



CSI SECTION 271619

COMMUNICATIONS PATCH CORDS, STATION CORDS, AND CROSS CONNECT WIRE

The purpose of this document is to provide documentation to cabling professionals interested in providing their customer a standard specification applicable to commercial building structured cabling applications.

The documentation includes: Product specifications, minimum product performance, structured cabling design considerations and installation guidelines.

The information contained in this document is based on our experience to date and is believed to be reliable. It is intended as a guide for use by persons having technical skill and is to be used with their own discretion and risk. We do not guarantee favorable results or assume any liability in connection with its use. Dimensions contained herein are for reference purposes only. For specific dimensional requirements consult the factory. This publication is not to be taken as a license to operate under, or a recommendation to infringe any existing patents. This supercedes and voids all previous literature, etc.

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SECTION 271619 – COMMUNICATION PATCH CORDS, STATION CORDS AND CROSS CONNECT WIRES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

1. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 0 & 1 Specification Sections, apply to this Section.
2. Section 270500 “Common Work Results for Communications”

1.2 SUMMARY

A. Section Includes:

1. Twisted-pair jumper wires;
2. Twisted-pair patch cords.
3. Fiber Optic patch cords.
4. Related cross-connect components;
5. Cross-connection and patching

B. Related Sections:

1. Section 270500 “Common Work Results for Communications”
2. Section 271323 “Communications Optical Fiber Backbone Cabling”
3. Section 271315 “Communications Copper Horizontal Cabling”
4. Section 271313 “Communications Copper Backbone Cabling”
5. Section 271119 “Termination Blocks and Patch Panels”

1.3 SUBMITTALS

A. Product Data: For each type of product indicated.

1. For Category-6a patch cords, include the following installation data for each type used:
 - a. Nominal OD.
 - b. Minimum bending radius.
 - c. Maximum pulling tension.
2. For Fiber Optic patch cords, include the following installation data for each type used:
 - a. Nominal OD.
 - b. Minimum bending radius.
 - c. Maximum pulling tension.

B. Source quality-control reports.

C. Field quality-control reports.

1.4 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled by a qualified testing agency, and marked for intended location and application.
- B. Warranty
 - 1. See Section 270500 “Common Work Results for Communications”.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Test cables upon receipt at Project site.
 - 1. Test optical fiber cables to determine the continuity of the strand end to end. Use optical loss test set.
 - 2. Test each pair of UTP cable for open and short circuits.

1.6 PROJECT CONDITIONS

- A. Environmental Limitations: Do not deliver or install cables and connecting materials until wet work in spaces is complete and dry, and temporary HVAC system is operating and maintaining ambient temperature and humidity conditions at occupancy levels during the remainder of the construction period.

PART 2 - PRODUCTS

- A. PATCH CABLES
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include the following:
 - a. PANDUIT
- B. General Requirements: Comply with TIA/EIA-569-C.
- C. Patch Cords: Factory-made, four-pair cables terminated with eight-position modular plug at each end in lengths as indicated in pricing sheet.
 - 1. Patch cords shall have bend-relief-compliant boots to ensure Category 6a performance.
 - 2. .
 - 3. UTP Patch Cords will be available in the following lengths:

Description	Est. Qty (See E)
4- pair UTP Category-6A Non-plenum Modular Patch Cords - 4ft	2000
4- pair UTP Category-6A Non-plenum Modular Patch Cords - 7ft	5000
4- pair UTP Category-6A Non-plenum Modular Patch Cords - 10ft	5000
4- pair UTP Category-6A Non-plenum Modular Patch Cords - 12ft	5000
4- pair UTP Category-6A Non-plenum Modular Patch Cords - 15ft	200
4- pair UTP Category-6A Non-plenum Modular Patch Cords - 20ft	200

D. Patch Cords: Factory-made, dual-fiber cables with NC connectors.

1. Fiber patch cords will be available in the following lengths.

Description	Standard Part Number	Non-Standard Part Number	Est. Qty (See E).
2-Strand 50µm Multimode LC-LC Patch Cords - 3ft	FXE10-10M1Y	FXE10-10F3Y/N	50
2-Strand 50µm Multimode LC-LC Patch Cords - 9ft	FXE10-10M3Y	FXE10-10F9Y/N	300
2-Strand 50µm Multimode LC-LC Patch Cords - 15ft	FXE10-10M5Y	FXE10-10F15Y/N	300
2-Strand 50µm Multimode LC-LC Patch Cords - 24ft	FXE10-10M8Y	FXE10-10F24Y/N	300
2-Strand 50µm Multimode LC-LC Patch Cords - 30ft	FXE10-10M10Y	FXE10-10F30Y/N	200
2-Strand Single Mode LC-LC Patch Cords - 3ft.	F9E10-10M1Y	F9E10-10F3Y/N	50
2-Strand Single Mode LC-LC Patch Cords - 9ft.	F9E10-10M3Y	F9E10-10F9Y/N	150
2-Strand Single Mode LC-LC Patch Cords - 15ft.	F9E10-10M5Y	F9E10-10F15Y/N	150
2-Strand Single Mode LC-LC Patch Cords - 24ft.	F9E10-10M8Y	F9E10-10F24Y/N	150
2-Strand Single Mode LC-LC Patch Cords - 30ft	F9E10-10M10Y	F9E10-10F30Y/N	150

E. Estimated Quantities

1. The estimate of cable counts and lengths is given for bid purposes only; the final count and lengths will be provided in the integration phase of the project.
2. Pricing should include single cable pricing and quantity discount pricing.

F. Cable Connecting Hardware:

1. Comply with Optical Fiber Connector Intermateability Standards (FOCIS) specifications of TIA/EIA-604-2, TIA/EIA-604-3-A, and TIA/EIA-604-12. Comply with TIA/EIA-568-C.3.

2. Quick-connect, simplex and duplex, Type LC connectors. Insertion loss not more than 0.75 dB.

2.2 IDENTIFICATION PRODUCTS

- A. Comply with TIA/EIA-606-A and UL 969 for labeling materials, including label stocks, and inks used by label printers.
- B. Comply with requirements in Section 260553 "Identification for Electrical Systems."

2.3 SOURCE QUALITY CONTROL

- A. Factory test UTP cables according to TIA/EIA-568-C.2.
- B. Factory test multimode optical fiber cables according to TIA/EIA-526-14-A and TIA/EIA-568-C.3.
- C. Provide test and inspection reports.

PART 3 - EXECUTION

3.1 FIELD QUALITY CONTROL

- A. Perform tests and inspections.
 1. Visually inspect UTP and optical fiber cable jacket materials for NRTL certification markings. Inspect cabling connections for compliance with TIA/EIA-568-C.1.
 2. Visually confirm Category 6a, marking of patch cables.
 3. Visually confirm Fiber patch cable marking.
 4. Visually inspect cable placement, and patch cords, and labeling of all components.
- B. Use copper patch cord lock-in devices to prevent the disconnection of critical equipment connections.

END OF SECTION 271619