

University of Houston Master Specification

<Insert Project Name>

<Insert U of H Proj #>

<Insert Issue Name>

<Insert Issue Date>

SECTION 27 1619 – PATCH CORDS, STATION CORDS AND CROSS-CONNECT CABLES

Maintain Section format, including the UH master spec designation and version date in bold in the center columns of the header and footer. Complete the header and footer with Project information.

Verify that Section titles referenced in this Section are correct for this Project's Specifications; Section titles may have changed.

Delete hidden text after this Section has been edited for the Project.

Designer is required to adhere to the University's "Network Infrastructure Design Standards," "UH System IT Facilities: Baseline Standards," and "Electronic Access Control Design Guide" available in Owner's Design Guidelines on the University Information Technology and Facilities Planning and Construction web sites.

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and General Provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification sections, apply to work of this Section.
- B. The Contractor's attention is specifically directed, but not limited, to the following documents for additional requirements:
 - 1. The current version of the *Uniform General Conditions for Construction Contracts*, State of Texas available on the web site of the Texas Facilities Commission.
 - 2. The University of Houston's Supplemental General Conditions and Special Conditions for Construction.

1.2 SUMMARY

- A. Section includes:
 - 1. Coordination with other trades and parts of the Contract.
 - 2. Submittals.
 - 3. Quality Assurance.
 - 4. Parts and Manufacturers.
 - 5. Installation and Testing.
- B. This Section covers the cables used to provide connections to horizontal cables that transport signal between network distribution equipment and between such equipment and end-user hardware.

<Insert A/E Name>

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1.3 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

- A. Follow the Submittal Administrative Requirements as stated in Section 01 3300 "Submittal Procedures." Use electronic format only.

1.4 ACTION SUBMITTALS

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

1.5 INFORMATIONAL SUBMITTALS – Not Used

PART 2 - PRODUCTS

2.1 PARTS AND MANUFACTURERS

- A. Refer to Section 01 2500 "Substitution Procedures" for variations from approved manufacturers or parts. Obtain written approval for substitutions from both the Owner's Project Manager and the UIT Project Manager.

- B. Copper Cables

- 1. Panduit

- a. 3-foot UTPSP3
 - b. 5-foot UTPSP5
 - c. 7-foot UTPSP7
 - d. 10-foot UTPSP10
 - e. 14-foot UTPSP14
 - f. 20-foot UTPSP20
 - g. Colors: Above part numbers are off white. Append the following to part numbers to designate color.
 - 1) BL = Black
 - 2) BU = Blue
 - 3) RD = Red
 - 4) YL = Yellow
 - 5) VL = Violet
 - 6) OR = Orange

- 2. CommScope

- a. 3-foot UC1BBB2-xx-003
 - b. 5-foot UC1BBB2-xx-005
 - c. 7-foot UC1BBB2-xx-007
 - d. 10-foot UC1BBB2-xx-010
 - e. 14-foot UC1BBB2-xx-015
 - f. 20-foot UC1BBB2-xx-020

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g. xx = Color Designation. Replace xx in part numbers to designate color as follows:

- 1) 01 = Black
- 2) 0Z = Blue
- 3) 07 = Red
- 4) 09 = Yellow
- 5) 0L = Violet
- 6) 06 = Orange

C. Fiber Optic Cables

1. CommScope or Corning

- a. Single-mode: Fiber Optic Patch Cords with LC connectors – yellow
- b. Multi-mode: Fiber Optic Patch Cords with ST connectors – orange

PART 3 - EXECUTION

3.1 GENERAL INSTALLATION

- A. Cooperate and coordinate with Owner's Voice and Data Communications Equipment providers as required to ensure proper integration and connectivity between systems.
- B. Furnish and install all patch cords in conjunction with Owner's Voice and Data Communications Equipment providers.
- C. Provide adequate technician support when Owner's Voice and Data Communications Equipment providers are planning and installing new voice and data equipment installation and connectivity.
- D. Field terminated patch cables are not permitted.
- E. Label copper and fiber optic patch cables as described in Section 27 0553 "Identification for Communications Systems."

3.2 COPPER CABLE

- A. Furnish and install two copper patch cables for each horizontal cable installed, with Category matching that of the horizontal cable. Confirm the length(s) with the UIT Project Manager before ordering.
- B. Protect the minimum bend radius of 4 times the cable diameter on all copper patch cables.
- C. Assure that, at minimum, every horizontal cabling permanent link in the installation meets or exceeds performance characteristics of the field test specifications defined in ANSI/TIA-568.2-D *Balanced Twisted-Pair Telecommunications Cabling and Components Standard*.

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D. Copper Patch Cable Color:

1. Blue General purpose, office or lab connection
2. Yellow Wireless access point connection
3. Violet Security camera, Security device, door lock or Code Blue phone
4. Green EMECS system connection
5. White AV

- E. Connect all wireless (WAP) jacks to a gigabit port with Power over Ethernet (802.at) on a dedicated HPE switch for wireless devices.

3.3 FIBER OPTIC CABLE

- A. Provide one duplex LC Fiber optic patch cable for every fiber optic strand terminated (that is, two patch cables for each fiber pair — one for each end of the connection).
- B. Patch cables to be of like type and connector to the terminated fiber optic cable type.
- C. Determine length during installation and record length in Close-out Documents. Make the cable length adequate to reach Owner-provided electronic equipment mounted in lower section of relay rack.
- D. Fiber Optic Patch Cable Color:
1. Yellow: Single-mode
 2. Orange: Multi-mode.

3.4 CONSTRUCTION PROGRESS DOCUMENTATION

- A. Job Site Prints: Maintain a full-size set of clearly marked prints of the Drawings at the job site to record the work details, final size, location, interrelation, and similar items of all work under this Division. Show installation progress and outlet labels.
1. Correct this set of Drawings daily as the Work progresses and indicate all changes to suit field conditions, changes made by "Field Order" or "Change Order," and any deviations from the work shown on the Construction Documents that are required for coordination.
 2. Ensure that updated drawings are available for examination during construction meetings and field inspections.

3.5 CLOSE-OUT DOCUMENTS

A. As-Built Drawings:

1. Provide As-Built Drawings in .dwg, .rvt and .pdf formats showing locations of cables and connections including length of cable required to reach Owner-provided electronic equipment.
2. Submit As-Built Drawings within five business days of final cable testing.

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