

27 10 00 – Infrastructure Cabling

DIVISION 27 - Communications



- Revision history of section:
 - 03/04/2019 (date of adoption)
 - 02/06/2024

STATEMENT OF PURPOSE & BACKGROUND

- Scope:
 - Provide Category 6A station cabling system exceeding ANSI/TIA-568.
 - Provide OM4 fiber optic backbone cabling system meeting or exceeding ANSI/TIA-568.
 - Provide Category 5E copper backbone cabling system meeting or exceeding ANSI/TIA-568.
 - Pathways and spaces shall meet or exceed ANSI/TIA-569 unless authorized by SPPS Project Manager (PM) and Technology Services (TS) Department.
 - Grounding shall meet or exceed ANSI/TIA-607 and NEC.
 - Labeling shall meet or exceed ANSI/TIA-606.
 - Equivalent manufacturers must be approved in writing by SPPS PM and in accordance with the provisions of the Contract.
 - All Telecommunications outlets shall be installed in dedicated 2-gang extra deep boxes with pathway sized as specified in TIA/EIA-569 or 1", whichever is greater.

OUTLINE SPECIFICATION

- Part 1 General
 - Cabling shall be plenum-rated.
- Part 2 Products
 - Copper Backbone: Cat5E, 25 pair to each TR.
 - Berk-Tek
 - General Cable
 - Hitachi
 - Fiber Backbone: 24 strand, OM4
 - Corning
 - General Cable
 - Hitachi
 - Fiber Connectors: LC
 - Corning
 - Panduit

- Fiber Patch Panel:
 - Panduit FMD2
- Horizontal Copper: Category 6A, not minimally compliant. Color: White
 - Berk-Tek LM-RDT
 - General GenSpeed 10MTP Gen5
 - Superior Essex 10Gain XP+
- Patch Cords: Category 6A, not minimally compliant. All ports patched. Length-1 foot, plus 15 each of 3, 7 and 10 foot per TR.
 - Panduit UTP6A(xx)(yy)
 - Coordinate colors with Owner, AP-Blue, Fire Alarm-Red, Camera-Black, AV-Orange, BAS/Card Access/Security-Green, White for the remaining
- Workstation Cords: Category 6A, not minimally compliant. 1 per data jack, equal quantities of 7, 10 and 15 foot.
 - Panduit UTP6A(xx)(yy)
 - Coordinate colors with Owner, AP-Blue, Fire Alarm-Red, Camera-Black, AV-Orange, BAS/Card Access/Security-Green, White for the remaining
- Telecommunications outlets: Category 6A, not minimally compliant. All cables shall be terminated with jacks. Plugs are not acceptable. Coordinate color.
 - Panduit CJ6X88TGIW
 - Panduit CBEIW-2GY with Two (2) CHS2IW-X and Two (2) CHB2IW-X; Faceplate
 - Panduit CMBIW-X; Blank
 - Panduit CFFPA2; Modular furniture mounting frame
 - Panduit KWPK6; Wall phone outlet
 - Panduit CBXQ2IW-A; Surface Mount Box
 - Panduit CF1064IWY; 106-type frame. NOT be used except by special written authorization
- Patch Panels: Category 6A.
 - Panduit CPP48FMVNSWBLY with 48 CJ6X88TGBL jacks and CPP24FMWBLY with 24 CJ6X88TGBL jacks.
 - Include SRB19D5BL Strain relief bars as required.
- Equipment Rack system:
 - Panduit R4P; 4 post rack, 1 in Main TR
 - Panduit R2P; 2 post rack, as needed
 - Panduit PR2VD06; vertical management
 - Leviton 5500-190; Rackmount power strip
 - Chatsworth 10610-019 or Hoffman DG19; Ground rail
 - Panduit SRM19FM2; Shelf

- Ladder Rack: size as required, 12" minimum.
 - Chatsworth 10250-712
 - Hoffman LSS12BLK
- Analog Wall Phone (Red Phone):
 - Cortelco 255447VBA20M
- Wireless Access Point Wall Bracket:
 - Oberon 1011-00
- Part 3 Execution
 - Comply with TIA-568, -569, -606 and -607.
 - Where raceway is not furnished, provide J-hooks to support all cabling. J-hooks shall be no less than one inch wide.
 - Typical Office and workstation should contain at least two (2) Data.
 - Typical Classroom should contain at least eight (8) Data: two (2) at Teaching Desk, two (2) at AV Control System, two (2) at opposite corner from Teacher Desk and two (2) at Wireless Access Point.
 - A minimum of two Red analog wall phones are to be included in project: one in the Main Office and one in the Engineer's office. Coordinate placement with SPPS PM. SPPS PM may identify additional locations if needed.
 - No Patch Panel may contain cables from more than one floor. Should it be necessary to feed more than one floor from any TR, a separation of a minimum of 7 rack spaces is required between patch panels. TS approval is required for feeding more than one floor from any TR.
 - Provide WAP wall mount bracket for WAP's in areas where there is not ACT or where ceiling is higher than 10'.
 - Label WAP with last six digits of MAC Address.

End of Section