SECTION 27 16 19
COMMUNICATIONS PATCH CORDS, STATION CORDS
AND CROSS CONNECT WIRE

PART 1 – GENERAL

1.01 DESCRIPTION
A. The work covered by this section of the Specifications includes all labor necessary to perform and complete such construction, all materials and equipment incorporated or to be incorporated in such construction and all services, facilities, tools and equipment necessary or used to perform and complete such construction. The work of this section shall include, but is not limited to, the following:

1. Patch Cords, Station Cords, Fiber Optic Patch Cords and Crossconnect Wire

1.02 QUALITY ASSURANCE
A. Refer to Section 27 00 00 for general details.

B. As noted in Section 27 00 00, all contractors and installers working on structured cabling system elements must hold a current manufacturer’s certification for each individual component they install.

1.03 CODES, STANDARDS, AND GUIDELINES
A. Except as modified by governing codes and by the Contract Documents, comply with the applicable provisions and recommendations in Section 27 00 00.

1.04 SUBMITTALS
A. Refer to Section 27 00 00 for general details.

B. Shop Drawings:
   1. None Required

C. Submit Manufacturer’s Cut Sheets for the following:
   1. Any products not specifically listed in the PRODUCTS section shall require a submittal of the manufacturer’s cut sheets.

1.05 IDENTIFICATION
A. None Required
1.06 DEFINITIONS

A. N/A

1.07 WARRANTY

A. Provide a complete channel solution incorporating Patch Cords, Station Cords, Fiber Optic Patch Cords and Crossconnect Wire to meet structured cabling system warranty requirements.

B. Refer to Section 27 00 00 for general details.
PART 2 – PRODUCTS

2.01 PRODUCT CONSISTENCY

A. Product Consistency: Any given item of equipment or material shall be the product of one manufacturer throughout the facility. Multiple manufacturers of any one item will not be permitted, unless specifically noted otherwise.

2.02 STANDARD COPPER CORD COLORS

A. Category 6A Patch Cords (Telecom Room) White
B. Category 6A Patch Cords (Patch Panel) White
C. Category 6A Station Cords (User End) Spring Green
D. Category 6A Station Cords (A/V Connections) Orange

2.03 COPPER PATCH CORD

A. Category 6A Patch Cords (Telecom Room)

1. Patch cords shall route from equipment rack to wall-field.
2. For connection with modular components, provide a 4-pair patch cord with 110 reverse-direction plug on one end and an 8-pin RJ45 plug on other end. Wired T568B on both ends.
3. The cord shall be of solid wire construction, and shall be available in one (1) and four (4) pair configurations.
4. The cord color shall be “white”, and available as a standard color from the manufacturer.
5. Patch cords with shall have integral anti-snag feature on the RJ45 connector tab.
6. Shall be available in 10, 12, 14, 16, 18, 20 foot lengths. Lengths will be specified by the campus telecommunications representative. Custom lengths shall also be available, but only factory manufactured patch cords are acceptable.
7. Manufacturer/Product: Commscope Part#: VP360T-360GS10E-WH

B. Category 6A Patch Cords (Use Where Patch Panels Are Specified)

1. Patch cord shall route from patch panel to equipment.
2. Provide 8-position/8-conductor modular RJ45 type plugs compatible with industry standard modular jacks. Wired T568B on both ends.
3. The cord shall be constructed of solid conductor copper alloy.
4. The cord color shall be “white”, and available as a standard color from the manufacturer.
5. Patch cords with shall have integral anti-snag feature on the RJ45 connector tab.
6. Shall be available in 1, 3, 5, 7, 9, 15 and 25 foot lengths. Lengths will be specified by the campus telecommunications representative. Custom lengths shall also be available, but only factory manufactured patch cords are acceptable.

7. Manufacturer/Product: Commscope Part#: 360GS10E-WH

C. Category 6A Station Cords (User End)

1. Route from station outlet to user workstation.

2. Provide 8-position/8-conductor modular RJ45 type plugs compatible with industry standard modular jacks.

3. The cord shall be constructed of solid conductor copper alloy.

4. The cord color shall be “spring green”, and available as a standard color from the manufacturer.

5. Patch cords with shall have integral anti-snag feature on the RJ45 connector tab.

6. Shall be available in 6, 15 and 25 foot lengths. Lengths will be specified by the campus telecommunications representative. Custom lengths shall also be available, but only factory manufactured patch cords are acceptable.

7. Manufacturer/Product: Commscope Part#: 360GS10E-GN

D. Category 6A Station Cords (A/V Use)

1. Route from A/V outlet to A/V equipment.

2. Provide 8-position/8-conductor modular RJ45 type plugs compatible with industry standard modular jacks.

3. The cord shall be constructed of solid conductor copper alloy.

4. The cord color shall be “orange”, and available as a standard color from the manufacturer.

5. Patch cords with shall have integral anti-snag feature on the RJ45 connector tab.

6. Shall be available in 3, 5, 15 and 25 foot lengths. Lengths will be specified by the campus telecommunications representative. Custom lengths shall also be available, but only factory manufactured patch cords are acceptable.

7. Manufacturer/Product: Commscope Part#: 360GS10E-OR
2.04 STANDARD FIBER OPTIC CORD COLORS

A. Single Mode Fiber Optic Patch Cords  Yellow
B. Multi Mode Fiber Optic Patch Cords  Aqua
C. Fire Alarm Fiber Optic Patch Cords  Purple
D. Building Systems Fiber Optic Patch Cords  Blue

2.05 FIBER OPTIC PATCH CORDS

1. Unless otherwise noted all fiber patch cords:
   a. All singlemode shall be zero water peak singlemode fiber.
   b. All multimode shall be OM4, 50 μm multimode fiber.
   c. Diameter over Jacket shall be at least 3mm.
   d. All connectors shall be LC unless otherwise noted.
   e. All patch cords shall be duplex

B. Single Mode Fiber Optic Patch Cords (Yellow Jacket)
   1. Manufacturer/Product: Commscope Part#: FEWLCLC42

C. Multi Mode Fiber Optic Patch Cords (Aqua Jacket)
   1. Manufacturer/Product: Commscope Part#: FEXLCLC42

D. Multi Mode Fiber Optic Patch Cords for Fire Alarm (Violet Jacket)
   1. Shall be available with ST connectors LC connectors and SC connectors. Verify with campus representative for installed requirements.
   2. Submit product cut sheet.

E. Multi Mode Building Systems Fiber Optic Patch Cords (Blue Jacket)
   1. Shall be available with ST connectors LC connectors and SC connectors. Verify with campus representative for installed requirements.
   2. Submit product cut sheet.

2.06 CROSS CONNECT WIRE

A. Standard Telephone Crossconnect Wire
   1. 1 pair 24 AWG solid bare copper conductors, twisted pair, PVC insulation.
2. Available in a 1000Ft roll.
3. Manufacturer/Product: Belden XCB1 D871000 (White/Blue)

B. Emergency Telephone Crossconnect Wire

1. 1 pair 24 AWG solid bare copper conductors, twisted pair, PVC insulation.
2. Available in a 1000Ft roll.
3. Manufacturer/Product: Belden XCB1 D871000 (White/Red)
PART 3 – EXECUTION

3.01 GENERAL

A. Copper patch cords are not to exceed 25 feet in length.

3.02 QUANTITIES

A. Quantities of system elements shown on the drawings are illustrative only and are meant to indicate the
general configuration of the work. The Contractor is responsible for providing the correct quantities of
materials to construct a system that meets the intent of these Specifications and the relevant codes.

B. Category 6A Patch Cords (Telecom Room)
   1. Provide a Category 6A patch cord for 40% of total terminated Category 6A cables in the building.
   2. Lengths will be specified by campus telecommunications representative.

C. Category 6A Patch Cords (Use Where Patch Panels Are Specified)
   1. Provide a Category 6A patch cord for each terminated Category 6A patch panel port in the building.
   2. Lengths will be specified by campus telecommunications representative.

D. Category 6A Station Cords (User End)
   1. Provide a Category 6A station cord for 40% of total terminated Category 6A cables in the building.
   2. Lengths will be specified by campus telecommunications representative.

E. Category 6A Patch Cords (A/V Use)
   1. Provide two Category 6A A/V station cords for each terminated Category 6A cable in the building.
   2. Lengths will be specified by campus telecommunications representative.

F. Single Mode Fiber Optic Patch Cords
   1. Provide four LC/LC 6 ft. SingleMode Duplex Patch Cords per telcom room.
   2. Provide two LC/LC 10 ft. SingleMode Duplex Patch Cords per telcom room.

G. Single Mode Fiber Optic Station Patch Cord
   1. Provide two single mode fiber optic patch cord for each fiber optic station cable location.
   2. Lengths will be specified by campus telecommunications representative.
H. Multi Mode Fiber Optic Patch Cords
   1. Quantity will be provided by campus telecommunications representative.

I. Multi Mode Fiber Optic Station Patch Cords
   1. Provide two multi mode fiber optic patch cords for each fiber optic station cable location.
   2. Lengths will be specified by campus telecommunications representative.

J. Fire Alarm Fiber Optic Patch Cords
   1. Quantity will be provided by campus telecommunications representative.

K. Building Systems Fiber Optic Patch Cords
   1. Quantity will be provided by campus telecommunications representative.

L. Cross Connect Wire
   1. Provide one roll of one pair white/blue telephone crossconnect wire, and one roll of one pair white/red emergency telephone crossconnect wire per telecom room.

3.03 INSTALLATION
   A. Installation to be done by campus personnel.
   B. Materials in this section are to be delivered to the main telecommunications room for distribution by campus personnel.

3.04 GROUNDING & BONDING
   A. None Required
   B. Refer to Section 27 05 26 for additional details.

3.05 TESTING
   A. All fiber optic patch cords shall include factory test results.
   B. Contractor shall perform channel testing on 5% of the supplied patch cords. These results should be documented separately formatted according to Section 27-08-13.

3.06 ACCEPTANCE
   A. Once testing has been completed and the campus telecommunications representative is satisfied that quantities are in accordance with the Contract Documents, the representative will notify the Contractor and/or campus project manager in writing or via email.
   B. Both Contractor project manager and campus representative signatures verifying quantity of receivables have been delivered.
3.07 RECORD (ASBUILT) DRAWINGS

A. None Required

END OF SECTION

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