Overview of Structured Cabling Standards and Related Documents

Introduction

Over the past few years standards for structured cabling systems have been developed from the original ANSI/TIA/EIA 568, and following the requirements from higher bandwidth applications for enhanced performance structured cabling. Today there are a plethora of standards and other associated documents from various organisations that cover the design and implementation of structured cabling - typically Category 5 copper or better plus optical fibre- in commercial buildings.

These documents, with which the end user, installer, system designer/planner and system manufacturer need to be familiar, are listed below. Also identified (in Italics) are draft standards and documents from these organisations which, after ratification, will be published. As previously with the draft issues of TIA/EIA 568-A and ISO/IEC 11801, many of these documents have become de facto standards even before their publication.

CENELEC / BSI

- EN 50173:1995: Information Technology - Generic Cabling Systems.
- EN 50173:2000: Amendment to EN 50173:1995.
- Draft second edition EN 50173: Information Technology - Generic Cabling Systems.
- EN 50174-1:2000: Information Technology - Cabling Installation – Part 1: Specification and quality assurance.
- EN 50174-2:2000: Information Technology - Cabling Installation – Part 2: Installation planning and practices inside buildings.
- prEN 50174-3: Information Technology - Cabling Installation – Part 3: Installation planning and practices outside buildings.
- EN 50167: Horizontal Floor Wiring Cables with a common overall screen for use in digital communication.
- EN 50168: Work Area Wiring Cables with a common overall screen for use in digital communication.
- EN 50169: Backbone Cables, Riser and Campus, with a common overall screen for use in digital communication.
- EN 60603-7 series: 8-Way RJ Connectors. [This series will mirror the IEC 60603-7 series.]
- EN 50310:2000: Application of equipotential bonding and earthing in buildings with information technology equipment.
- EN 50098-1: Customer premises cabling for information technology – Part 1: ISDN basic access.
- EN 50098-2: Customer premises cabling for information technology – Part 2: 2048 kbit/s ISDN primary access and leased line network interface.

- EN 61000-2-2: Electromagnetic Compatibility (EMC) – Part 2: Environment – Section 2: Compatibility levels for low frequency conductor disturbances and signalling in public low voltage power supply systems.

- EN 50288-2-1: Multi element metallic cables used in analogue and digital communication and control – Part 2: Sectional specification for screened cables characterised up to 100 MHz. – Section 1: Horizontal and building backbone cables. (Revision in progress.)

- EN 50288-2-2: Multi element metallic cables used in analogue and digital communication and control – Part 2: Sectional specification for screened cables characterised up to 100 MHz. – Section 2: Work area and patch cord cables. (Revision in progress.)

- EN 50288-3-1: Multi element metallic cables used in analogue and digital communication and control – Part 3: Sectional specification for unscreened cables characterised up to 100 MHz. – Section 1: Horizontal and building backbone cables. (Revision in progress.)

- EN 50288-3-2: Multi element metallic cables used in analogue and digital communication and control – Part 3: Sectional specification for unscreened cables characterised up to 100 MHz. – Section 2: Work area and patch cord cables. (Revision in progress.)

- EN 50288-4-1: Multi element metallic cables used in analogue and digital communication and control – Part 4: Sectional specification for screened cables characterised up to 600 MHz. – Section 1: Horizontal and building backbone cables. (Revision in progress.)

- EN 50288-4-2: Multi element metallic cables used in analogue and digital communication and control – Part 4: Sectional specification for screened cables characterised up to 600 MHz. – Section 2: Work area and patch cord cables. (Revision in progress.)

- EN 50288-5-1: Multi element metallic cables used in analogue and digital communication and control – Part 5: Sectional specification for screened cables characterised up to 250 MHz. – Section 1: Horizontal and building backbone cables. (Revision in progress.)

- EN 50288-5-2: Multi element metallic cables used in analogue and digital communication and control – Part 5: Sectional specification for screened cables characterised up to 250 MHz. – Section 2: Work area and patch cord cables. (Revision in progress.)

- EN 50288-6-1: Multi element metallic cables used in analogue and digital communication and control – Part 6: Sectional specification for unscreened cables characterised up to 250 MHz. – Section 1: Horizontal and building backbone cables. (Revision in progress.)

- EN 50288-6-2: Multi element metallic cables used in analogue and digital communication and control – Part 6: Sectional specification for unscreened cables characterised up to 250 MHz. – Section 2: Work area and patch cord cables. (Revision in progress.)

- prEN 50xxx: Information Technology – Cabling Installation – Testing of Installed Cabling

BSI

- DISC PD 1001: A Guide to Electromagnetic Compatibility and Structured Cabling.

- DISC PD 1002: A Guide to Cabling in Private Telecommunications Systems.

TIA (UK)

- An Overview of the European Standard BS EN 50173: 1996 for Generic Cabling Systems, and the differences with ANSI/TIA/EIA 568-A and ISO/IEC 11801.

ISO/IEC

- ISO/IEC 11801:1995: Information technology - Generic Cabling for Customer Premises.
- ISO/IEC 11801:1999: Amendment 1 to ISO/IEC 11801:1995.
- ISO/IEC 11801:2000: Amendment 2 to ISO/IEC 11801:1995.
- Draft second edition ISO/IEC 11801: Information technology - Generic Cabling for Customer Premises.
- IEC 60603-7: 8-Way RJ Connectors for Frequencies below 3 MHz.
- IEC 60603-7-1: 8-Way Screened RJ Connectors for Frequencies below 3 MHz.
- IEC 60603-7-2: 8-Way Unscreened RJ Connectors for Frequencies up to 100 MHz. (Category 5).
- IEC 60603-7-3: 8-Way Screened RJ Connectors for Frequencies up to 100 MHz. (Category 5).
- IEC 60603-7-4: 8-Way Unscreened RJ Connectors for Frequencies up to 250 MHz. (Category 6).
- IEC 60603-7-5: 8-Way Screened RJ Connectors for Frequencies up to 250 MHz. (Category 6).
- IEC 60603-7-7: 8-Way Screened RJ Connectors for Frequencies up to 600 MHz. (Category 7).
- IEC 60874: Connectors for optical fibres and cables.
- ISO/IEC 14763-1 TR3: Information Technology – Implementation and operation of Customer premises Cabling – Part 1: Administration.
- ISO/IEC 14763-2 TR3: Information Technology – Implementation and operation of Customer premises Cabling – Part 2: Planning and Installation.
- ISO/IEC 14763-3 TR3: Information Technology – Implementation and operation of Customer premises Cabling – Part 3: Testing of Optical Fibre Cabling.
- IEC 60950:1991: Safety of information technology equipment, including electrical business equipment.
- IEC 61000-5-2: Electromagnetic capability (EMC) – Part 5: Installation and mitigation guidelines – Section 2: Earthing and bonding.

- IEC 61156-*: Multicore and symmetrical / quad cables for digital communications.
- ISO/IEC 8877:1992: information technology – Telecommunications and information exchange between systems – Interface connector and contact assignments for ISDN Basic Access Interface located at reference points S and T.
- IEC 61935-1: Generic cabling systems - Specification for the testing of balanced communication cabling in accordance with ISO/IEC 11801 – Part 1: Test methods.
- IEC 61935-2: Generic cabling systems - Specification for the testing of balanced communication cabling in accordance with ISO/IEC 11801 – Part 2: Patch cords and work area cabling.

ANSI/TIA/EIA

- TIA/EIA-568-A: Commercial Building Telecommunications Cabling Standard.
- TIA/EIA TSB 67: Link Performance Transmission Specifications for Field Testing of Unshielded Twisted Pair Cabling Systems.
- TIA/EIA TSB 72: Centralised Optical Fibre Cabling Guidelines.
- TIA/EIA TSB 75: Additional Horizontal Cabling Practices for Open Offices.
- TIA/EIA TSB 95: Additional Transmission Performance Guidelines for 4-Pair 100 W Category 5 Cabling.
- TIA/EIA-568-A-1: Propagation Delay and Delay Skew Specifications for 100 W 4-pair Cable.
- TIA/EIA-568-A-2: Corrections and Additions to TIA/EIA-568-A.
- TIA/EIA-568-A-3: Transmission Performance Specifications for Hybrid and Bundled Cables.
- TIA/EIA-568-A-4: Production Modular Cord NEXT Loss Test Method and Requirements for Unshielded Twisted–Pair Cabling.
- TIA/EIA-568-A-5: Transmission Performance Specifications for 4-Pair 100 W Category 5e Cabling.
- TIA/EIA/IS-729: Technical Specifications for 100 W Screened Twisted-Pair Cabling.
- TIA/EIA-568-B.1: Commercial Building Telecommunications Cabling Standard, Part 1: General Requirements.
- TIA/EIA-568-B.1-1: Transmission Performance Specifications for 4-Pair 100 W Category 6 Cabling.
- TIA/EIA-568-B.2: Commercial Building Telecommunications Cabling Standard, Part 2: 100 W Balanced Twisted-Pair Cabling.
- TIA/EIA-568-B.2-1: Transmission Performance Specifications for 4-Pair 100 W Category 6 Cabling.

- TIA/EIA-568-B.3: Commercial Building Telecommunications Cabling Standard, Part 3: Optical Fiber Cabling Components.
- TIA/EIA-569-A: Commercial Building Standard for Telecommunications Pathways and Spaces. (Addenda 1 & 2 published, addenda 3 & 4 in draft.)
- TIA/EIA-570-A: Residential Telecommunications Cabling Standard.
- TIA/EIA-606: Administration Standard for the Telecommunications Infrastructure of Commercial Buildings. (Revision in progress.)
- TIA/EIA-607: Commercial Building Grounding and Bonding Requirements for Telecommunications. (Revision in progress.)