

SECTION 27 16 19**TELECOMMUNICATIONS PATCH CORDS, STATION CORDS, AND CROSS CONNECT WIRES****PART 1 - GENERAL**

1.1 SUMMARY

- A. This section shall govern the products for telecommunications patch cords (cables), station cords (at work area outlets), and cross connect wires.
 - 1. The contractor shall supply all necessary cross connect wires as part of a complete and functioning telecommunications system.
 - 2. The contractor shall supply station cords (deliverable to UT ITS) for 75% of the quantity of Category 5e jacks and 100% of Category 6 jacks at the work area outlets.
 - 3. The contractor shall supply patch cords (deliverable to UT ITS) for 75% of the ports in all contract-installed patch panels or modules (copper and fiber).

1.2 RELATED DOCUMENTS

- A. The latest versions of the following codes, standards, and guidelines shall be followed. Bring to ITS' immediate attention where construction documents or conditions differ from requirements in codes, standards, guidelines and specifications.
- B. The following project specifications:
 - 1. 27 11 19 Termination Blocks and Patch Panels

1.3 SUBMITTALS

- A. The following submittals are due at the Pre-Construction Phase, in accordance with submittal requirements in Section 27 00 00 Communications:
 - 1. Product Information
 - a) Provide manufacturer's product information cutsheet or specifications sheet with the specific product number identified or filled out.
 - b) Provide spreadsheet (in Microsoft Excel format), indicated cable type, manufacturer, part model or series, and quantity of cables to be supplied to UT ITS.
 - 1) UT ITS will then indicate the desired lengths and percentage of desired lengths contractor is to supply.
- B. The following submittals are due **[one month]** before substantial completion:
 - 1. Deliver all patch cords and station cords to UT ITS.
- C. The following submittals are due Post-Construction, in accordance with the submittal requirements in Section 27 00 00 Communications:
 - 1. Record Drawings
 - a) Pre-construction submittals should match the products actually delivered to UT ITS. If not, provide UT ITS with updated information.

PART 2 – PRODUCTS

2.1 COPPER CROSS CONNECTS

- A. Provide cross-connect wires as indicated on the drawings and as required to form a complete and functional telecommunications system.
 - 1. Manufacturer shall be such that the advanced telecommunications system warranty will be met.

2.2 COPPER PATCH CORDS – VOICE AND DATA APPLICATIONS

- A. Cable shall be four, unshielded, twisted pair cables within a single jacket with factory-terminated RJ-45 modules on each end.
- B. Performance shall meet the performance of Category 5e of ANSI/TIA/EIA 568 Standard.
- C. Lengths and color shall vary. Assume:
 - 1. Provide (1) 6' yellow patch cord for each port in wireless access point patch panels.
 - 2. Remaining shall be blue and:
 - a) One-third are 3'
 - b) One-third are 7'
 - c) One-third are 10'
 - d) Total quantity should equal to 75% of ports in patch panels for typical work area outlets.
- D. Manufacturer shall be the same as copper connectivity manufacturer:
 - 1. Ortronics, OR-MC5E##-**, where ## equals length (in feet) and ** equals color code
 - 2. Panduit, UTPCH#Y**, where # equals length (in feet) and ** equals color code

2.3 COPPER PATCH CORDS – IP SECURITY CAMERA OUTLETS

- A. Cable shall be four, unshielded, twisted pair cables within a single jacket with factory-terminated RJ-45 modules on each end.
- B. Performance shall meet the performance of Category 6 of ANSI/TIA/EIA 568 Standard.
- C. Lengths and color shall vary. Assume:
 - 1. Provide (1) 6' green patch cord for every IP Security Camera Outlet.
- D. Manufacturer shall be the same as copper connectivity manufacturer:
 - 1. Ortronics
 - 2. Panduit

2.4 COPPER STATION CORDS – TYPICAL WORK-AREA OUTLET

- A. Cable shall be four, unshielded, twisted pair cables within a single jacket with factory-terminated RJ-45 modules on each end.
- B. Performance shall meet the performance of Category 5e of ANSI/TIA/EIA 568 Standard.
- C. Lengths and color shall vary. Assume:
 - 1. Provide (1) 30' yellow, plenum-rated patch cord for each wireless access point work area outlet.

2. Remaining shall be off-white (color) and 10'.
 - a) Total quantity should equal to 75% of ports in work area outlets.

D. Manufacturer shall be the same as copper connectivity manufacturer:

1. Ortronics, OR-MC5E##-**, where ## equals length (in feet) and ** equals color code
2. Panduit, UTPCH#Y**, where # equals length (in feet) and ** equals color code

2.5 COPPER STATION CORDS – IP SECURITY CAMERA OUTLETS

- A. Cable shall be four, unshielded, twisted pair cables within a single jacket with factory-terminated RJ-45 modules on each end.
- B. Performance shall meet the performance of Category 6 of ANSI/TIA/EIA 568 Standard.
- C. Lengths and color shall be:

1. Provide (1) 1' green station cord for each IP Security Camera Outlet.

D. Manufacturer shall be the same as copper connectivity manufacturer:

1. Ortronics
2. Panduit

2.6 FIBER OPTIC PATCH CORDS

A. Singlemode

1. Cable shall be singlemode
2. Connector shall be LC/APC
3. Minimum bend radius shall be 7.5mm
4. Insertion Loss maximum shall be 0.2dB
5. Humidity range shall be 5 to 95% relative humidity
6. Length shall be **[5'] [10'] [coordinated with UT ITS prior to ordering]**
7. Manufacturer shall be:
 - a) Same as connectivity manufacturer

B. Multimode

1. Cable shall be 50 micron multimode
2. Connector shall be LC/UPC
3. Minimum bend radius shall be 7.5mm
4. Insertion Loss maximum shall be 0.2dB
5. Humidity range shall be 5 to 95% relative humidity
6. Length shall be **[5'] [10'] [coordinated with UT ITS prior to ordering]**
7. Manufacturer shall be:
 - a) Same as connectivity manufacturer

PART 3 - EXECUTION

3.1 ELEVATOR PHONE AND DATA OUTLETS

- A. For each elevator car, provide (1) Cat 5e 10' station cord (RJ-45 to RJ-45) and (1) Cat 5e 10' station cord (RJ-11 to RJ-11). Test station cords, and hand over to Elevator Contractor. It is acceptable for RJ-11 patch cable to be assembled in the field.

END OF SECTION