premises to support deployment of optical broadband networks*

EN 50173-1:2011, *Information technology — Generic cabling systems — Part 1: General requirements*

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

EN 50174-1, *Information technology — Cabling installation — Part 1: Installation specification and quality assurance*

EN 50174-2, *Information technology — Cabling installation — Part 2: Installation planning and practices inside buildings*

EN 50174-3 ¹⁾, *Information technology — Cabling installation — Part 3: Installation planning and practices outside buildings*

EN 50288-4-1, *Multi-element metallic cables used in analogue and digital communication and control — Part 4-1: Sectional specification for screened cables characterised up to 600 MHz — Horizontal and building backbone cables*

EN 50407-2 ¹⁾, *Multi-pair cables used in high bite rate digital access telecommunication networks — Part 2: Indoor multi-pair/quad cables for installation in Multi Dwelling Units shaft supporting universal services, xDSL and applications up to 100 Mbits over IP*

EN 50441-1, *Cables for indoor residential telecommunication installations — Part 1: Unscreened cables — Grade 1*

EN 50441-2, *Cables for indoor residential telecommunication installations — Part 2: Screened cables — Grade 2*

EN 50441-4, *Cables for indoor residential telecommunication installations — Part 4: Cables up to 1 200 MHz — Grade 3*

1) At draft stage.

EN 60603-7-2, *Connectors for electronic equipment — Part 7-2: Detail specification for 8-way, unshielded, free and fixed connectors, for data transmissions with frequencies up to 100 MHz (IEC 60603-7-2)*

EN 60603-7-3, *Connectors for electronic equipment — Part 7-3: Detail specification for 8 way, shielded, free and fixed connectors, for data transmissions with frequencies up to 100 MHz (IEC 60603-7-3)*

EN 60603-7-5, *Connectors for electronic equipment — Part 7-5: Detail specification for 8-way, shielded, free and fixed connectors, for data transmissions with frequencies up to 250 MHz (IEC 60603-7-5)*

EN 60603-7-7, *Connectors for electronic equipment — Part 7-7: Detail specification for 8-way, shielded, free and fixed connectors for data transmission with frequencies up to 600 MHz (IEC 60603-7-7)*

EN 60603-7-51, *Connectors for electronic equipment — Part 7-51: Detail specification for 8-way, shielded, free and fixed connectors, for data transmissions with frequencies up to 500 MHz (IEC 60603-7-51)*

EN 60603-7-71, *Connectors for electronic equipment — Part 7-71: Detail specification for 8-way, shielded, free and fixed connectors, for data transmission with frequencies up to 1 000 MHz (IEC 60603-7-71)*

EN 60794 (series), *Optical fibre cables (IEC 60794 series)*

EN 61076-3-104, *Connectors for electronic equipment — Product requirements — Part 3-104: Detail specification for 8-way, shielded free and fixed connectors for data transmissions with frequencies up to 1 000 MHz (IEC 61076-3-104)*

EN 61169-2, *Radio-frequency connectors — Part 2: Sectional specification — Radio frequency coaxial connectors of type 9,52 (IEC 61169-2)*

EN 61169-24, *Radio-frequency connectors — Part 24: Sectional specification — Radio frequency coaxial connectors with screw coupling, typically for use in 75 ohm cable networks (type F) (IEC 61169-24)*

3 Terms, definitions and abbreviations

3.1 Terms and definitions

For the purposes of this document, the following terms and definitions apply in addition to those of EN 50173-4 and the EN 50174 series of standards.

3.1.1

access network

functional elements (equipment and infrastructure) that enable communication between the core network and a customer network

[SOURCE: EN 50174-3:201X, 3.1.1]

3.1.2

access provider

operator of any facility that is used to convey telecommunications signals to and from a customer premises