

Section 27 11 00

COMMUNICATION EQUIPMENT ROOM FITTINGS

Section 27 11 23

Communications **Cable Management** and Ladder Rack

**PART 1 – GENERAL**

1.1 WORK INCLUDED

- A. Provide all labor, materials, and equipment for the complete installation of work called for in the Contract Documents.

1.2 SCOPE OF WORK

- A. This section includes the minimum requirements for the equipment and cable installations in communications equipment rooms (Telecommunications Closets).
- B. Included in this section are the minimum composition requirements and installation methods for the following:
  - 1. **Cable Management**

1.3 QUALITY ASSURANCE

- A. All cable and equipment shall be installed in a neat and workmanlike manner. All methods of construction that are not specifically described or indicated in the contract documents shall be subject to the control and approval of the Owner or Owner Representative. Equipment and materials shall be of the quality and manufacture indicated. The equipment specified is based upon the acceptable manufacturers listed. Where “approved equal” is stated, equipment shall be equivalent in every way to that of the equipment specified and subject to approval.
- B. Strictly adhere to all Building Industry Consulting Service International (BICSI), Electronic Industries Alliance (EIA) and Telecommunications Industry Association (TIA) recommended installation practices when installing communications/data cabling.
- C. Material and work specified herein shall comply with the applicable requirements of:
  - 1. ANSI/TIA/EIA – 568-B *Commercial Building Telecommunications Cabling Standard*, 2000-2004
  - 2. TIA – 569-B *Commercial Building Standard for Telecommunications Pathways and Spaces*, 2004
  - 3. ANSI/TIA/EIA – 606-A *Administration Standard for the Telecommunications Infrastructure of Commercial Buildings*, 2002
  - 4. ANSI-J-STD – 607-A *Joint Standard for Commercial Building Grounding (Earthing) and Bonding Requirements for Telecommunications*, 2002

5. NFPA 70 – *National Electric Code*, 2005
6. BICSI – *Telecommunications Distribution Methods Manual*, 10<sup>th</sup> Edition, 2003
7. ANSI/NECA/BICSI 568-2001 – *Standard for Installing Commercial Building Telecommunications Cabling*

#### 1.4 SUBMITTALS

- A. Provide product data for the following:
  1. Manufacturers data/cut sheets, specifications and installation instructions for all products (submit with bid).

### **PART 2 – PRODUCTS**

#### 2.1 CABLE MANAGEMENT

- A. Vertical Cable Management for Racks/Frames (MCS Master Cabling Section)
  1. Every rack/frame will have a minimum of one vertical cable manager. The vertical cable manager will create a space for storing and organizing cables along the side of the rack/frame. The cable manager will maintain separation between patch/equipment/jumper cords and premise cables.
  2. The cable manager will be sized to match cabling requirements. The initial quantity of cables within the cable manager will not exceed a whole number value equal to 40% of the interior area of the cable manager.
  3. A single vertical cable manager can be used in between bayed racks/frames if it is sized to match cable requirements for both racks/frames. The manufacturer will state estimated cable fills for the cable manager in the product data sheet.
  4. The vertical cable manager will match the height of the rack(s)/frame(s).
  5. The vertical cable manager will bolt to the side of racks/frames with included hardware. The manufacturer of the vertical cable manager will sell compatible racks/frames.
  6. The vertical cable manager will be a single-sided C-shaped trough with a cover or a double-sided H-shaped trough with covers. The single-sided trough will provide a single pathway. The double-sided trough will provide independent front and rear cable pathways and will have multiple evenly-spaced edge-protected front-to-rear cable pass-through holes for cables in the center divider.
  7. The cover will be removable, hinged to open from the right or left side and will include a latch that will secure the cover in the closed position.

8. The vertical cable manager will have cable openings along both sides of the trough. The openings will be formed by evenly-spaced T-shaped cable guides. The T-shaped cable guides will be made from a composite plastic material (not metal) and will have rounded edges to protect cables. When the cable manager is attached to a rack/frame, each cable opening will align with a rack-mount space (RMU) on the rack/frame. Each opening will pass a minimum of 24 each .25" OD patch cords.
9. The cable manager will be delivered individually boxed, and available in several widths as specified below and in the contract documents.
10. The vertical cable manager shall be manufactured from sheet aluminum and composite materials.
11. Finish shall be clear grained aluminum or epoxy-polyester hybrid powder coat paint in the color as specified below and in the contract documents. Edge-protectors, T-shaped cable guides and latch hardware is black.

12. Design Make:  
Chatsworth Products, Inc. (CPI),  
MCS Master Cabling Section:

Part Number 30091-500, MCS Master Cabling Section, Single-Sided, 4.4" Wide x 66" High x 8.1" Deep, Clear.

Part Number 30091-501, MCS Master Cabling Section, Single-Sided, 4.4" Wide x 72" High x 8.1" Deep, Clear.

Part Number 30091-502, MCS Master Cabling Section, Single-Sided, 4.4" Wide x 78" High x 8.1" Deep, Clear.

Part Number 30091-503, MCS Master Cabling Section, Single-Sided, 4.4" Wide x 84" High x 8.1" Deep, Clear.

Part Number 30091-505, MCS Master Cabling Section, Single-Sided, 4.4" Wide x 90" High x 8.1" Deep, Clear.

Part Number 30091-515, MCS Master Cabling Section, Single-Sided, 4.4" Wide x 96" High x 8.1" Deep, Clear.

Part Number 30091-508, MCS Master Cabling Section, Single-Sided, 4.4" Wide x 108" High x 8.1" Deep, Clear.

Part Number 30091-700, MCS Master Cabling Section, Single-Sided, 4.4" Wide x 66" High x 8.1" Deep, Black.

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Part Number 30091-702, MCS Master Cabling Section, Single-Sided, 4.4" Wide x 78" High x 8.1" Deep, Black.

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Part Number 30091-715, MCS Master Cabling Section, Single-Sided, 4.4" Wide x 96" High x 8.1" Deep, Black.

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## **PART 3 – EXECUTION**

### **3.1 INSTALLATION**

#### **A. Vertical Cable Management**

1. Attach vertical cable managers to the side of the rack/frame using the manufacturer's installation instructions and included hardware.
2. When a single vertical cable manager is used in between two racks/frames, attach the vertical cable manager to both racks/frames.
3. When more than one cable manager is used on a rack/frame or group of racks/frames, use the same make, style and size of vertical cable manager on the rack/frame or in between racks/frames.
4. The color of the rack(s)/frame(s) and cable manager(s) must match.
5. Doors should be attached to the cable manager and in the closed position after cabling is complete.