INFORMATION TECHNOLOGIES

SPECIFICATION STANDARD
Communication Cabinets, Racks, Frames, and Enclosures 27 11 16

PART 1: GENERAL

1.01 SCOPE OF WORK

A. The Design Team and/or Contractor are held responsible to be familiar with the provisions contained herein and with other Sections of this Specification as applicable to the completion of the installation. The approved vendor, designated agent, or designer is held responsible to be familiar with the provisions contained herein and is assumed to possess the knowledge, manpower, and material to the completion of the installation.

B. Work covered by this Section shall consist of furnishing labor, equipment, supplies, materials, and testing unless otherwise specified, and in performing the following operations recognized as necessary for the installation of the Information Technology Cabinets, Racks, Frames and Enclosures described on the Drawings and/or required by these specifications.

C. The extent of the Information Technology Cabinets, Racks, Frames, and Enclosures Installation (The Project) will be as shown in the project drawings or as specified.

1.02 RELATED SECTIONS

A. The project's architects, engineers, contractors, manufacturers, and designers are responsible to be knowledgeable about the provisions contained within the following and other related sections of these standards of the UNM IT department as they apply to the completion of the project's installation and design.

1. Division 26 Electrical.
2. Division 27 Communications.
3. Division 28 Electronic Safety and Security.

B. Design, manufacture, test, and install the project's data cabling systems following the UNM IT design guidelines and standards, industry standards, and manufacturer's requirements and following NFPA 70 (National Electric Code), state codes, local codes, requirements of authorities having jurisdiction, and particularly the most recent editions of the following standards and specifications.

1. UNM IT Design Guidelines and Standards
2. National Fire Protection Association
3. National Electrical Code
4. National Electrical Safety Code
5. This Technical Specification and Associated Drawings

6. ANSI/TIA-568-C.0, Generic Telecommunications Cabling for Customer Premises, and its published addenda.
7. ANSI/TIA-568-C.1, Commercial Building Telecommunications Cabling Standard, and its published addenda.
8. ANSI/TIA-568-C.2, Copper Cabling Components Standard, and its published addenda.
9. ANSI/TIA-568-C.3, Optical Fiber Cabling Components Standard, and its published addenda.
10. ANSI/TIA/EIA-569-B, Commercial Building Standard for Telecommunications Pathways and Spaces, and its published addenda
11. ANSI/TIA/EIA-606-A, Administration Standard for the Telecommunications Infrastructure of Commercial Buildings, and its published addenda
12. ANSI/J-STD-607-A, Commercial Building Grounding (Earthing) and Bonding Requirements for Telecommunications, and its published addenda.
13. Building Industries Consulting Services International (BICSI) Telecommunications Distribution Methods Manual (TDMM)
14. ANSI/TIA-942, Telecommunications Infrastructure Standard for Data Centers, and its published addenda
15. Product manufacturer's published specifications and instructions.
16. BICSI TDMM and associated standards.

PART 2: PRODUCTS

2.01 PRODUCTS EQUIPMENT FRAMES

A. Approved four-post equipment racks (frames) are:

1. Chatsworth Adjustable Quadra Rack™, 4-Post Frame for data equipment black unless otherwise specified.
2. Frames shall be manufactured from aluminum and/or steel extrusion.
3. Each frame will have two L-shaped top angles, two L-shaped base angles, a top and bottom pan, 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 the ladder rack with J-bolts.
4. Frames shall be manufactured from aluminum and/or steel extrusion and sheet.
5. Each frame will have two L-shaped top angles, two L-shaped base angles, a top and bottom pan, 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 the ladder rack with J-bolts.

6. Equipment mounting channels will be 3” deep and punched on the front and rear flange with the EIA-310-D Universal hole pattern to provide 45 rackmount spaces for equipment. Each mounting space will be marked and numbered on the mounting channel.
7. 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 threaded with 12-24 roll-formed threads. The frame will include assembly and equipment-mounting hardware. Frames will include 100 each combination pan head, pilot point, and mounting screws.
8. The assembled frame will measure 19”w X 29” D X 7’. 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). Special Part number TS1051925 includes 4 post racks, a Horizontal Ground bar, and Rack Isolation Kit. Black is the standard color, but other colors may be requested.
9. The frame will be rated for 2,000 lb. of equipment.
10. The finish is standard Black, but other finishes could be requested as needed.

B. Approved two post equipment racks (frames) are:

1. Chatsworth Universal Rack™, free-standing, 2-post rack, 19” inch x 7 feet high black when specified by UNM IT.
2. Install 2 post free-standing racks when specified and approved by UNM IT.
3. Racks shall be manufactured from aluminum and/or steel extrusions.
4. Each rack will have two L-shaped top angles, two L-shaped base angles, and two C-shaped equipment-mounting channels. The rack will assemble with bolt hardware. Equipment-mounting channels will be threaded for easy assembly. The base angles will be pre-punched for attachment to the floor.
5. Equipment mounting channels will be 3” deep and punched on the front and rear flange with the EIA-310-D Universal hole pattern to provide 45 rackmount spaces for equipment. Each mounting space will be marked and numbered on the mounting channel.
6. When assembled with top and bottom angles, equipment-mounting channels will be spaced to allow attachment of 19” EIA (or 23” only when specified and approved by UNM IT) rack-mount equipment. Attachment points will be threaded with 12-24 roll-formed threads. The rack will include assembly and equipment-mounting hardware. Each rack will include 50 combination pan heads, and pilot point mounting screws.

7. The assembled rack will measure 7’ (84”) high, 20.3” wide, and 15” deep. The sides (webs) of the equipment-mounting channels will be punched to allow the attachment of vertical cable managers along the sides of the rack or for rack-to-rack baying.
8. The rack will be rated for 1,500 lb. of equipment.
9. The rack will be UL Listed.
10. The finish shall be an epoxy-polyester hybrid powder coat in the color of black.

C. Racks are to be joined vertically using the Chatsworth Global Vertical cabling solution part number 12831-703 (6”) and/or 12834-703 (10”) prior approved equivalent. One unit shall be installed on both sides of the racks.

D. For racks mounted “slab on grade” use Chatsworth Rack Base Insulator Kit.

E. The junction plate at top of the equipment frame shall be Chatsworth 10595-704.

F. Equipment Cabinets and Wall Mount Equipment Cabinets as specified and only when approved by UNM IT.

G. Wall Mount Equipment Racks and Cabinets are permitted only with prior approval from UNM IT.

2.03 VERTICAL WIRE MANAGEMENT

A. Vertical Cable Management for Racks/Frames (CCS Combination Cabling Section)

1. Every rack/frame will have a minimum of one vertical cable manager plus one additional per row. The vertical cable manager will create a space for storing and organizing cables and patch cords 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 12831-703 (6”) and/or 12834-703 (10”) installations as per required.
3. A single vertical cable manager shall be used in between bayed racks/frames.
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.

6. The manufacturer of the vertical cable manager will sell compatible racks/frames.
7. The front cover will be removable.
8. The front of 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 the 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. 9. The vertical cable manager shall be manufactured from sheet aluminum and composite materials. 10. Finish shall be a black epoxy-polyester hybrid powder coat paint. Edge protectors, T-shaped cable guides, and latch hardware are black. Channels, Double-Sided, 10" Wide x 84" High x 14.6" Deep, Black.

2.03 EQUIPMENT

A. THERE ARE NO NOTABLE EXCEPTIONS TO THE AFOREMENTIONED PRODUCT STANDARDS WITHOUT A WRITTEN CHANGE REQUEST SUBMITTED AND APPROVED BY THE UNM IT OR UNMH IT

End of Section.