

PART 1 GENERAL

1.1 RELATED SECTIONS

- .1 Not Used.

1.2 REFERENCES

- .1 Canadian Standards Association (CSA International)
 - .1 CSA-C22.2 No. 214-02, Communications Cables (Bi-National standard with UL 444).
 - .2 Telecommunications Industry Association (TIA)/Electronic Industries Alliance (EIA)
 - .1 TIA/EIA-568-B.1-(2001), Commercial Building Telecommunications Cabling Standard, Part 1: General Requirements.
 - .2 TIA/EIA-568-B.2-(2001), Commercial Building Telecommunications Cabling Standard, Part 2: Balanced Twisted-Pair Cabling Components.
 - .3 TIA/EIA-606-A-(2002), Administration Standard for the Commercial Telecommunications Infrastructure.

1.3 SYSTEM DESCRIPTION

- .1 Structured telecommunications wiring system consist of unshielded-twisted-pair cables, terminations, connectors, cross-connection hardware, patchpanels, switches, enclosures and related equipment installed inside building for occupant's telecommunications systems, including voice (telephone), data, and image.
- .2 Installed in physical star configuration with separate horizontal and backbone sub-systems.
 - .1 Horizontal cables link work areas to telecommunications room.
 - .2 MT/ER also linked to Entrance Room by backbone cables.

1.4 SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 As-built Records and Drawings:
 - .1 Provide database reflecting cable installation and cross-connections.
 - .2 Provide two (2) bound complete hard-copy sets of as-built records to the Contract Administrator.
 - .1 Provide and place one hard copy of as-built records in the telecommunications room.

PART 2 PRODUCTS

2.1 FOUR-PAIR 100 Ω BALANCED TWISTED PAIR CABLE

- .1 Four-pair, 100 ohm balanced unshielded-twisted-pair (UTP) cable, flame test classification FT4 to: CSA-C22.2 No. 214, Category 5E (Cat 6) to: TIA/EIA-568-B.2.

2.2 MULTI-PAIR 100 Ω BALANCED TWISTED PAIR CABLE

- .1 100 ohm, 25 pairs, sheath consists of thermoplastic jacket without underlying metallic shield, Category 3 to: TIA/EIA-568-B.2, flame test classification FT4 to: CSA-C22.2 No. 214.

2.3 WORK AREA UTP 4-PAIR MODULAR JACK

- .1 White, eight-position modular jack ("RJ-45"), type Category 5E to: TIA/EIA-568-B.2:
 - .1 Mounted in compatible single gang faceplate, flush entry, four jack positions per faceplate. Each port equipped with field installed "RJ-45" jacks, type Category 5E to: TIA/EIA-568-B.2.

2.4 TERMINATION AND CROSS-CONNECTION HARDWARE FOR UTP

- .1 IDC Terminal strips, 25 pair, for terminating multi pair 100 Ω balanced twisted pair cables and supporting cross-connections using jumper wires or compatible plug-ended patch cords: Category 5E to: TIA/EIA-568-B.2.
- .2 Mount or block for housing 12 IDC terminal strips, mounted on wall.
 - .1 Distribution rings or channels capable of externally mating with the above mount for managing cross-connection wires.
- .3 Each Patch panel, 2 rack units high, 24 or 48 ports as indicated:
 - .1 Each port equipped with field installed "RJ-45" jacks, type Category 5E to: TIA/EIA-568-B.2.
 - .2 Horizontal cable-management unit for every 24 ports.
- .4 Fibre Patch panel, 2 rack units high, 12 ports:
 - .1 Each port equipped with field installed MTRJ jacks to: TIA/EIA-568-B.2.
 - .2 Horizontal cable-management unit.

2.5 UTP PATCH CORDS

- .1 3 meters long, with factory-installed male plug at one end to mate with "RJ-45" jack and with factory-installed male plug at other end to mate with "RJ-45" jack Category 5E, 4 pairs to: TIA/EIA-568-B.2.

2.6 UTP WORK AREA CORDS

- .1 3 meters long, each end equipped with "RJ-45" plug Category 5E to: TIA/EIA-568-B.2.

2.7 ENCLOSED RACK

- .1 Existing.

PART 3 EXECUTION

3.1 INSTALLATION CERTIFICATION

- .1 Installing contractor shall be AMP certified installer.

3.2 INSTALLATION OF TERMINATION AND CROSS-CONNECT HARDWARE

- .1 Install termination and cross-connect hardware in rack as indicated and according to manufacturers' instructions. Identify and label as indicated to: TIA/EIA-606-A.
- .2 Install consolidation points, as indicated according to manufacturer's instructions. Identify and label as indicated to: TIA/EIA-606-A.

3.3 INSTALLATION OF HORIZONTAL DISTRIBUTION CABLES

- .1 Install horizontal cables as indicated in conduits and cable trays from telecommunication rooms to individual work-area jacks. Identify and label as indicated to: TIA/EIA-606-A.
- .2 Support horizontal cables at intervals not exceeding 2 meters.
- .3 Install horizontal cables from consolidation point to individual work-area jacks.
 - .1 Identify and label as indicated to: TIA/EIA-606-A.
- .4 Coil spare cables and store in ceiling space in zone.

3.4 INSTALLATION OF BACKBONE CABLES

- .1 Install backbone cables from each telecommunications room to main terminal/equipment room (MT/ER) as indicated and according to manufacturers' instructions.
 - .1 Identify and label as indicated to: TIA/EIA-606-A.
- .2 Install backbone cables from MT/ER to carrier demarcation point in Entrance Room as indicated and according to manufacturer's instructions.
 - .1 Identify and label as indicated to: TIA/EIA-606-A.

3.5 INSTALLATION OF EQUIPMENT CABLES

- .1 Install equipment cables from equipment patch panel as indicated.
 - .1 Identify and label as indicated to: TIA/EIA-606-A.

3.6 TELECOMMUNICATIONS BONDING

- .1 To standards:
 - .1 ANSI J-STD-607-A-2002, Joint Standard - Commercial Building Grounding (Earthing) and Bonding Requirements for Telecommunications.
 - .2 TIA/EIA-606-2002, Administration Standard for the Commercial Telecommunications Infrastructure.

3.7 FIELD QUALITY CONTROL

- .1 Test horizontal UTP cables as specified below and correct deficiencies provide record of results as electronic record on CD.
 - .1 Perform tests for Permanent Link on installed cables, including spares:
 - .1 Category 5E using certified level III tester to: TIA/EIA-568-B.2.
 - .2 Perform tests for Channel on 100% of cross-connected data horizontal cabling installed from each telecommunications room, including shortest and longest drops from each telecommunications room.
- .2 Test backbone UTP cables as specified below and correct deficiencies: provide record of results as electronic record on CD.
 - .1 Perform tests for Permanent Link on 4-pair cables:
 - .1 Category 5E using certified level III tester to: TIA/EIA-568-B.2.
 - .2 Perform Wire Map tests on multi-pair UTP cables to: TIA/EIA-568-B.1.

END OF SECTION