

Section 27 11 00

COMMUNICATION EQUIPMENT ROOM FITTINGS

Section 27 11 16

Communications Cabinets, Racks, **Frames and Enclosures**

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:

Frames.

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:

ANSI/TIA/EIA – 568-B Commercial Building Telecommunications Cabling Standard, 2000-2004

TIA – 569-B Commercial Building Standard for Telecommunications Pathways and Spaces, 2004

ANSI/TIA/EIA – 606-A Administration Standard for the Telecommunications Infrastructure of Commercial Buildings, 2002

ANSI-J-STD – 607-A Joint Standard for Commercial Building Grounding (Earthing) and Bonding Requirements for Telecommunications, 2002

NFPA 70 – National Electric Code, 2005

BICSI – Telecommunications Distribution Methods Manual, 10th Edition, 2003

1.4 SUBMITTALS

A. Provide product data for the following:

1. Manufacturers cut sheets, specifications and installation instructions for all products (submit with bid).

PART 2 – PRODUCTS

2.1 EQUIPMENT FRAMES

A. Frames, Open, Four Post (QuadraRack™ Server Frame)

1. Frames shall be manufactured from aluminum and/or steel extrusion and sheet.
2. Each frame will have two L-shaped top angles, two L-shaped base angles, a top and bottom pan, a right and left horizontal support, and four C-shaped equipment-mounting channels (a front and rear pair). The rack will assemble with nut and bolt hardware. The base angles and bottom pan will be pre-punched for attachment to the floor. The top pan will be pre-punched for attaching ladder rack with J-bolts.
3. Equipment mounting channels will be 3" deep and punched on the front flange with the EIA-310-D Universal hole pattern to provide 45 rack-mount spaces for equipment. Each mounting space will be marked on the mounting channel.
4. When assembled with top and bottom pans and angles, equipment-mounting channels will be spaced to allow attachment of 19" EIA rack-mount equipment. Attachment points will be square punched to accept cage nut hardware. The frame manufacturer will sell compatible cage nut hardware with M6, #10-32, and #12-24 thread sets.
5. The assembled frame will measure 7' (84") high, 20.3" wide and 41" deep. There will be 29" between the front and rear mounting surfaces of the two pairs of mounting channels. The sides (webs) of the equipment-mounting channels will be punched to allow attachment of vertical cable managers along the sides of the frame or for frame-to-frame or frame-to-rack baying (frames must be able to bay with a 2-post relay rack).
6. The frame will be rated for 1,000 lb. of equipment.
7. Finish shall be epoxy-polyester hybrid powder coat in the color as specified below.
8. Design Make:
Chatsworth Products, Inc. (CPI),
QuadraRack™ Server Frame

Part Number 15053-103, QuadraRack™ Server Frame, 19" x 7', Gray.

Part Number 15053-203, QuadraRack™ Server Frame, 19" x 7', White.

Part Number 15053-703, QuadraRack™ Server Frame, 19" x 7', Black.

Part Number 12637-001, Cage Nuts & Screws, M6, 25 each, Gold over Zinc

Part Number 12638-001, Cage Nuts & Screws, #10-32, 25 each, Zinc

Part Number 12639-001, Cage Nuts & Screws, #12-24, 25 each, Black

Notes:

7' high frames have 45 RMU

PART 3 – EXECUTION

3.1 INSTALLATION

A. Frames, Open, Four-Post

1. Assemble frames according to manufacturer's instructions. Verify that equipment mounting rails are sized properly for rack-mount equipment before attaching the frame to the floor.
2. All frames must be attached to the floor in four places using appropriate floor mounting anchors. When placed over a raised floor, threaded rods should pass through the raised floor tile and be secured in the structural floor below. (Use CPI Part Number 40604-003 for concrete slab floors or 40607-001 wood floors. Raised floor support kits are also available.)
3. Frames shall be grounded to the TGB using appropriate hardware provided by the contractor. The ground will meet local code requirements and will be approved by the Authority Having Jurisdiction (AHJ).
4. In seismic areas, the frame should have additional bracing as required by building codes and the recommendations of a licensed structural engineer.
5. Ladder rack may be attached to the top of the frame to deliver cables to the frame. The frame should not be drilled to attach ladder rack. Use appropriate hardware from the ladder rack manufacturer.
6. The equipment load should be evenly distributed and uniform on the frame. Place large and heavy equipment towards the bottom of the frame. Secure all equipment to the frame with cage nuts and equipment mounting screws.