

**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 data centers and communications equipment rooms.
- B. Included in this section are the minimum composition requirements and installation methods for the following:

**Racks.**

**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 RACKS

#### A. Racks, Open, Four Post (Adjustable Rail ServerRack)

1. Provide an open, four-post rack to support computer server and data storage equipment in data centers and computer equipment rooms.
2. The rack will be manufactured from steel.
3. Each rack will have two rectangular mounting frames, four L-shaped horizontal braces, a front pair of equipment mounting rails and a rear pair of equipment mounting rails. The mounting frames will be welded sub-assemblies made from an L-shaped base angle, an L-shaped top angle and two C-shaped channels.
4. The rack will assemble with nut and bolt hardware. When assembled, the L-shaped horizontal braces will connect the corners of the welded mounting frames to form an open, four-post rack. The base angles will be pre-punched for attachment to the floor. The top angles and the top horizontal braces will be pre-punched for attaching ladder rack using J-bolts. Rack size is specified below.
5. The front pair of equipment mounting rails will attach to the front welded mounting frame in a fixed position aligned with the front or rear of the welded mounting frame. The rear pair of equipment mounting rails will attach to the side of the rack and the rear welded mounting frame and will adjust in depth with rack attachment points at .98" (25 mm) increments. The rear pair of equipment mounting rails will adjust beyond the rear welded mounting frame allowing the rack to support equipment that is deeper than the rack. Minimum and maximum rail depths are specified below.
6. The vertical equipment mounting rails will be spaced horizontally to allow attachment of 19" EIA rack-mount equipment and will be punched on the front and rear facing flanges with the EIA-310-D Universal hole pattern. Each RMU will be marked and numbered on the front mounting rails.
7. The equipment mounting holes will be square-punched to accept cage nut hardware. Each rack will include (50) #12-24 cage nuts and screws. The rack manufacturer will sell compatible cage nuts and screws.
8. The rack components will be bonded during assembly through the assembly hardware. The rack will have at least one masked ground connection point with attachment points for a two mounting hole ground terminal block (two-hole lug). Each rack will include a two mounting hole ground terminal block and antioxidant joint compound.
9. The sides of the equipment-mounting channels will be punched to allow attachment of equipment support rails and cable managers along the sides of the rack or for rack-to-rack

baying (four post racks must be able to bay with a two-post relay-style racks and support accessory vertical cable managers).

10. The front of the equipment-mounting frames will be punched to allow attachment of cable guides. The rack manufacturer will offer accessory cable guides that have T-shaped cable organizers separated by openings that align with each rack-mount space (RMU) on the rack.
11. Each rack will include one top-mount cable jumper tray to provide a top-mount side-to-side pathway for cables. The tray will have multiple attachment points to allow the tray to hang over the front of the rack and align with vertical cable managers attached to the sides of the rack. The tray will include adjustable radii to control cable bends where cable enters or exits the tray. The radii will adjust right-to-left to align with vertical cable managers that are mounted to the sides of the rack.
12. The rack will be rated for 2,200 lb (1000 kg) of equipment.
13. Finish shall be epoxy-polyester hybrid powder coat in the color as specified below.

14. Design Make:  
Chatsworth Products, Inc. (CPI),  
Adjustable Rail ServerRack (ARSR)

Part Number 15253-101, Adjustable Rail QuadraRack (ARSR), 23.62" (600 mm) Wide x 72" (1800 mm) High x 23.62" (600 mm) Deep, 19" EIA x 38 RMU, 15" (380 mm) to 29.5" (750 mm) Rail Depth, Gray.

Part Number 15253-201, Adjustable Rail QuadraRack (ARSR), 23.62" (600 mm) Wide x 72" (1800 mm) High x 23.62" (600 mm) Deep, 19" EIA x 38 RMU, 15" (380 mm) to 29.5" (750 mm) Rail Depth, White.

Part Number 15253-701, Adjustable Rail QuadraRack (ARSR), 23.62" (600 mm) Wide x 72" (1800 mm) High x 23.62" (600 mm) Deep, 19" EIA x 38 RMU, 15" (380 mm) to 29.5" (750 mm) Rail Depth, Black.

Part Number 15253-103, Adjustable Rail QuadraRack (ARSR), 23.62" (600 mm) Wide x 84" (2100 mm) High x 23.62" (600 mm) Deep, 19" EIA x 45 RMU, 15" (380 mm) to 29.5" (750 mm) Rail Depth, Gray.

Part Number 15253-203, Adjustable Rail QuadraRack (ARSR), 23.62" (600 mm) Wide x 84" (2100 mm) High x 23.62" (600 mm) Deep, 19" EIA x 45 RMU, 15" (380 mm) to 29.5" (750 mm) Rail Depth, White.

Part Number 15253-703, Adjustable Rail QuadraRack (ARSR), 23.62" (600 mm) Wide x 84" (2100 mm) High x 23.62" (600 mm) Deep, 19" EIA x 45 RMU, 15" (380 mm) to 29.5" (750 mm) Rail Depth, Black.

Part Number 15253-115, Adjustable Rail QuadraRack (ARSR), 23.62" (600 mm) Wide x 96" (2400 mm) High x 23.62" (600 mm) Deep, 19" EIA x 51 RMU, 15" (380 mm) to 29.5" (750 mm) Rail Depth, Gray.

Part Number 15253-215, Adjustable Rail QuadraRack (ARSR), 23.62" (600 mm) Wide x 96" (2400 mm) High x 23.62" (600 mm) Deep, 19" EIA x 51 RMU, 15" (380 mm) to 29.5" (750 mm) Rail Depth, White.

Part Number 15253-715, Adjustable Rail QuadraRack (ARSR), 23.62" (600 mm) Wide x 96" (2400 mm) High x 23.62" (600 mm) Deep, 19" EIA x 51 RMU, 15" (380 mm) to 29.5" (750 mm) Rail Depth, Black.

Part Number 15254-101, Adjustable Rail QuadraRack (ARSR), 23.62" (600 mm) Wide x 72" (1800 mm) High x 35.43" (900 mm) Deep, 19" EIA x 38 RMU, 15" (380 mm) to 41.3" (1050 mm) Rail Depth, Gray.

Part Number 15254-201, Adjustable Rail QuadraRack (ARSR), 23.62" (600 mm) Wide x 72" (1800 mm) High x 35.43" (900 mm) Deep, 19" EIA x 38 RMU, 15" (380 mm) to 41.3" (1050 mm) Rail Depth, White.

Part Number 15254-701, Adjustable Rail QuadraRack (ARSR), 23.62" (600 mm) Wide x 72" (1800 mm) High x 35.43" (900 mm) Deep, 19" EIA x 38 RMU, 15" (380 mm) to 41.3" (1050 mm) Rail Depth, Black.

Part Number 15254-103, Adjustable Rail QuadraRack (ARSR), 23.62" (600 mm) Wide x 84" (2100 mm) High x 35.43" (900 mm) Deep, 19" EIA x 45 RMU, 15" (380 mm) to 41.3" (1050 mm) Rail Depth, Gray.

Part Number 15254-203, Adjustable Rail QuadraRack (ARSR), 23.62" (600 mm) Wide x 84" (2100 mm) High x 35.43" (900 mm) Deep, 19" EIA x 45 RMU, 15" (380 mm) to 41.3" (1050 mm) Rail Depth, White.

Part Number 15254-703, Adjustable Rail QuadraRack (ARSR), 23.62" (600 mm) Wide x 84" (2100 mm) High x 35.43" (900 mm) Deep, 19" EIA x 45 RMU, 15" (380 mm) to 41.3" (1050 mm) Rail Depth, Black.

Part Number 15254-115, Adjustable Rail QuadraRack (ARSR), 23.62" (600 mm) Wide x 96" (2400 mm) High x 35.43" (900 mm) Deep, 19" EIA x 51 RMU, 15" (380 mm) to 41.3" (1050 mm) Rail Depth, Gray.

Part Number 15254-215, Adjustable Rail QuadraRack (ARSR), 23.62" (600 mm) Wide x 96" (2400 mm) High x 35.43" (900 mm) Deep, 19" EIA x 51 RMU, 15" (380 mm) to 41.3" (1050 mm) Rail Depth, White.

Part Number 15254-715, Adjustable Rail QuadraRack (ARSR), 23.62" (600 mm) Wide x 96" (2400 mm) High x 35.43" (900 mm) Deep, 19" EIA x 51 RMU, 15" (380 mm) to 41.3" (1050 mm) Rail Depth, Black.

Part Number 12637-001, Cage Nuts and Equipment Mounting Screws, M6, 25 each, Gold over Zinc.

Part Number 12638-001, Cage Nuts and Equipment Mounting Screws, #10-32, 25 each, Zinc.

Part Number 12639-001, Cage Nuts and Equipment Mounting Screws, #12-24, 25 each, Black.

Part Number 15286-001, Cable Guide Kit for 72" (1800 mm) High, 38 RMU rack, Black.

Part Number 15286-003, Cable Guide Kit for 84" (2100 mm) High, 45 RMU rack, Black.

Part Number 15286-015, Cable Guide Kit for 96" (2400 mm) High, 51 RMU rack, Black.

#### B. Shelves, for Open Four Post Racks (Adjustable Rail ServerRack Shelves)

1. The shelves will be manufactured from steel.
2. Each shelf will have a flat mounting surface with a fixed front facing mounting bracket and two extendible rear facing mounting brackets that attach to the side of the shelf with screws.
3. The shelf will be sized to attach to 19" EIA-310-D compliant racks and will use 1 RMU of vertical mounting space. The mounting depth of the shelf will adjust to match the depth of the rack's mounting rails. Each shelf will have a mounting depth range of 5.91" (150 mm). The mounting surface will be solid or vented and sized as specified below.
4. The shelf will be rated for 200 lb (90.7 kg) of equipment.
5. Finish shall be epoxy-polyester hybrid powder coat in the color as specified below.

6. Design Make:

Chatsworth Products, Inc. (CPI),  
Adjustable Rail ServerRack/QuadraRack™ Shelves

Part Number 15245-101, Adjustable Rail ServerRack/QuadraRack Solid Shelf, 19" EIA x 1 RMU, 15.75" (400 mm) to 21.65" (550 mm) Mounting Depth, 17.68" (449.1 mm) x 13.84" (351.5 mm) Mounting Surface, Gray.

Part Number 15245-201, Adjustable Rail ServerRack/QuadraRack Solid Shelf, 19" EIA x 1 RMU, 15.75" (400 mm) to 21.65" (550 mm) Mounting Depth, 17.68" (449.1 mm) x 13.84" (351.5 mm) Mounting Surface, Computer White.

Part Number 15245-701, Adjustable Rail ServerRack/QuadraRack Solid Shelf, 19" EIA x 1 RMU, 15.75" (400 mm) to 21.65" (550 mm) Mounting Depth, 17.68" (449.1 mm) x 13.84" (351.5 mm) Mounting Surface, Black.

Part Number 15245-102, Adjustable Rail ServerRack/QuadraRack Solid Shelf, 19" EIA x 1 RMU, 22.64" (575 mm) to 28.54" (725 mm) Mounting Depth, 17.68" (449.1 mm) x 20.73" (526.5 mm) Mounting Surface, Gray.

Part Number 15245-202, Adjustable Rail ServerRack/QuadraRack Solid Shelf, 19" EIA x 1 RMU, 22.64" (575 mm) to 28.54" (725 mm) Mounting Depth, 17.68" (449.1 mm) x 20.73" (526.5 mm) Mounting Surface, Computer White.

Part Number 15245-702, Adjustable Rail ServerRack/QuadraRack Solid Shelf, 19" EIA x 1 RMU, 22.64" (575 mm) to 28.54" (725 mm) Mounting Depth, 17.68" (449.1 mm) x 20.73" (526.5 mm) Mounting Surface, Black.

Part Number 15245-103, Adjustable Rail ServerRack/QuadraRack Solid Shelf, 19" EIA x 1 RMU, 29.53" (750 mm) to 35.43" (900 mm) Mounting Depth, 17.68" (449.1 mm) x 27.62" (701.6 mm) Mounting Surface, Gray.

Part Number 15245-203, Adjustable Rail ServerRack/QuadraRack Solid Shelf, 19" EIA x 1 RMU, 29.53" (750 mm) to 35.43" (900 mm) Mounting Depth, 17.68" (449.1 mm) x 27.62" (701.6 mm) Mounting Surface, Computer White.

Part Number 15245-703, Adjustable Rail ServerRack/QuadraRack Solid Shelf, 19" EIA x 1 RMU, 29.53" (750 mm) to 35.43" (900 mm) Mounting Depth, 17.68" (449.1 mm) x 27.62" (701.6 mm) Mounting Surface, Black.

Part Number 15245-104, Adjustable Rail ServerRack/QuadraRack Solid Shelf, 19" EIA x 1 RMU, 36.42" (925 mm) to 42.32" (1075 mm) Mounting Depth, 17.68" (449.1 mm) x 34.51" (876.6 mm) Mounting Surface, Gray.

Part Number 15245-204, Adjustable Rail ServerRack/QuadraRack Solid Shelf, 19" EIA x 1 RMU, 36.42" (925 mm) to 42.32" (1075 mm) Mounting Depth, 17.68" (449.1 mm) x 34.51" (876.6 mm) Mounting Surface, Computer White.

Part Number 15245-704, Adjustable Rail ServerRack/QuadraRack Solid Shelf, 19" EIA x 1 RMU, 36.42" (925 mm) to 42.32" (1075 mm) Mounting Depth, 17.68" (449.1 mm) x 34.51" (876.6 mm) Mounting Surface, Black.

Part Number 15255-101, Adjustable Rail ServerRack/QuadraRack Vented Shelf, 19" EIA x 1 RMU, 15.75" (400 mm) to 21.65" (550 mm) Mounting Depth, 17.68" (449.1 mm) x 13.84" (351.5 mm) Mounting Surface, Gray.

Part Number 15255-201, Adjustable Rail ServerRack/QuadraRack Vented Shelf, 19" EIA x 1 RMU, 15.75" (400 mm) to 21.65" (550 mm) Mounting Depth, 17.68" (449.1 mm) x 13.84" (351.5 mm) Mounting Surface, Computer White.

Part Number 15255-701, Adjustable Rail ServerRack/QuadraRack Vented Shelf, 19" EIA x 1 RMU, 15.75" (400 mm) to 21.65" (550 mm) Mounting Depth, 17.68" (449.1 mm) x 13.84" (351.5 mm) Mounting Surface, Black.

Part Number 15255-102, Adjustable Rail ServerRack/QuadraRack Vented Shelf, 19" EIA x 1 RMU, 22.64" (575 mm) to 28.54" (725 mm) Mounting Depth, 17.68" (449.1 mm) x 20.73" (526.5 mm) Mounting Surface, Gray.

Part Number 15255-202, Adjustable Rail ServerRack/QuadraRack Vented Shelf, 19" EIA x 1 RMU, 22.64" (575 mm) to 28.54" (725 mm) Mounting Depth, 17.68" (449.1 mm) x 20.73" (526.5 mm) Mounting Surface, Computer White.

Part Number 15255-702, Adjustable Rail ServerRack/QuadraRack Vented Shelf, 19" EIA x 1 RMU, 22.64" (575 mm) to 28.54" (725 mm) Mounting Depth, 17.68" (449.1 mm) x 20.73" (526.5 mm) Mounting Surface, Black.

Part Number 15255-103, Adjustable Rail ServerRack/QuadraRack Vented Shelf, 19" EIA x 1 RMU, 29.53" (750 mm) to 35.43" (900 mm) Mounting Depth, 17.68" (449.1 mm) x 27.62" (701.6 mm) Mounting Surface, Gray.

Part Number 15255-203, Adjustable Rail ServerRack/QuadraRack Vented Shelf, 19" EIA x 1 RMU, 29.53" (750 mm) to 35.43" (900 mm) Mounting Depth, 17.68" (449.1 mm) x 27.62" (701.6 mm) Mounting Surface, Computer White.

Part Number 15255-703, Adjustable Rail ServerRack/QuadraRack Vented Shelf, 19" EIA x 1 RMU, 29.53" (750 mm) to 35.43" (900 mm) Mounting Depth, 17.68" (449.1 mm) x 27.62" (701.6 mm) Mounting Surface, Black.

Part Number 15255-104, Adjustable Rail ServerRack/QuadraRack Vented Shelf, 19" EIA x 1 RMU, 36.42" (925 mm) to 42.32" (1075 mm) Mounting Depth, 17.68" (449.1 mm) x 34.51" (876.6 mm) Mounting Surface, Gray.

Part Number 15255-204, Adjustable Rail ServerRack/QuadraRack Vented Shelf, 19" EIA x 1 RMU, 36.42" (925 mm) to 42.32" (1075 mm) Mounting Depth, 17.68" (449.1 mm) x 34.51" (876.6 mm) Mounting Surface, Computer White.

Part Number 15255-704, Adjustable Rail ServerRack/QuadraRack Vented Shelf, 19" EIA x 1 RMU, 36.42" (925 mm) to 42.32" (1075 mm) Mounting Depth, 17.68" (449.1 mm) x 34.51" (876.6 mm) Mounting Surface, Black.

C. Equipment Support Rails, for Open Four Post Racks (Adjustable Rail ServerRack/QuadraRack™ Equipment Support Rails)

1. The equipment support rails will be manufactured from steel.
2. The equipment support rails are sold in pairs. Each equipment support rail is made from one long flat bracket and two short L-shaped brackets. The brackets bolt together to form a support that bolts to the side of the rack.
3. The equipment support rails will be sized to fit within 1 RMU of vertical mounting space. The mounting depth of the equipment support rails will match the depth of the rack. Equipment support rails will provide a .98" (25 mm) wide support surface for equipment.
4. The equipment support rails will be rated for 200 lb (90.7 kg) of equipment.
5. Finish shall be epoxy-polyester hybrid powder coat in the color as specified below.
6. Design Make:  
Chatsworth Products, Inc. (CPI),  
Adjustable ServerRack/QuadraRack™ Equipment Support Rails

Part Number 15285-101, Adjustable Rail ServerRack/QuadraRack Equipment Support Rails, 23.62" (600 mm) Mounting Depth, Gray.

Part Number 15285-201, Adjustable Rail ServerRack/QuadraRack Equipment Support Rails, 23.62" (600 mm) Mounting Depth, Computer White.

Part Number 15285-701, Adjustable Rail ServerRack/QuadraRack Equipment Support Rails, 23.62" (600 mm) Mounting Depth, Black.

Part Number 15285-102, Adjustable Rail ServerRack/QuadraRack Equipment Support Rails, 35.43" (900 mm) Mounting Depth, Gray.

Part Number 15285-202, Adjustable Rail ServerRack/QuadraRack Equipment Support Rails, 35.43" (900 mm) Mounting Depth, Computer White.

Part Number 15285-702, Adjustable Rail ServerRack/QuadraRack Equipment Support Rails, 35.43" (900 mm) Mounting Depth, Black.

D. Cable Runway (Ladder Rack) Mounting Bracket, for Open Four Post Racks (Adjustable Rail ServerRack/QuadraRack™ Cable Runway Mounting Bracket)

1. The cable runway mounting bracket will be manufactured from steel.
2. Each cable runway mounting bracket is an S-shaped bracket that is punched with a hole pattern on the top and bottom flange. The top hole pattern is spaced for centered attachment of 6" wide to 24" wide 1.5" high cable runway (ladder rack). The bottom hole pattern is spaced for attachment to the open, four-post rack.
3. The cable runway mounting bracket will be 3.3" (84 mm) wide by 1.0" (25 mm) high x 24.4" (620 mm) long. Each cable runway mounting bracket will include a pair of J-bolts and mounting hardware to attach the bracket to the top of the rack and the cable runway (ladder rack) to the bracket.
4. Finish shall be epoxy-polyester hybrid powder coat in the color as specified below.
5. Design Make:  
Chatsworth Products, Inc. (CPI),  
Adjustable Rail ServerRack/QuadraRack™ Cable Runway Mounting Bracket

Part Number 15205-101, Adjustable Rail ServerRack/QuadraRack Cable Runway Mounting Bracket, 6" Wide to 24" Wide Cable Runway, Gray.

Part Number 15205-201, Adjustable Rail ServerRack/QuadraRack Cable Runway Mounting Bracket, 6" Wide to 24" Wide Cable Runway, Computer White.

Part Number 15205-701, Adjustable Rail ServerRack/QuadraRack Cable Runway Mounting Bracket, 6" Wide to 24" Wide Cable Runway, Black.

E. Side Panel, for Open Four Post Racks (Adjustable Rail ServerRack/QuadraRack Side Panel)

1. The side panel will be manufactured from steel.
2. The side panel will solid and sized to cover the side of the four post rack. The side panel will attach to the side of the rack or to the side of a cable management trough that is attached to the side of the rack.
3. The side panel will include installation hardware
4. Finish shall be epoxy-polyester hybrid powder coat in the color as specified below.
5. Design Make:  
Chatsworth Products, Inc. (CPI),  
Adjustable ServerRack/QuadraRack™ Side Panels

Part Number 15270-101, Side Panel for Adjustable Rail ServerRack/QuadraRack, 72" (1800 mm) High x 23.62" (600 mm) Deep, Gray. (Use with rack P/N 15253-101.)

Part Number 15270-201, Side Panel for Adjustable Rail ServerRack/QuadraRack, 72" (1800 mm) High x 23.62" (600 mm) Deep, Computer White. (Use with rack P/N 15253-201.)

Part Number 15270-701, Side Panel for Adjustable Rail ServerRack/QuadraRack, 72" (1800 mm) High x 23.62" (600 mm) Deep, Gray. (Use with rack P/N 15253-701.)

Part Number 15270-102, Side Panel for Adjustable Rail ServerRack/QuadraRack, 84" (2100 mm) High x 23.62" (600 mm) Deep, Gray. (Use with rack P/N 15253-103.)

Part Number 15270-202, Side Panel for Adjustable Rail ServerRack/QuadraRack, 84" (2100 mm) High x 23.62" (600 mm) Deep, Computer White. (Use with rack P/N 15253-203.)

Part Number 15270-702, Side Panel for Adjustable Rail ServerRack/QuadraRack, 84" (2100 mm) High x 23.62" (600 mm) Deep, Gray. (Use with rack P/N 15253-703.)

Part Number 15270-103, Side Panel for Adjustable Rail ServerRack/QuadraRack, 96" (2400 mm) High x 23.62" (600 mm) Deep, Gray. (Use with rack P/N 15253-115.)

Part Number 15270-203, Side Panel for Adjustable Rail ServerRack/QuadraRack, 96" (2400 mm) High x 23.62" (600 mm) Deep, Computer White. (Use with rack P/N 15253-215.)

Part Number 15270-703, Side Panel for Adjustable Rail ServerRack/QuadraRack, 96" (2400 mm) High x 23.62" (600 mm) Deep, Gray. (Use with rack P/N 15253-715.)

Part Number 15270-104, Side Panel for Adjustable Rail ServerRack/QuadraRack, 72" (1800 mm) High x 35.43" (900 mm) Deep, Gray. (Use with rack P/N 15254-101.)

Part Number 15270-204, Side Panel for Adjustable Rail ServerRack/QuadraRack, 72" (1800 mm) High x 35.43" (900 mm) Deep, Computer White. (Use with rack P/N 15254-201.)

Part Number 15270-704, Side Panel for Adjustable Rail ServerRack/QuadraRack, 72" (1800 mm) High x 35.43" (900 mm) Deep, Gray. (Use with rack P/N 15254-701.)

Part Number 15270-105, Side Panel for Adjustable Rail ServerRack/QuadraRack, 84" (2100 mm) High x 35.43" (900 mm) Deep, Gray. (Use with rack P/N 15254-103.)

Part Number 15270-205, Side Panel for Adjustable Rail ServerRack/QuadraRack, 84" (2100 mm) High x 35.43" (900 mm) Deep, Computer White. (Use with rack P/N 15254-203.)

Part Number 15270-705, Side Panel for Adjustable Rail ServerRack/QuadraRack, 84" (2100 mm) High x 35.43" (900 mm) Deep, Gray. (Use with rack P/N 15254-703.)

Part Number 15270-106, Side Panel for Adjustable Rail ServerRack/QuadraRack, 96" (2400 mm) High x 35.43" (900 mm) Deep, Gray. (Use with rack P/N 15254-115.)

Part Number 15270-206, Side Panel for Adjustable Rail ServerRack/QuadraRack, 96" (2400 mm) High x 35.43" (900 mm) Deep, Computer White. (Use with rack P/N 15254-215.)

Part Number 15270-706, Side Panel for Adjustable Rail ServerRack/QuadraRack, 96" (2400 mm) High x 35.43" (900 mm) Deep, Gray. (Use with rack P/N 15254-715.)

## **PART 3 – EXECUTION**

### **3.1 INSTALLATION**



A. Racks, Open, Four-Post

1. Assemble racks according to manufacturer's instructions. Verify that equipment mounting rails are sized properly for rack-mount equipment before attaching the rack to the floor.
2. All racks 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.
3. Racks 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 rack 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 rack to deliver cables to the rack. The rack 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 rack. Place large and heavy equipment towards the bottom of the rack. Secure all equipment to the rack with equipment mounting screws or place equipment on shelves. Add equipment support rails to help support deep, heavy rack-mount equipment when equipment attaches to the front of the rack only.

B. Shelves, for Open Four-Post Racks

1. Install shelves according to manufacturer's instructions.
2. Equipment placed on the shelf must fit completely within the shelf surface and must not exceed the shelf load capacity.
3. Verify that the rack has sufficient load capacity for the shelf and equipment.
4. In seismic areas, additional bracing should be used to secure equipment to the shelf or rack

C. Equipment Support Rails, for Open Four-Post Racks

1. Install equipment support rails according to manufacturer's instructions.
2. Equipment placed on the equipment support rails must be attached to the rack and must not exceed the equipment support rails load capacity.
3. Verify that the rack has sufficient load capacity for the equipment support rails and equipment.

D. Cable Runway (Ladder Rack) Mounting Bracket, for Open Four-Post Racks

1. Install the cable runway mounting bracket according to manufacturer's instructions.

E. Side Panels, for Open Four-Post Racks

1. Install the side panel according to manufacturer's instructions.