

Information Technology Systems Codes and Standards

All installations must adhere to national and local building and fire codes and shall follow industry installation standards, manufacturer specifications and basic telephony principles. The following information technology systems -related codes and standards may apply to this project and shall be complied with:

Note: The latest edition of all codes and standards shall be used, unless the local Authority Having Jurisdiction requires otherwise. In the event of a conflict between any two or more documents, the most stringent shall be used, as long as no local code will be violated.

A. North America

1. General

- a.) Local/state building code.
- b.) Local/state seismic and/or storm codes.
- c.) Local/state electrical code.

2. Client/End User

- a.) Client safety policies
- b.) Client information protection policies
- c.) Client non-discrimination, security and similar policies
- d.) Client design and construction policies and practices

3. Telecommunications Industry Association (TIA)

- a.) ANSI/TIA-568-C.0 – Generic Telecommunications Cabling for Customer Premises.
- b.) ANSI/TIA-568-C.1 – Commercial Building Telecommunications Cabling Standard.
- c.) ANSI/TIA-568-C.2 – Copper Cabling Components Standard.
- d.) ANSI/TIA-568-C.3 - Optical Fiber Cabling Components Standard.
- e.) ANSI/TIA-569-B – Commercial Building Standards for Telecommunications Pathways and Spaces. [Deprecated]
- f.) ANSI/TIA/EIA-569-A – Commercial Building Standard for Telecommunications Pathways and Spaces.
- g.) ANSI/TIA/EIA-606 – Administration Standard for Telecommunications Infrastructure of Commercial Buildings.
- h.) ANSI/TIA/EIA-606, Addendum 1 -- Equipment Rooms and Data Center Computer Rooms.
- i.) ANSI/TIA/EIA-607 – Commercial Building Grounding and Bonding Requirements for Telecommunications.
- j.) ANSI/TIA/EIA-758 – Customer-Owned Outside Plant Telecommunications Cabling Standard.
- k.) ANSI/TIA/EIA-862 – Building Automation Cabling Standard for Commercial Buildings.
- l.) ANSI/TIA/EIA-942 – Telecommunications Infrastructure Standard for Data Centers.
- m.) ANSI/TIA/EIA-942, Addendum 1 – Data Center Coaxial Cable and T-1, T-3, E-1 and E-3 Circuit Distances.
- n.) TSB-67: Transmission Performance Specifications for Field Testing of Unshielded Twisted Pair Cabling Systems.
- o.) TIA/EIA TSB 75– Additional Horizontal Cabling Practices for Open Offices.
- p.) ANSI/TIA-1005 – Telecommunications Infrastructure Standard for Industrial Premises
- q.) ANSI/TIA 1152- Requirements for Field Test Instruments and Measurements for Balanced Twisted-Pair Cabling
- r.) ANSI-J-STD-607-A - Commercial Building Grounding (Earthing) and Bonding Requirements for Telecommunications

4. National Fire Protection Association (NFPA)

- a.) NFPA 70 – National Electrical Code® (NEC).
- b.) NFPA 75 – Standard for the Protection of Electronic Computer/Data Processing Equipment.
- c.) NFPA 76 -- Recommended Practice for the Fire Protection of Telecommunications Facilities.
- d.) NFPA 780 - Standard for the Installation of Lightning Protection Systems.

5. Institute of Electrical and Electronics Engineers (IEEE)

- a.) IEEE C2-2002 – National Electrical Safety Code (NESC).
- b.) IEEE 142 – Recommended Practice for Grounding of Industrial and Commercial Power Systems.
- c.) IEEE 241 – Recommended Practice for Electric Power Systems in Commercial Buildings.

- d.) IEEE 446 – Recommended Practice for Emergency and Standby Power Systems for Industrial and Commercial Applications.
 - e.) IEEE 450 – Recommended Practice for Maintenance, Testing, and Replacement of Vented Lead-Acid Batteries for Stationary Applications.
 - f.) IEEE 1100 – Emerald Book Recommended Practice for Powering and Grounding Electronic Equipment.
 - g.) IEEE 1184 – Guide for the Selection and Sizing of Batteries for Uninterruptible Power Systems.
 - h.) IEEE 1187 – Recommended Practice for Installation Design and Installation of Valve Regulated Lead-Acid (VRLA) Storage Batteries for Stationary Applications.
 - i.) IEEE 1188 – Recommended Practice for Maintenance, Testing, and Replacement of Valve Regulated Lead-Acid (VRLA) Batteries for Stationary Applications.
6. **Underwriters Laboratories (UL)**
- a.) UL 467 – Grounding and Bonding Equipment.
 - b.) UL 96 – Lightning Protection Components.
 - c.) UL 96A – Installation Requirements for Lightning Protection Systems.
 - d.) UL 508 – UL Standard for Safety Industrial Control Equipment.
7. **Federal Occupational Safety and Health Administration (OSHA)**
- a.) 29CFR1910.146 – Permit-Required Confined Spaces.
 - b.) 29CFR1910.268 – Telecommunications.
 - c.) 29CFR1910.303 – Electrical, General Requirements.
 - d.) 29CFR1926 – Construction Standards.
8. **American Petroleum Institute (API)**
- a.) API 14F – Recommended Practice for Design and Installation of Electrical Systems for Fixed and Floating Offshore Petroleum Facilities for Unclassified and Class I, Division 1 and Division 2 Locations.
 - b.) API 1164 – Pipeline SCADA Security.
9. **National Electrical Manufacturers Association (NEMA)**
- a.) VE 2-2006 – Cable Tray Installation Guidelines.
 - b.) PE 7-1997 (R2003) – Communications Type Battery Chargers.
 - c.) NEMA 250 – Enclosures for Electrical Equipment (1000 Volts Maximum).
10. **International Telecommunications Union (ITU)**
- a.) All ITU recommendations (<http://www.itu.int/ITU-T/publications/recs.html>)
11. **Building Industries Consulting Services International (BICSI)**
- a.) Telecommunications Distribution Methods Manual (TDMM).
 - b.) Telecommunications Cabling Installation Manual (TCIM).
 - c.) Customer-Owned Outside Plant Design Manual (OSP).
 - d.) ANSI/NECA/BICSI 568 – Installing Commercial Building Telecommunications Cabling.
 - e.) ANSI/NECA/BICSI 607 – Telecommunications Bonding and Grounding Planning and Installation Methods for Commercial Buildings.

B. Outside North America

1. General

- a.) Local building code.
- b.) Local seismic and/or storm codes.
- c.) Local electrical code.

2. Client/End User

- a.) Client safety policies
- b.) Client information protection policies
- c.) Client non-discrimination, security and similar policies
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- i.) IEEE 1188 – Recommended Practice for Maintenance, Testing, and Replacement of Valve Regulated Lead-Acid (VRLA) Batteries for Stationary Applications.

4. International Organization for Standardization/International Electrotechnical Commission (ISO/IEC)

- a.) ISO/IEC 11801 – Information Technology—Generic Cabling for Customer Premises.
- b.) ISO/IEC 14763-1 -- Information Technology—Implementation and Operation of Customer Premises Cabling—Part 1: Administration.
- c.) ISO/IEC TR 14763-2 – Information Technology—Implementation and Operation of Customer Premises Cabling—Part 2: Planning and Installation of Copper Cabling.
- d.) ISO/IEC TR 14763-3 – Information Technology—Implementation and Operation of Customer Premises Cabling—Part 3: Acceptance Testing for Optical Cabling.
- e.) ISO/IEC 18010 – Information Technology—Pathways and Spaces for Customer Premises Cabling.
- f.) ISO/IEC 24702 – Information Technology – Generic Cabling for Industrial Premises.
- g.) ISO/IEC 24764 – Information Technology – Generic Cabling for Data Centre Premises.

5. Comité Européen de Normalisation Electrotechnique (CENELEC)

- a.) EN 50173 – Information Technology—Generic Cabling Systems.
- b.) EN 50173 – Information Technology—Generic Cabling Systems—Amendment to Clauses 2, 3, 5, 6, 7, 8 and Annexes A, B, H of EN 50173.
- c.) EN 50173-1 – Information Technology—Generic Cabling Systems—Part 1: General Requirements and Office Areas.
- d.) EN 50173-2 – Information Technology—Generic Cabling Systems—Part 2: Industrial Premises.
- e.) EN 50173-5 – Information Technology—Generic Cabling Systems—Part 5: Data Centres.
- f.) EN 50174-1 – Information Technology—Cabling Installation—Part 1: Specification and Quality Assurance.
- g.) EN 50174-2 – Information Technology—Cabling Installation—Part 2: Installation Planning and Practices Inside Buildings.
- h.) EN 50174-3 – Information Technology—Cabling Installation—Part 3: Installation Planning and Practices Outside Buildings.
- i.) EN 50310 – Application of Equipotential Bonding and Earthing in Buildings with Information Technology Equipment.
- j.) EN 50346 – Information Technology—Cabling Installation—Testing of Installed Cabling.

6. **Australian Communications and Media Authority (ACMA)**
 - a.) AS/ACIF S008 – Requirements for Authorized Cabling Products.
 - b.) AS/ACIF S009 – Installation Requirements for Customer Cabling (Wiring Rules).
 - c.) HB 29-2000 – Communications Cabling Manual, Module 2: Communications Handbook.
 - d.) The handbook provides cabling installers with a practical field guide to allow them to cable premises for voice, data, and video. It guides them through appropriate standard requirements with cross references to the actual standards, AS/ACIF S009:2001 and AS/NZS 3080: 2002.
 - e.)
 - f.) Canadian Standards Association (CSA)
 - g.) CSA C22.1-02 – Canadian Electrical Code, Part 1, 2002.
 - h.) CSA C22.1HB-02 – Canadian Electrical Code Handbook, 2002.
 - i.) CSA T527 – Grounding and Bonding for Telecommunications in Commercial Buildings, 1999.
 - j.) CAN/CSA T528 – Design Guidelines for Administration of Telecommunications Infrastructure in Commercial Buildings, 1997 (Adopted ANSI/TIA/EIA-606 with modifications.).
 - k.) CSA T529 – Telecommunications Cabling Systems in Commercial Buildings, 2000. (harmonized with ANSI/TIA/EIA-568-A with modifications).
 - l.) CSA T530 – Commercial Building Standard for Telecommunications Pathways and Spaces, 1999 (adopted ANSI/TIA/EIA-569-A).
7. **National Research Council of Canada, Institute for Research in Construction (NRC-IRC)**
 - a.) NRCC 38726 – National Building Code of Canada, 1995.
 - b.) NRCC 38727 – National Fire Code of Canada, 1995.
8. **United Kingdom (U.K.)**
 - a.) BS 6701 – Code of Practice for Installation of Apparatus Intended for Connection to Certain Telecommunication Systems, 1994.
 - b.) BS 7430 – Code of Practice for Earthing, 1998.
 - c.) BS 7671 – Requirements for Electrical Installations. IEE Wiring Regulations, 2001.
 - d.) BS 7718 – Code of Practice for Installation of Fibre Optic Cabling, 1996.
9. **International Telecommunications Union (ITU)**
 - a.) All ITU recommendations (<http://www.itu.int/ITU-T/publications/recs.html>)
10. **Building Industries Consulting Services International (BICSI)**
 - a.) Telecommunications Distribution Methods Manual (TDMM).
 - b.) Telecommunications Cabling Installation Manual (TCIM).
 - c.) Customer-Owned Outside Plant Design Manual (OSP).
 - d.) ANSI/NECA/BICSI 568-2001 – Installing Commercial Building Telecommunications Cabling.
 - e.) ANSI/NECA/BICSI 607 – Telecommunications Bonding and Grounding Planning and Installation Methods for Commercial Buildings.