

SECTION 27-05-39 SURFACE RACEWAYS 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. Surface Raceways and accessories
- B. Surface Raceways shall only to be used in facility remodels if deemed necessary and shall not to be used for new building/residential construction without the specific approval of the Cal Poly ITS Telecomm group. Surface Raceway may be specified for use in certain computer labs or office areas if the need is justified and the specific use is preapproved.

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. UL 5 - Surface Metal Raceways and Fittings.
- C. UL 514A - Metallic Outlet Boxes.
- D. UL 514C - Nonmetallic Outlet Boxes, Flush-Device Boxes, and Covers.
- E. Cal Poly ITS Telecomm group, Telecommunications Standards Document and the Labeling, Design and Syntax Standards in Appendix B.

1.04 SUBMITTALS

- A. Refer to Section 27-00-00 for general details.
- B. Shop Drawings:
 - 1. Coordinated conduit layout drawings, 1/8 inch scale, minimum. Show routing of all surface raceways.
- C. Submit Manufacturer's Cut Sheets for the following:
 - 1. Any products not specifically listed in the PRODUCTS section shall require submittal and approval of the proposed manufacturer's cut sheets by the Cal Poly ITS Telecomm group.

1.05 IDENTIFICATION

- A. In accordance with the Cal Poly I.T.S. Telecomm group Labeling, Design and Syntax Standards in Appendix B.

1.06 DEFINITIONS

- A. N/A

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.

2.02 SURFACE RACEWAY

- A. Size according to Execution section.
- B. Approved Manufacturer: Legrand/Wiremold (*See Fig. #157 in Appendix B*) or Cal Poly ITS Telecomm group approved equal.

PART 3 – EXECUTION

3.01 GENERAL

- A. Use metal raceway whenever possible.
- B. All transitions in either the horizontal or vertical plane shall be fiber rated radiused fittings.
- C. Transitions shall have the same carrying capacity as the elements they connect.
- D. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
- E. Install all components necessary to make a complete, code-compliant, specification-compliant installation.
- F. All components used shall be employed in the manner intended by the manufacturer.
- G. Sections of surface raceway less than 7' in length shall be a single piece of raceway.
- H. Raceway Sizing (For undivided raceways): (Legrand/Wiremold Series for sizing)

# of Cat5e Cables	# of Cat6 Cables	# of Cat6A Cables	Surface Conduit
3	2	1	2800 or equal
1	7	3	2900 or equal
83	58	29	4000 or equal
47	33	16	5500 or equal

3.02 QUANTITIES

- A. Quantities of raceway elements shown on the drawings are illustrative only and are 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 all relevant codes.

3.03 INSTALLATION

- A. Follow all manufacturers' written instructions.
- B. ***Wall-mounted raceway shall be installed with adequate volume behind the jacks to allow required bend radii as well as sufficient cable pathway.***

3.04 GROUNDING & BONDING

- A. All metal surface raceways shall be properly bonded and grounded.
- B. Refer to Section 27-05-26 for additional details.

3.05 TESTING

- A. None Required

3.06 ACCEPTANCE

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

3.07 RECORD (AS-BUILT) DRAWINGS

- A. Show type and indicate all surface mounted conduit on project Drawings.

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