

SECTION 27-05-53 IDENTIFICATION FOR COMMUNICATIONS SYSTEMS

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. Labeling systems and accessories.

1.02 QUALITY ASSURANCE

- A. Refer to Section 27-00-00 for general details.

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.
- B. The Cal Poly ITS Telecomm, Telecommunications Standards Document and the Labeling, Design & Syntax Standards in Appendix B.

1.04 SUBMITTALS

- A. Refer to Section 27-00-00 for general details.
- B. Shop Drawings:
1. Submit “nomenclature” plan/drawings for acceptance by the Cal Poly ITS Telecomm group prior to labeling the insides of outdoor pull boxes, pull holes, vaults/manholes and EF/ER/TR backboards.
 2. Prepare nomenclature for the purpose of providing conduit destination information in every pull box, pull hole and vault/manhole that is to be stenciled on the wall above each conduit penetration. Encircle on the wall in black ink groups of conduits going to the same destination.
 3. In areas where stenciling is not possible, epoxy a Cal Poly ITS Telecomm group approved engraved “sign” with the appropriate nomenclature above the conduit penetrations.
- C. Submit Manufacturer’s Cut Sheets for the following:
1. Manufacturers’ cut sheets for all labeling PRODUCTS shall be submitted to and approved by the Cal Poly ITS Telecomm group.

1.05 IDENTIFICATION

- A. All elements (facilities, underground elements, conduits, cables, ground wires, racks, faceplates, jacks, circuits, boxes, etc.) of the telecommunications system are to be labeled.
- B. See PRODUCTS section for specific details.
- C. NOTE: The cable identification or name of fiber optic cables does not describe the cable, it only identifies or names the cable. To determine specific strand counts and cable types for each project contact the Cal Poly ITS Telecomm group. After all the required cable testing is performed and the results have been reviewed and approved, the Cal Poly ITS Telecomm group shall install patch cables and connect all equipment and nodes to the active fiber network.

1.06 DEFINITIONS

- A. Room Number – If the location is an EF/ER/TR, the room number will be provided by others. Typically, Facilities Services, Planning and Capital Projects in concert with the Project Architect will establish a room numbering plan for the project. In remodel situations, if the location is an end user space, use its room number.
- B. Underground Facility – Manholes, Hand Holes, Pull Holes and Entrance Vaults.
- C. For more detailed information see the Cal Poly ITS Telecomm group Labeling, Design & Syntax Standards in Appendix B.

1.07 WARRANTY

- A. 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.
- B. For proper labeling information and criteria, see the Cal Poly I.T.S. Telecomm Labeling, Design & Syntax Standards in Appendix B.

2.02 Cable Labels

- A. All labels shall be machine generated. Hand written labels are not acceptable. (See Fig. #102 in Appendix B)
- B. Labels shall be made of durable material typically used to create permanent labels (1" white nylon with black lettering).
- C. Acceptable Manufacturers: DYMO, 3M or Cal Poly ITS Telecomm group approved equal.

2.03 LABELS FOR STATION CABLES

- A. 1" white nylon with black lettering.
- B. Acceptable Manufacturers: DYMO, 3M or Cal Poly ITS Telecomm group approved equal.

2.04 FACEPLATE LABELS FOR OUTLETS

- A. See the Cal Poly ITS Telecomm Labeling, Design & Syntax Standards in Appendix B.
- B. Acceptable Manufacturers: DYMO, 3M

2.05 LABELS FOR INDOOR RACKS, CABINETS AND PANELS

- A. ½ "white polyester or nylon with black lettering (See Fig. #103 – 107 in Appendix B)
- B. See the Cal Poly ITS Telecomm Labeling, Design & Syntax Standards in Appendix B.
- C. Acceptable Manufacturers: DYMO, 3M or Cal Poly ITS Telecomm group approved equal.

2.06 LABEL PLATE FOR OUTDOOR CABINETS

- A. Anodized aluminum name plate engraved with "COMMUNICATIONS".
- B. See the Cal Poly ITS Telecomm Labeling, Design & Syntax Standards in Appendix B.
- C. Provide Submittal for acceptance by the Cal Poly ITS Telecomm group.

PART 3 – EXECUTION

3.01 GENERAL

- A. Conduits
 - 1. Intrabuilding Conduits (1" white label with black lettering)
 - a. Line 1: Room Number and TR ID for each end of the conduit.
 - b. Line 2: Number of this conduit related to conduits with the same two endpoints.
 - c. Label both ends of a conduit with identical tags.
 - d. See the Cal Poly I.T.S. Telecomm Labeling, Design & Syntax Standards in Appendix B.
 - 2. Interbuilding Conduits (1" white labels with black lettering)
 - a. Line 1: Label with designation for the far end, Building Number and Room Number, or appropriate designation for an Underground Facility.

- b. Line 2: Number of this conduit related to conduits with the same endpoints. Underground conduits shall be labeled as on the butterfly drawings.
- c. Label both ends of a conduit with identical tags.
- d. See the Cal Poly I.T.S. Telecomm Labeling, Design & Syntax Standards in Appendix B.

B. Copper Cables

1. Intrabuilding Backbone Copper Cables (1" white labels with black lettering)
 - a. Line 1: Room Number or TR ID for each end of the cable (example: "B180-105/B180-114-1).
 - b. Line 2: Number of pairs in relation to the total between the same two endpoints Example: "PRS 1-100" or "PRS 301-400")
 - c. Label both ends of a cable with identical labels.
 - d. See the Cal Poly ITS Telecomm Labeling Design & Syntax Standards in Appendix B.
2. Interbuilding Backbone Copper Cables (1" white labels with black lettering)
 - a. Line 1: Building and Room Number for each end of the cable.
(Example: "B180-106/B180-532")
 - b. Line 2: Number of pairs in relation to the total between the same two endpoints.
 - c. Label both ends of a cable with identical labels.
 - d. See the Cal Poly I.T.S. Telecomm Labeling, Design & Syntax Standards in Appendix B.
3. Copper Station Cable / Faceplate ID
 - a. Faceplate upper label designation:
 - (1) First number is the room the faceplate is serving.
 - (2) Second number is the designation for any specific faceplate in a room.
 - (3) Faceplate port label designation: (for the campus standard 4 port faceplate) (See Fig. #108 & 109 in Appendix B)
 - Upper left port: "W"
 - Upper right port: "X"
 - Lower left port: "Y"
 - Lower right port: "Z"
 - b. Faceplate lower label designation:

- (1) First word is "To:" (See Fig. #108 in appendix B)
- (2) Following number is the Room Number of the ER/TR serving that faceplate.
- c. Examples:
 - (1) Upper label: 241-A-3 (Apartment #, Bedroom #, Faceplate #) (See Fig. #108 in Appendix B)
 - (2) 4 Port designations: W X
 Y Z
 - (3) Lower label: To: 205 (Telecomm Room Number serving this faceplate)
- d. Label both ends of a cable with identical tags.
- e. See the Cal Poly I.T.S. Telecomm Labeling, Design & Syntax Standards in Appendix B.
4. Copper Station Cables (1" white labels with black lettering)
 - a. Line 1: Cable designation: Room Number - Faceplate Number & Port designation
Example: "241-3W" or "241-3X" or "241-3Y" or "241-3Z" (See Fig. #107 in Appendix B)
 - b. Label both ends of a cable with identical labels.
 - c. See the Cal Poly I.T.S. Telecomm Labeling, Design & Syntax Standards in Appendix B.
- C. Fiber Optic Cables
 1. Intrabuilding Fiber Optic Backbone Cables (1" white labels with black lettering)
 - a. Multimode Fiber: FMB002-004/B002-192-1 (Fiber Multimode, from Building 002 - Room 004 / to Building 002 - Room 192 -Cable Number 1)
 - b. Single Mode Fiber: FSB002-004/B002-192-1 (Fiber - Single Mode, from Building 002 - Room 004 / to Building 002 - Room 192 - cable 1)
 - c. Label both ends of a conduit with identical labels.
 - d. See the Cal Poly I.T.S. Telecomm Labeling, Design & Syntax Standards in Appendix B.
 2. Interbuilding Fiber Optic Backbone Cables (1" white labels with black lettering)
 - a. Multimode Fiber: FMB013-105/B011-101-1 (Fiber Multimode, from Building 013 -Room 105 / to Building 011 - Room 101, cable 1)
 - b. Single Mode Fiber: FSB013-105/B011-101-1 (Fiber - Single Mode, from Building 013 -Room 105 / to building 011 - Room101, cable 1)
 - c. Label both ends of a cable with identical labels.

- d. See the Cal Poly I.T.S. Telecomm Labeling, Design & Syntax Standards in Appendix B.
- D. Grounding & Bonding
1. Interbuilding Grounding/Bonding Conductors (1" white labels with black lettering)
 - a. First part of line 1: Ground Type (See Definitions).
 - b. Second part of line 1: Room Number or TR ID for each end of the conductor.
 - c. Label both ends of a conductor with identical labels.
 - d. See the Cal Poly I.T.S. Telecomm Labeling, Design & Syntax Standards in Appendix B.
 2. Interbuilding Grounding/Bonding Conductors (1" white labels with black lettering)
 - a. First part of line 1: Ground Type (See Definitions).
 - b. Second part of line 1: Building Number (the lower of the two endpoint Building Numbers).
 - c. Third part of line 1: Building Number (the higher of the two endpoint Building Numbers).
 - d. Label both ends of a conductor with identical labels.
 - e. See the Cal Poly I.T.S. Telecomm Labeling, Design & Syntax Standards in Appendix B.
- E. Wall-field
1. All Wall-field labeling shall be created using machine generated stencils that have been approved in advance by the Cal Poly ITS Telecomm group representative. The labels shall be painted on the backboard in the correct locations and shall be black in color. (See Fig. #101 in Appendix B)
 2. For examples see the Cal Poly ITS Labeling, Design & Syntax Standards in Appendix B.
- F. Patch Panels
1. Label panel with correct panel ID number. (See Fig. #104 & 105 in Appendix B)
 2. Label each jack with appropriate cable ID number.
 3. See the Cal Poly I.T.S. Telecomm Labeling, Design & Syntax Standards in Appendix B.
- G. Racks
1. Label front of each rack (or ladder rack above) with designated Rack Number within that TR/ER. Rack Numbers start against the wall with Rack number1 and increments as racks are added. (Using ½ inch polyester, machine generated label with black ink) (See Fig. #105 in Appendix B)
 2. See the Cal Poly I.T.S. Telecomm Labeling, Design & Syntax Standards in Appendix B.

H. Cabinets

1. Label with "COMMUNICATIONS" (using ½ inch polyester, machine generated label with black ink)
2. See the Cal Poly I.T.S. Telecomm Labeling, Design & Syntax Standards in Appendix B.

3.02 QUANTITIES

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

3.03 INSTALLATION

- A. Installation of all identification type products shall be as detailed in this section, as shown in the Cal Poly ITS Telecomm group Labeling, Design and Syntax Standards in Appendix B, and as per the manufacturer's printed information. All engraved labels shall be attached mechanically (adhesives may be used in addition) using hardware appropriate for maintaining long-term attachment.

3.04 GROUNDING & BONDING

- A. N/A

3.05 TESTING

- A. N/A

3.06 ACCEPTANCE

- A. Once the installation has been completed and the Cal Poly ITS Telecomm group representative is satisfied that all work is in accordance with the Contract Documents, the ITS Telecomm group representative will notify the Contractor and/or the Cal Poly Project Manager in writing or by email.

3.07 RECORD (AS-BUILT) DRAWINGS

- A. None Required

END OF SECTION

DOCUMENT VERSION CONTROL

REVISION	DATE	AUTHOR	REASON
1	02/20/2014	R. VOLK	INITIAL DOCUMENT DEVELOPMENT
	02/20/2014	DW & MH	PRIMARY REVIEW COMPLETE