

271119 – COMMUNICATIONS TERMINATION BLOCKS AND PATCH PANELS

PART 1 GENERAL

1.1 REFERENCES

- A. NFPA 70 - National Electrical Code: National Fire Protection Association; 2002.

1.2 DEFINITIONS

- A. See Section 27 00 00: Communications General.

1.3 DESIGN REQUIREMENTS

A. Horizontal Copper Rack Terminations

1. All horizontal cables shall be terminated in the T568B pin/pair configuration. All four pairs shall be terminated.
2. Cables shall be neatly dressed to their respective patch panel and within rack cable management using Velcro cable ties and/or rack cable management loops. Cables shall not be bundled outside of a rack, but shall be loose and random in cable tray.

B. Fiber Rack Terminations

1. Terminate the fiber on a rack mounted patch panel. All fiber-optic connecting hardware shall support individually terminated fibers onto the connectors. Adapter panels shall be limited to a single type of fiber (multimode or single mode).
2. Optical fiber cable shall be terminated in an appropriately sized, rack mountable enclosure. These enclosures shall be lockable (if room access is not controlled). All optical patch panels shall meet all requirements set forth in the ANSI EIA/TIA-568-A wiring standard for connecting hardware. Termination panels shall be mounted in the top of the rack or cabinet.
3. The preferred fiber distribution housing is the Corning housing line.

C. Wall Mounted Terminations

1. Specify the installation of 110 blocks for wall field terminations. No wall-mounted hardware, including cable management, shall be above 5'6" from the finished floor.
2. Cable management troughs shall be installed such that all cross-connect wires may be installed within the troughs.
3. Provide a detailed wall field layout for installation.
4. Cable management may move as needed to accommodate conditions.
5. A clear space of 5" or 6" above and below the top and bottom of the connecting hardware shall be maintained for cable handling.
6. Service loops shall be secured to the wall as needed and in an unobtrusive manner.

Service loops shall not block access to other cables, utilities, or otherwise accessed structures (e.g. shut-off valves, meters, etc.). Service loops shall not rest horizontally on cable trays.

7. Wall fields shall be designed to minimize the need to work behind equipment racks. Busbars and BETs can be readily located behind equipment racks while 100 block should be more accessible.
8. Wall field elements shall be 3 ft or more from any electrical service panels. Pathways within the space shall keep this clearance when possible.

PART 2 PRODUCTS

2.1 MATERIALS

A. Copper Terminations

1. Category 6 patch panels.
 - a. Belden/CDT
 - 1) GigaFlex PS6+ Patch Panels, 48 port (AX101613)
 - b. Ortronics
 - 1) Clarity6 Category 6 Patch Panels, 48 port, 8 port modules (OR-PHD68U48)
2. Category 6a patch panels.
 - a. Belden/CDT
 - 1) IBDN 10GX Patch Panels, 2 U, 48-port (AX103256)
 - b. Ortronics
 - 1) Clarity 10G Patch Panels, 2U, 48-port, 6 port modules (OR-PHD610U48)
3. Wall Terminations
 - a. Belden/CDT
 - 1) Category 5e 110 Wiring Block with legs (100-pair- AX100691-S; 300-pair- AX100692-S; kits with connection block have other part numbers)
 - 2) Connector Blocks (C4- AZ100707-S, C5- AX100708-S)
 - 3) Cable Management Trough with legs (AX100706-S)
 - b. Ortronics
 - 1) Ortronics Category 5e 110 Wiring Blocks with Legs (100 pair- OR-110ABC5E100; 300 pair- OR-110ABC5E300)
 - 2) Ortronics Connector Blocks

3) 110 Jumper Trough with legs (OR-30200140)

B. Fiber Terminations

1. Intrabuilding Backbone Cabling

a. Corning Cable Systems

- 1) Rack Mount housing, Corning Edge Housing, sized appropriately for cable counts

EDGE™ Housing, 4 rack units, 576-fiber LC, 2304-fiber MTP® Capacity (48 modules/panels)	EDGE-04U
EDGE™ Housing, 2 rack units, 288-fiber LC, 1152-fiber MTP® Capacity (24 modules/panels)	EDGE-02U
EDGE™ Housing, 1 rack unit, 144-fiber LC, 576-fiber MTP® Capacity (12 modules/panels)	EDGE-01U-SP
EDGE™ Housing, 1 rack unit, 96-fiber LC, 384-fiber MTP® Capacity (8 modules/panels)	EDGE-01U

- 2) The following products are acceptable only in certain legacy applications: Rack-mount housing, Corning Pretium Housing, sized appropriately for the cable counts. Only 12 fiber LC connector panels are acceptable, nothing larger.
- 3) Wall-mount housing, Wall-Mountable Building Terminal (WBT), lockable (WBT-024-L)

- b. Adapter Modules – All adapter modules are to match the fiber housings designated in section a.

- 1) Corning Cable Systems, Edge cassettes

EDGE™ Splice Cassette, 12 F, LC duplex, OM4, single-fiber	EDGE-CS12-AD-P00QE
EDGE™ Splice Cassette, 12 F, LC duplex, OM4, Ribbon, Straight Through	EDGE-CS12-AD-P00QJ
EDGE™ Splice Cassette, 12 F, LC duplex, Single-mode UPC, single-fiber	EDGE-CS12-AE-P00RE
EDGE™ Splice Cassette, 12 F, LC duplex, Single-mode UPC, Ribbon, Straight Through	EDGE-CS12-AE-P00RJ
EDGE™ Splice Cassette, 12 F, LC duplex, Single-mode APC, single-fiber	EDGE-CS12-AF-P00RE
EDGE™ Splice Cassette, 12 F, LC duplex, Single-mode APC, Ribbon, Straight Through	EDGE-CS12-AF-P00RJ

EDGE™ Adapter Panel, 12 F, Single-mode UPC, LC Duplex	EDGE-CP12-AE
EDGE™ Adapter Panel, 12 F, OM3/4 UPC, LC Duplex	EDGE-CP12-AD
EDGE™ Adapter Panel, 12 F, Single-mode APC, LC Duplex	EDGE-CP12-AF

2) The following adapters are only to be used only in designated legacy projects.

- (a) Corning Cable Systems, 12 LC duplex adapters, single-mode, ceramic insert, composite housing (CCH-CP24-A9)
- (b) Corning Cable System, 12 LC cassettes, 50 Micron multimode (CCH-CS12-A9-P00RE).
- (c) Corning Cable System, 12 LC cassettes, Single Mode (CCH-CS12-E4-P00QE)
- (d) Corning Cable System, 24 LC cassettes, 50 Micron multimode (CCH-CS24-A9-P00RE)
- (e) Corning Cable System, 24 LC cassettes, Single Mode (CCH-CS24-E4-P00QE)

C. All additional materials needed to properly terminate and secure cables, including but not limited to panel/plate connectors, grounding kits, strain-relief hardware, break-out kits, blank panels/plates, etc.

PART 3 EXECUTION

3.1 INSTALLATION

A. Horizontal Cable Rack Terminations

1. All horizontal cable shall be installed per manufacturer instructions to ensure a manufacturer certified solution.
2. The Contractor shall provide and install modular patch panels as shown on the attached drawings.
3. The Contractor shall terminate all horizontal cables in the T568B pin/pair configuration. All four pairs shall be terminated.
4. The Contractor shall neatly dress cables to their respective patch panel and within rack cable management using Velcro cable ties and/or rack cable management loops. Cables shall not be bundled outside of a rack, but shall be loose and random in cable tray.
5. Provide identification labels for each cable.

B. Optical Fiber Rack Termination

1. The Contractor shall provide and install rack-mounted optical fiber housing as shown on the attached drawings.
2. The Contractor shall terminate all fibers using dual LC connector panels/plates and fiber connectors.
3. The Contractor shall place all fiber slack neatly in the fiber housing.
4. The Contractor shall secure cable strength members to cable strain relief brackets or attachment points within the fiber housing.
5. The Contractor shall install panels/plates to fill all empty locations within fiber housings.
6. The Contractors shall install additional materials needed to properly terminate and secure the inter-building and intra-building optical fiber cables, including but not limited to panel/plate connectors, grounding kits, strain-relief hardware, break-out kits, blank panels/plates, etc.
7. Provide identification labels for each adaptor.

C. Wall Termination Fields

1. All wall field terminations shall be installed per manufacturer instructions to ensure a manufacturer certified solution.
2. The Contractor shall install 110 blocks and protectors as shown in the attached drawings. No wall-mounted hardware, including cable management, shall be above 5'6" from the finished floor.
3. Cable management troughs shall be installed such that all cross-connect wires may be installed within the troughs. Final installed locations may change during installation. Wire management shall be adjusted appropriately during installation.
4. The Contractor may move cable management as needed to accommodate conditions. Cable management will remain continuous from cross-connects between protectors and 110 blocks.

END OF SECTION 271119