SECTION 271116 - COMMUNICATIONS CABINETS, RACKS, FRAMES, AND ENCLOSURES

This section is based on the products of Chatsworth Products (CPI) located at:

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Specifier Notes: This product guide specification is written according to the Construction Specifications Institute (CSI) 3-Part Format, including *MasterFormat, SectionFormat,* and *PageFormat,* as described in *The Project Resource Manual—CSI Manual of Practice, Fifth Edition.*

This section must be carefully reviewed and edited by the Architect or Engineer to meet the requirements of the project and local building code. Coordinate this section with other specification sections and the Drawings. Delete all "Specifier Notes" after editing this section.

Section numbers are from *MasterFormat 2016 Edition*.

1. GENERAL
	* + 1. RELATED DOCUMENTS

Retain or delete this article in all Sections of Project Manual.

Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

* + - 1. SUMMARY

Section Includes:

ZetaFrame Equipment Cabinet

Z4-Series SeismicFrame Cabinet

Cabinet Thermal Management Accessories

Cabinet Cable Management Accessories

Cabinet Power Management Accessories

Environmental Monitoring For Equipment Cabinets

Shelves for Equipment Cabinets

Cube-iT Cabinet Systems

Thinline II Wall-Mount Cabinets

[**Hot**][and][**Cold**] Aisle Containment Enclosures

Rack Systems

Consolidation Point Enclosures

Telecommunications Enclosures

Related Requirements:

Retain subparagraphs below to cross-reference requirements Contractor might expect to find in this Section but are specified in other Sections.

Section 270536 "Cable Trays for Communications Systems" for cable trays and accessories.

Section 271123 "Cable Management and Ladder Racks" for cable management used with Rack Systems, ladder rack and accessories.

Section 271126 "Communications Rack Mounted Power Protection and Power Strips" for rack mounted power strips (power distribution units) with rack level and device level remote power monitoring and control.

* + - 1. DEFINITIONS

Retain terms that remain after this Section has been edited for a project.

BICSI: Building Industry Consulting Service International

* + - * 1. EIA: Electronic Industries Alliance
				2. TIA: Telecommunications Industry Association
				3. ANSI: American National Standard Institute
				4. LAN: Local area network
				5. RCDD: Registered Communications Distribution Designer
				6. ASTM: American Society for Testing and Materials
				7. ISTA: International Safe Transit Association
			1. REFERENCES

A. ANSI/TIA-569 Telecommunications Pathways and Spaces.

* + - * 1. ANSI/TIA-568.0 Generic Telecommunications Cabling for Customer Premises.
				2. ANSI/TIA – 568.1 Commercial Building Telecommunications Cabling Standard.
				3. ANSI/NECA/BICSI 568-2006 – Standard for Installing Commercial Building Telecommunications Cabling.
				4. ANSI/TIA-942 Telecommunications Infrastructure Standard for Data Centers.
				5. ANSI/TIA – 606 Administration Standard for Telecommunications Infrastructure.
				6. ANSI/TIA – 607 Generic Telecommunications Bonding and Grounding (Earthing) For Customer Premises (Standard)
				7. ANSI/NFPA 70 – National Electric Code.
				8. Standard Practice for Performance Testing of Shipping Containers and Systems
				9. ASTM D4169 – Truck Assurance Levels: low, medium and high
				10. ASTM D4169 Air Assurance Levels: I, II and III

1.5 ACTION SUBMITTALS

A. Product Data: For each type of product.

Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for equipment racks and cabinets.

Include rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories.

B. Shop Drawings: For communications equipment room fittings. Include plans, elevations, sections, details, and attachments to other work.

Detail equipment assemblies and indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.

Equipment Racks and Cabinets: Include workspace requirements and access for cable connections.

Bonding and Grounding: Indicate location of primary or secondary bonding busbars and its mounting detail showing standoff insulators and wall mounting brackets.

* + - 1. INFORMATIONAL SUBMITTALS

Qualification Data: For [**Installer**] qualified layout technician, installation supervisor, and field inspector.

Retain "Seismic Qualification Certificates" Paragraph below if required by seismic criteria applicable to Project. Coordinate with Sections specifying telecommunications equipment supports and seismic controls. See ASCE/SEI 7 for certification requirements for equipment and components.

Note that select CPI Cabinets and Racks have received OSHPD OPM based on pre-approved anchorage designs that meet both CBC and ICC IBC requirements, which may serve as guidelines for other seismic applications: <http://www.chatsworth.com/support-and-downloads/design-tools/oshpd-pre-approved-products/>

OSHPD OPM Directory: <http://www.oshpd.ca.gov/FDD/Pre-Approval/preapprovalMfgCert-wTemplate.html>

* + - * 1. Seismic Qualification Certificates: For equipment frames from manufacturer.

Basis for Certification: Indicate whether withstand certification is based on actual test of assembled components or on calculation.

Dimensioned Outline Drawings of Equipment Unit: Identify center of gravity and locate and describe mounting and anchorage provisions. Base certification on the maximum number of components capable of being mounted in each rack type. Identify components on which certification is based.

Detailed description of equipment anchorage devices on which the certification is based and their installation requirements.

* + - 1. QUALITY ASSURANCE

Installer Qualifications: Cabling Installer must have personnel certified by BICSI on staff.

Layout Responsibility: Preparation of Shop Drawings shall be under the direct supervision of [**RCDD**] [**RCDD/NTS**] [**Commercial Installer, Level 2**].

Installation Supervision: Installation shall be under the direct supervision of [**Registered Technician**] [**Level 2 Installer**], who shall be present at all times when Work of this Section is performed at Project site.

Field Inspector: Currently registered by BICSI as [**RCDD**] [**Commercial Installer, Level 2**] to perform the on-site inspection.

1. PRODUCTS
	* + 1. PERFORMANCE REQUIREMENTS

Retain "Seismic Performance" Paragraph below with "Seismic Qualification Certificates" Paragraph in "Informational Submittals" Article for projects requiring seismic design. Delete paragraph if performance requirements are indicated on Drawings. Model building codes and ASCE/SEI 7 establish criteria for buildings subject to earthquake motions. Coordinate requirements with structural engineer.

Seismic Performance: Equipment frames shall withstand the effects of earthquake motions determined according to [**ASCE/SEI 7**] <**Insert requirement**>.

* 1. ZETAFRAME™ CABINET SYSTEM

The ZetaFrame™ Cabinet System is designed for rack-and-stack or "roll in/roll out" use in any data center and computer room applications, primarily as a storage solution for computer server, network and data storage equipment. ZetaFrame can be sent to a systems integrator, fitted with equipment, then sent to the site for quick deployment. ZetaFrame can support a high equipment loads and can be shipped on a shock pallet.

Product webpage:

https://www.chatsworth.com/en-us/products/cabinets-enclosures-containment/server-and-network/enterprise-and-colocation/zetaframe-cabinet-system

Product Data Sheet:

https://www.chatsworth.com/en-us/documents/data-sheets/zetaframe\_datasheet

[Basis-of-Design Product](http://www.specagent.com/LookUp/?ulid=12512&mf=04&src=wd): Subject to compliance with requirements, provide Chatsworth Products (CPI); [ZetaFrame Cabinet System](http://www.chatsworth.com/products/cabinet-and-enclosure-systems/globalframe-cabinets/).

Six-Slide Cabinet Frame: Non-seismic applications; Maximum equipment weight of **5000 lb (2268 kg)** when secured to the structural floor with standard anchors[ **and maximum equipment weight of 4000 lb (1814 kg) when rolling on casters (applies to cabinets that are 1000 mm D or deeper)**][ **and maximum equipment weight of 4000 lb (1814 kg) when shipping with equipment installed on a shock pallet**]. Non-seismic secured load is tested per UL 2416 and cabinet is UL Listed NWIN.E227626. Rolling load is tested per UL 2416 and supports up to **4000 lb** **(1814 kg)** of equipment for depths of 1000 mm or greater.

Dimensions: As coordinated with useable space requirements selected.

Cabinets on shock pallets are NOT available in 52U.

Equipment Mounting Rails: Square punched; spaced horizontally to support **19 inches (482.6 mm)** wide EIA/ECA-310-E compliant rack-mount equipment and shall provide [**42U**][**45U**][**48U**][**52U**] of rack-mount.

Top Panel:

Select one of the options below or delete all if no top panel. Cabinets on shock pallets are NOT available with Vertical Exhaust Duct.

Standard Panel: Solid top panel with four 3.9”W x 8.8”D (99 mm x 224 mm) cable openings, one in each corner.

Grommet-seals on cable openings

Brush-seals on cable openings

Panel with Vertical Exhaust Duct includes two 3.9”W x 8.8”D (99 mm x 224 mm) cable openings, one per corner and a Vertical Exhaust Duct. Brush-seals on cable openings. **For use with cabinets 41.3” D (1050 mm) or deeper.**

Solid Top Panel: Including a **15 inch to 20 inch (381 mm –508 mm)** high Vertical Exhaust Duct

Solid Top Panel: Including a **20 inch to 34 inch (508 mm – 863 mm)** high Vertical Exhaust Duct.

Solid Top Panel: Including a **34 inch to 60 inch (863 mm – 1523 mm)** high Vertical Exhaust Duct.

Solid Top Panel: Including a **15 inch to 20 inch (381 mm –508 mm)** high Vertical Exhaust Duct and an Air Director

Solid Top Panel: Including a **20 inch to 34 inch (508 mm – 863 mm)** high Vertical Exhaust Duct and an Air Director

Solid Top Panel: Including a **34 inch to 60 inch (863 mm – 1523 mm)** high Vertical Exhaust Duct and an Air Director

Solid Side Panels: [**One**][**Two**][**None**].

Bottom Panel: Solid panel with two 4.5”W x 9”D (114 mm x 228 mm) cable openings in the back corners

Grommet-seals on cable openings

Brush-seals on cable openings

Thermal Management**: [None][Air Dam][Air Dam, Brush-Sealed Rail]**

Perforated Front Door: **78%** percent perforation.

Rear Door:

Select one of the options below.

Double Perforated Rear Door: **78%** percent perforation with a solid outer perimeter. Included with Standard Top Panel.

Single Solid Metal Rear Door with Perimeter Seal. Included with Solid Top Panel and Vertical Exhaust Duct.

Latch:

[Single-Point Door Latch with keyed lock on front and rear single doors.]

[Three-Point Door Latch with keyed lock on Rear Double Doors.]

Color: Powder coat paint, [**Glacier White**][**Black**].

Included Hardware: Baying Kit, Four casters, four leveling feet, two floor attachment brackets, PDU brackets, grounding block.

Optional Accessories: **[Air Dam Kit][Air Director][Equipment Mounting Rail Grommet Kit][Equipment Mounting Rail Brush Kit] [Snap-In Filler Panel] [Side Panel with Grommets][Vertical Cable Manager][Cable Lashing Panel][Front-to-Rear Cable Manager][Full Height PDU Bracket][Standard PDU Bracket][Clik-Nut Hardware Kit][Ramp Kit for Shock Pallet Cabinets][Leveling Feet Height Adjustment Tool][RFID Electronic Lock Kit]**

* 1. Z4-SERIES EQUIPMENT CABINET

Z4-Series Seismic Frame Cabinet System is designed for use in data center, computer and equipment room applications primarily as a storage solution for computer server and data storage equipment. Use Z4-Series in "seismic zones" where there is a high probability of seismic activity. This cabinet has a reinforced frame to resist movement during seismic events and has been load tested to GR-63-CORE zone 4 seismic conditions. Z4-Series is always installed at the site and then populated with equipment. It is secured to the structural floor using seismic rated anchors.

Product webpage:

<http://www.chatsworth.com/products/cabinet-and-enclosure-systems/z4-seismicframe/>

Product Data Sheet:

<http://www.chatsworth.com/uploadedfiles/files/z4-series_seismicframe_datasheet.pdf>

OSHPD OPM, Seismic Calculations:

<http://www.oshpd.ca.gov/FDD/Pre-Approval/OPM-0112-13.pdf>

<http://www.chatsworth.com/support-and-downloads/design-tools/oshpd-four-post-racks/>

OSHPD OPM directory: <http://www.oshpd.ca.gov/FDD/Pre-Approval/preapprovalMfgCert-wTemplate.html>

CPI OSHPD OPM webpage: <http://www.chatsworth.com/support-and-downloads/design-tools/oshpd-pre-approved-products/>

Product AutoDesk Revit BIMmodel: <https://bimobject.com/en-us/chatsworthproducts/product/cpi-z4-series_seismicframe_cabinet_system>

[Basis-of-Design Product](http://www.specagent.com/LookUp/?ulid=12512&mf=04&src=wd): Subject to compliance with requirements, provide Chatsworth Products (CPI); [Z4-Series Seismic Frame Cabinet System](http://www.chatsworth.com/products/cabinet-and-enclosure-systems/z4-seismicframe/).

Description: Seismic rating - Maximum equipment weight of 1500 lb (680 kg) with an additional 100 lb (45 kg) top load for cabling when secured to the structural floor with seismic anchors. Seismic load is tested per GR-63-CORE and the cabinet is [OSHPD OPM-0112-13](http://www.oshpd.ca.gov/FDD/Pre-Approval/OPM-0112-13.pdf) preapproved for seismic anchorage. Non-seismic applications - Maximum equipment weight of 3000 lb (1360 kg) when secured to the structural floor with standard anchors. Non-seismic load is tested per UL 2416 and the cabinet is UL Listed NWIN.E227626. Cabinet must be secured to the structural floor. No rolling or shipping load.

Dimensions: As coordinated with useable space requirements selected.

Equipment Mounting Rails: Square punched; spaced horizontally to support 19 inches (482.6 mm) wide EIA/ECA-310-E compliant rack-mount equipment and shall provide [**40U**][**43U**] of rack-mount.

Top Panel: Solid top panel with four cable openings, one in each corner.

Solid Side Panels: [**Two**][**None**].

Front Door: [**Perforated front door with seventy-eight percent perforation and solid outer perimeter.**][**None.**]

Rear Door: [**Double perforated rear door with seventy-eight percent perforation with a solid outer perimeter**][**None**].

Latch: Two-Point Door Latch with [**keyed**][**keyed and combination**] lock.

Color: Powder coat [**Glacier White**][**Black**].

Optional Accessories: [**Air Dam Kit**][**Snap-In Filler Panel**][**Equipment Rail Grommet Kit**][**Cable Lashing Bracket**][**Ring Cable Manager**][**Front-To-Rear Cable Manager**][**Full Height PDU Bracket**][**Equipment Support Bracket**][**Clik-Nut Hardware Kit**].

* + - 1. CABINET THERMAL MANAGEMENT ACCESSORIES

Air Dam: Internal baffle that seal the gap between the equipment mounting rails and the side of the cabinet to block airflow around rack-mount equipment..

Size: [**42U**][**43U**][**44U**][**45U**][**46U**][**47U**][**48U**][**49U**][**50U**][**51U**][**52U**].

Color: [**Black**][**Glacier White**].

Bottom Panel: [**Black**][**Glacier White**]

Snap-In Filler Panels: Blanking panel that attaches to the mounting rails to seal spaces in between rack-mount equipment,

Plastic, [**1U by 19 inch EIA**][**2U by 19 inch EIA**] rack-mount panel spaces.

* + - * 1. Color: [**Black**][**Glacier White**]

This next for accessories are for ZetaFrame only.

Vertical Exhaust Duct: Two-piece adjustable height top mount duct with flexible top seal. Fits cabinets that are 41.3 inches (1050 mm) deep or deeper.

Size: Extends [**14 to 20 inches (356 to 508 mm)**][**20 to 34 inches (508 to 863 mm)**][**34 to 60 inches (863 to 1523 mm)**] high for [**23.6 inches (600 mm)**][**27.6 inches (700 mm)**][**29.5 inches (750 mm)**][**31.5 inches (800 mm)**][**40.0 inches (1016 mm)**] wide cabinets

Color: [**Black**][**Glacier White**].

This accessory is used in the wider versions of ZetaFrame and SeismicFrame Cabinets.

Equipment Rail Grommet Kit: Includes eight snap on solid plastic grommets that can be trimmed to protect cables. Used to seal cable pass-through openings on the equipment mounting rails in 27.6 inch (700 mm), 29.5 inch (750 mm) and 31.5 inch (800 mm) wide cabinets.

Color: Black.

Brush-Sealed Side Panels: Two half height solid side panels with a locking latch with four openings; one opening in each corner. Includes eight snap on plastic brush seal grommets to protect cables.

Color: [**Black**][**Glacier White**].

Baying Seal Kits: Front and rear plastic snap-in cover used to seal the gap between 23.6 inch (600 mm) wide cabinets when centered over 24 inch (610 mm) wide raised access floor tiles.

Color: Black.

Floor Seal Kits: Solid, extending from the bottom of the frame to the floor.

Color: [**Black**][**Glacier White**].

* + - 1. CABINET CABLE MANAGEMENT ACCESSORIES

Vertical Cable Manager applies to ZetaFrame only. Ring Cable Manager applies to Seismic

Vertical Cable Manager: Attaches to the side of the equipment mounting rail in the cabinet. Cable openings along the side align with each rack-mount unit (U) space on the mounting rail.

Color: [**Glacier White**][**Black**].

Finger Cable Management applies to ZetaFrame only.

Ring Cable Manager: Attaches vertically to the slides on the side of the cabinet frame and is adjustable in depth independent of the equipment mounting rails.

Color: [**Glacier White**][**Black**].

Cable Lashing Bracket: Attaches vertically to the slides on the side of the cabinet frame and is adjustable in depth independent of the equipment mounting rails.

Color: [**Glacier White**][**Black**].

Front-to-Rear Cable Manager: Extends to create a front-to-rear pathway along the side of the cabinet between finger managers and equipment mounting rails.

Color: [**Glacier White**][**Black**].

Universal Horizontal Cable Manager: 19 inch EIA rack-mounted; [**1**][**2**][**3**]U high. [**Single-sided U-shaped trough with a front-facing snap on cover**][**Double-sided H-shaped trough with front and rear snap on covers**]. The cable manager shall be at least 4 inches (100 mm) deep and hold 24 patch cords per U.

Color: [**Black**][**Glacier White**].

Jumper Trays: 19 inch EIA rack-mount [**3.5 inches (89 mm)**][**6 inches (152 mm)**] deep by 2U high. U-shaped trough that is open on the top. Minimum 3.5 inches (89 mm) deep and hold 48 patch cords.

Color: [**Black**][**Glacier White**][**Gray**][**Computer Beige**].

* + - 1. CABINET POWER MANAGEMENT ACCESSORIES

All accessories in this article apply to ZetaFrame and SeismicFrame only.

Full Height Dual PDU Bracket: C-shaped; attaches to the side of the cabinet frame and includes tool-less mounting points for two vertical rack-mount power distribution units (PDUs) or power strips.

Size: **[40U][42U**][**43U**][**44U**][**45U**][**46U**][**47U**][**48U**][**49U**][**50U**][**51U**][**52U**]by 4.8 inches (121 mm) wide.

Supports two PDUs side-by-side. PDUs are up to 2.2 inches (56 mm) wide.

Color: [**Glacier White**][**Black**].

Full Height Dual Wide PDU Bracket: C-shaped; attaches to the side of the cabinet frame and includes tool-less mounting points for two vertical rack-mount power distribution units (PDUs) or power strips.

Size: **[40U][42U**][**43U**][**44U**][**45U**][**46U**][**47U**][**48U**][**49U**][**50U**][**51U**][**52U**]by 5.8 inches (147 mm) wide.

Supports up to two PDUs side-by-side. PDUs are up to 2.7 inches (69 mm) wide.

Color: [**Glacier White**][**Black**].

Article below describes the RIM-750 Remote Infrastructure Management System.

* + - 1. ENVIRONMENTAL MONITORING FOR EQUIPMENT CABINETS

See Section 271126 "Communications Rack Mounted Power Protection and Power Strips."

Select paragraph above or remainder of products in article below.

Temperature Sensor: Remote probe that provides temperature readings in degrees Fahrenheit (Celsius). Up to three per cabinet.

* + - * 1. Temperature and Humidity Sensor: Remote probe that provides temperature in degrees Fahrenheit (Celsius) and relative humidity readings in percentage of relative humidity. One per cabinet.
				2. Leak Detection Sensor: Remote rope and/or spot sensors that monitor for the presence of non-corrosive liquid and reports if liquid is detected. One per cabinet.
				3. Door Opened/Closed Sensors: Install in cabinets with doors to report doors opened/closed condition. .
				4. Side Panel Opened/Closed Sensors: Install in cabinets with side panels to report side panel(s) opened/closed condition.
				5. Environmental Monitoring Appliance: Provides continuous automated monitoring of the environmental sensors, allows a low and high range to be set for each sensor, and notifies technicians with an alarm when sensor readings exceed set limits.

Four connections for external temperature/humidity sensors, eight digital input connections for external sensors (leak spot detector, open/closed sensors), one connection for a leak detection rope and a single network connection.

Sends alarms by email to technicians or as SNMPv2 traps.

Records sensor readings, alarms and alarm acknowledgements and allows sensor/alarm history to be reviewed for analysis and archived for record keeping.

* + - 1. SHELVES FOR EQUIPMENT CABINETS

Equipment Shelves: Sized to fit the rack-mount width and depth of the cabinet and have adjustable depth mounting brackets that allow attachment to the front and rear pair of equipment mounting rails within the cabinet. Sized wider and deeper than the equipment placed on the shelf and have a load bearing capacity that exceeds the fully populated weight of equipment.

Fixed, Solid:

19 inch EIA wide by 1U by 18 inches (460 mm) deep; 200 lb (90.7 kg) capacity in **[glacier white]**[**black**].

23 inch (584 mm) wide by 1U by 18 inches (460 mm) deep; 200 lb (90.7 kg) capacity in **[glacier white]**[**black**].

19 inch EIA wide by 1U by 24 inches (610 mm) deep; 200 lb (90.7 kg) capacity in **[glacier white]**[**black**].

23 inch (584 mm) wide by 1U by 24 inches (610 mm) deep; 200 lb (90.7 kg) capacity in **[glacier white]**[**black**].

19 inch EIA wide by 1U by 29 inches (740 mm) deep; 200 lb (90.7 kg) capacity in **[glacier white]**[**black**].

23 inch (584 mm) wide by 1U by 29 inches (740 mm) deep; 200 lb (90.7 kg) capacity in **[glacier white]**[**black**].

Fixed, Vented:

19 inch EIA wide by 1U by 18 inches (460 mm) deep; 200 lb (113.4 kg) capacity in **[glacier white]**[**black**].

23 inch (584 mm) wide by 1U by 18 inches (460 mm) deep; 200 lb (90.7 kg) capacity in **[glacier white]**[**black**].

19 inch EIA wide by 1U by 24 inches (610 mm) deep; 200 lb (113.4 kg) capacity in **[glacier white]**[**black**].

23 inch (584 mm) wide by 1U by 24 inches (610 mm) deep; 200 lb (90.7 kg) capacity in **[glacier white]**[**black**].

19 inch EIA wide by 1U by 29 inches (740 mm) deep; 200 lb (113.4 kg) capacity in **[glacier white]**[**black**].

23 inch (584 mm) wide by 1U by 29 inches (740 mm) deep; 200 lb (90.7 kg) capacity in **[glacier white]**[**black**].

Sliding, Solid:

19 inch EIA wide by 2U by 18 inches (460 mm) deep; 140 lb (63.5 kg) capacity in **[glacier white]**[**black**].

23 inch (584 mm) wide by 2U by 18 inches (460 mm) deep; 140 lb (63.5 kg) capacity in **[glacier white]**[**black**].

19 inch EIA wide by 2U by 24 inches (610 mm) deep; 140 lb (63.5 kg) capacity in **[glacier white]**[**black**].

23 inch (584 mm) wide by 2U by 24 inches (610 mm) deep; 140 lb (63.5 kg) capacity in **[glacier white]**[**black**].

19 inch EIA wide by 2U by 26 inches (660 mm) deep; 300 lb (136.1 kg) capacity in **[glacier white]**[**black**].

23 inch EIA wide by 2U by 26 inches (660 mm) deep; 300 lb (136.1 kg) capacity in **[glacier white]**[**black**].

19 inch EIA wide by 2U by 32 inches (810 mm) deep; 160 lb (72.6 kg) capacity in **[glacier white]**[**black**].

23 inch (584 mm) wide by 2U by 32 inches (810 mm) deep; 160 lb (72.6 kg) capacity in **[glacier white]**[**black**].

Sliding, Vented:

19 inch EIA wide by 2U by 18 inches (460 mm) deep; 140 lb (63.5 kg) capacity in **[glacier white]**[**black**].

23 inch (584 mm) wide by 2U by 18 inches (460 mm) deep; 140 lb (63.5 kg) capacity in **[glacier white]**[**black**].

19 inch EIA wide by 2U by 24 inches (610 mm) deep; 140 lb (63.5 kg) capacity in **[glacier white]**[**black**].

23 inch (584 mm) wide by 2U by 24 inches (610 mm) deep; 140 lb (63.5 kg) capacity in **[glacier white]**[**black**].

19 inch EIA wide by 2U by 32 inches (810 mm) deep; 160 lb (72.6 kg) capacity in **[glacier white]**[**black**].

23 inch (584 mm) wide by 2U by 32 inches (810 mm) deep; 160 lb (72.6 kg) capacity in **[glacier white]**[**black**].

Drawers: Locking storage installed in each cabinet.

Size: 19 inches (483 mm) wide by [**1U**][**2U**][**3U**] by 20 inches (510 mm) deep, 100 lb (45.4 kg) capacity in **[glacier white]**[**black**].

Size: 23 inches (584 mm) wide by [**1U**][**2U**][**[3U**] by 20 inches (510 mm) deep, 100 lb (45.4 kg) capacity in **[glacier white]**[**black**].

* + - 1. CUBE-IT CABINET SYSTEM

CUBE-iT Cabinet System is designed for use in computer and equipment room applications primarily as a storage solution for network cabling and switch equipment. There is a wall-mount unit and a wall-mount and floor-supported unit. CUBE-iT is installed at the site and then populated with equipment.

Product webpage:

http://www.chatsworth.com/Products/Wall-Mount-Systems/CUBE-iT-Cabinet-System/

Product Data Sheets:

Wall-Mount Floor-Supported: http://www.chatsworth.com/uploadedfiles/files/cube-it\_floor-supported\_datasheet.pdf

Wall-Mount: http://www.chatsworth.com/uploadedfiles/files/cube-it\_wall-mount\_datasheet.pdf

[Basis-of-Design Product](http://www.specagent.com/LookUp/?ulid=12512&mf=04&src=wd): Subject to compliance with requirements, provide Chatsworth Products (CPI); [CUBE-iT Wall-Mount Floor-Supported Cabinet.](http://www.chatsworth.com/Products/Wall-Mount-Systems/Cube-iT-Plus-Cabinet-System/)

Description: Wall-mount and floor-supported cabinets manufactured from steel. Floor supported with wheeled base load-bearing capacity of 1000 lb (453.6 kg) maximum

Size: As coordinated with useable space requirements selected.

Equipment Mounting Rails: Two pairs, square punched; spaced horizontally to support 19 inches (482.6 mm) wide EIA-310-E compliant rack-mount equipment and shall provide [**33U**][**40U**] of rack-mount space.

Select one of the options below.

Front Door: [**Solid**][**Tempered Glass**].

Rear Panel:

Size: 5 inches (130 mm) deep with cable access via pre-punched knockouts for conduit along the top and bottom edges of the panel.

Knockouts: Four 1 inch (25.4 mm) knockouts for ¾ inch trade size conduit; two on top and two on bottom and ten 3 inches (76 mm) knockouts for trade size 2.5 inch (63.5 mm) conduit; five on the top and five on the bottom.

Grommets: Rubberized or plastic/composite which fit within the 3 inch (76 mm) knockouts to protect cables when conduit is not used to route cables.

Cutouts: Two 12 inches (300 mm) high by 6 inches (150 mm) wide.

Color: Powder coat [**Glacier White**][**Black**].

Accessories: [**90 degree mounting bracket**][**vertical cabling section**][**horizontal wire management bar**][**power strip**][**standard** **fan and filter kit**][**low-decibel** **fan and filter kit**][**vertical lashing bracket**][[**LED** **light kit**][**rack-mount** **shelf**][**ground jumpers**][**power strip**][**horizontal bonding busbar**].

[Basis-of-Design Product](http://www.specagent.com/LookUp/?ulid=12512&mf=04&src=wd): Subject to compliance with requirements, provide Chatsworth Products (CPI); [CUBE-iT Wall-Mount Cabinet](http://www.chatsworth.com/Products/Wall-Mount-Systems/Cube-iT-Plus-Cabinet-System/).

Description: Wall-mount cabinets manufactured from steel sheet. Non-seismic applications - Maximum equipment weight of 300 lb (136 kg) when secured to the structural wall with standard anchors. Non-seismic load is tested per UL 2416 and the cabinet is [UL Listed NWIN.E227626](http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/showpage.html?name=NWIN.E227626&ccnshorttitle=Audio/Video,+Information+and+Communication+Technology+Equipment+Cabinet,+Enclosure+and+Rack+Systems&objid=1075881200&cfgid=1073741824&version=versionless&parent_id=1075704653&sequence=1).

Size: As coordinated with useable space requirements selected.

Equipment Mounting Rails: One pair, #12-24 threaded; spaced horizontally to support 19 inches (482.6 mm) wide EIA-310-D compliant rack-mount equipment and shall provide [**12U**][**19U**][**26U**] of rack-mount space.

Front Door: [**Solid**][**Tempered glass window**].

Rear Panel:

Size: 5 inches (130 mm) deep with factory-prepared bonding point and cable access via pre-punched knockouts for conduit along the top and bottom edges of the panel.

Removable panels: the top and bottom panels are removable to allow retrofit of existing wall-mounted panels and include two rectangular, 9 inches (230 mm) x 2.2 inches (55 mm) knockouts for installation around loose cables, one on the top and one on the bottom.

Knockouts: Four 1 inch (25.4 mm) knockouts for ¾” trade size conduit; two on top and two on bottom and four 3 inches (76 mm) knockouts for trade size 2.5 inch (63.5 mm) conduit; two on the top and two on the bottom. The back edge of the knockouts will be located 1.5 inches (38 mm) from the back surface of the panel (cabinet/wall). Two rectangular, 9 inches (230 mm) x 2.2 inches (55 mm) knockouts for loose cables, one on the top and one on the bottom.

Grommets: Rubberized or plastic/composite which fit within the 3 inch (76 mm) knockouts to protect cables when conduit is not used to route cables.

Cutout: One 6 inches (150 mm) high by 6 inches (150 mm) wide on the rear of the panel for cables passing through a recessed junction box.

Color: Powder coat [**Glacier White**][**Black**].

Accessories: [**90° mounting bracket**][**vertical lashing bracket**][**vertical cabling section**]**[cable port brush kit]**[**power strip**][**fan kit**][**LED** **light kit**][**rubber foot kit**][**shelf**][**horizontal wire management bar**][**horizontal bonding busbar**].

Cube-It Cabinet System Accessories:

**90 degree Mounting Bracket:** Attach 19”EIA (482.6 mm) equipment to the rear panel. 2U. Punched with the EIA-310-D Universal hole pattern. Hole spacing will be 5/8 inch - 5/8 inch - 1/2 inch (15.9 mm - 15.9 mm - 12.7 mm). Holes will be tapped with #12-24 threads.

**Vertical Lashing Bracket:** 4 inches (100 mm) wide with an alternating repeating pattern of three vertical columns and two horizontal rows of 1/8 inch (3 mm) by 1 inch (25 mm) lashing points.

Size**: [12U][18U][24U].**

**Vertical Cabling Section:** 7 inch high (178 mm) x 0.5 inch deep (13 mm). Interior width is 1.6 inches (25.4 mm) and 5 inches deep (127 mm) with usable area of 8 square inches (5161.3 sq mm) in **[black].**
Size: [4U]

**Cable Port Brush Kit for Cube-iT Wall-Mount Cabinet:** Rectangular brush cover for rear panel knockout is 0.8”H (20 mm) x 10.6”W (268 00) x 2.9”D (74 mm)

**Horizontal Wire Management Bar:** Lashing bracket used behind a patch panel to support cables as they terminate. 1.5”W (38 mm) x 3.7”D

**Power Strip for Cube-iT Cabinets:** 100-125 Volts Alternating Current, [**15**][**20**] Ampere, [**8**][**6**] outlets, an IEC C20 power inlet and a detachable power cord with NEMA [**straight**][**locking**] plug.

**Fan Kit:** Rated for [**115**][**230**] Volts Alternating Current with [**NEMA 5-15P**][**NEMA 6-15P**] plug. **Standard Fan Kit** has airflow of 115 CFM (170 CMH). **Low Decibel, Dual-Fan Kit** has airflow of 120 CFM (204 CMH)

Provide a light within CUBE-iT cabinet when there is less than 50 foot-candles of light within the cabinet.

**Light**: 120 Volt AC, 4-watt LED, in housing, with detachable 6 foot (1.8 m) long power cord and NEMA 5-15P Plug.

Install a foot kit on the bottom of 24" (610 mm) high or 36" (910 mm) high and 24" (610 mm) deep or 30" (760 mm) deep wall-mount cabinets when the cabinet is placed on the floor, shelf or table top surface (not secured to the wall).

**Foot Kit:** Rubber pads which allow the front door and rear panel to swing open. Used when placing the cabinet on a table top and not mounted on the wall

**Shelf:** Sheet aluminum, solid and fixed in place.

Size: [**1U x 19 inch EIA, 20 lb (9.1 kg) capacity**] in [**Glacier White**][**black**].

**Horizontal Busbar:** Copper alloy; minimum 3/4 inch (19 mm) high and 3/16 inch (4.7 mm) thick.

* + - 1. THINLINE II WALL-MOUNT CABINETS

Thinline II Wall-Mount Cabinet is designed for use in computer and equipment room applications primarily as a storage solution for network cabling and switch equipment. Thinline supports a small amount of equipment, switches are mounted in vertical orientation, keeping the enclosure depth to a minimum. Thinline is installed at the site and then populated with equipment.

Product webpage:

<http://www.chatsworth.com/Products/Wall-Mount-Systems/ThinLine-II-Wall-Mount-Cabinet/>

Product Data Sheet:

<http://www.chatsworth.com/uploadedfiles/files/13050_cut.pdf>

Product AutoDesk Revit BIM model: <https://bimobject.com/en-us/chatsworthproducts/product/cpi-thinline_ii_wall-mount_cabinet>

[Basis-of-Design Product](http://www.specagent.com/LookUp/?ulid=12512&mf=04&src=wd): Subject to compliance with requirements, provide Chatsworth Products (CPI); [ThinLine II Wall-Mount Cabinet System](http://www.chatsworth.com/Products/Wall-Mount-Systems/ThinLine-II-Wall-Mount-Cabinet/).

Description: Wall-mounted cabinets manufactured from steel sheet. Non-seismic applications - Maximum equipment weight of 100 lb (45.4 kg) when secured to the structural wall with standard anchors.

Size: As coordinated with useable space requirements selected.

Equipment Mounting Rails: Two pairs of equipment mounting rails shall provide [**2U**][**4U**][**6U**] of rack-mount space.

Front Door: Solid and keyed.

Sides: Louvered near the top for inlet airflow with four 3/4 inch (19 mm) and 1-1/2 inch (38 mm) conduit knockouts for network cable access.

Bottom Panel: Vented for an exhaust fan with two 3/4 inch (19 mm) and 1-1/2 inch (38 mm) conduit knockouts for network cable access.

Top Panel: Solid removable top panel provides easy access to internal equipment.

Rear Panel: 4 inches (100 mm) by 6 inches (150 mm) opening located near the bottom center of the cabinet for through-the-wall network cable access.

Electrical Connection: Single-gang 2 inch (50 mm) by 4 inch (100 mm) duplex electrical junction box for a single duplex electrical outlet

Color: Powder coat [**Gray**][**Computer beige**][**Black**].

Accessories: [**Fan kit**][**power outlet**][**fiber slack manager panel**].

ThinLine Accessories:

Fan Kit: Solid state temperature control variable fan speed with a 115 VAC, 60 Hz to 12 VDC power supply.

Size: [**4U, 65 CFM – 120 CFM (110 CMH – 204 CMH**][**2U, 36 CFM – 49 CFM (61 CMH – 83 CMH)**].

Power Outlet: Surge-suppressed duplex receptacle rated for 125 Volt, 15 Amps with two NEMA 5-15R outlets.

Fiber Slack Manager Panel: 19 inches (483 mm) wide rack-mount, 4U high and 2 inches (200 mm) deep in [**black**][**computer beige**].

* + - 1. [**HOT**][ **AND** ][**COLD**] AISLE CONTAINMENT ENCLOSURES

Hot Aisle and Cold Aisle Containment Enclosures (or systems) are designed for use in data center and computer room applications primarily as an airflow management solution to isolate hot and cold air within the room. Containment Enclosures are added to adjacent rows of cabinets to cover or surround the cold or hot aisle between the rows of cabinets. Cabinet rows must be the same length. End doors are added to the ends of the aisle between the cabinet row. A ceiling (cold aisle) or a duct (hot aisle) is added over or around the contained aisle. Aisle Containment Enclosures ship unassembled and are assembled on the site.

Product webpage, Cold Aisle Containment:

<http://www.chatsworth.com/products/cabinet-and-enclosure-systems/aisle-containment/cold-aisle-containment/>

Product Application Sheet, Cold Aisle Containment:

<http://www.chatsworth.com/uploadedfiles/files/aisle_containment_cac_applic.pdf>

Product webpage, Hot Aisle Containment:

<http://www.chatsworth.com/products/cabinet-and-enclosure-systems/aisle-containment/hot-aisle-containment/>

Product Application Sheet, Hot Aisle Containment, Cabinet Supported, BTS Kit:

<http://www.chatsworth.com/uploadedfiles/files/aisle_containment_bts_hac_applic.pdf>

Product Application Sheet, Hot Aisle Containment, Frame Supported: <http://www.chatsworth.com/uploadedfiles/files/aisle_containment_fs_hac_applic.pdf>

Product AutoDesk Revit BIM model:

Aisle Containment Door Assembly: <https://bimobject.com/en-us/chatsworthproducts/product/cpi-aisle_containment>

Hot Aisle Containment, BTS Kit: <https://bimobject.com/en-us/chatsworthproducts/product/cpi-build_to_spec_bts_kit>

Cabinet System: **[ZetaFrame Cabinet]**.

* + - * 1. Performance: Aisle Containment Enclosure: Designed and tested to support a minimum of 3000 CFM (5097 CMH) of airflow per cabinet. At .05 inches H20 (12.5 Pa) of pressure, the leakage will be less than 5 percent leakage.
				2. Components:

Aisle Containment Doors:

[**Double**][**Single**] sliding.

Frame and Track: Aluminum extrusion.

Center panel: Full-height, transparent polycarbonate.

Auto closing mechanism with magnetic seal.

Side panels, Color: Powder coat [**Glacier White**][**Black**].

Cabinet to Floor Sealing Kit: Front/rear-mount and/or side-mount brackets sized to match each cabinet.

Color: Powder coat [**Glacier White**][**Black**].

Select below for Cold Aisle Containment.

Overhead Ceiling: Two end panels over each of the aisle containment doors, panels that elevate and support the ceiling over the cabinets, and translucent panels over the aisle to form a completely enclosed ceiling.

Aisle width: 1200 mm or 1800 mm (two or three floor tiles) between adjacent rows of cabinets.

Height: [**4 inches (100 mm)**][**8 inches (200 mm)**][**12 inches (300 mm)]**.

Length: From 141.7 inches (3600 mm) to 629.9 inches (16,000 mm) long in 8 inch (200 mm) increments.

Select below for Hot Aisle Containment.

Overhead Duct: Two end panels over each of the aisle containment doors, a frame that extends between the top of the cabinets and the ceiling, and translucent panels around the aisle to form a completely enclosed duct.

Aisle Width: [**96 inches (2438 mm) two**][**144 inches (3658 mm) three**] tiles between adjacent rows of cabinets.

Height: [**48 inches (1219 mm)**][**96 inches (2438 mm**].

Length: [**94 inches (2388 mm)**][**188 inches (4775 mm)**][**282 inches (7163 mm)**][**376 inches (9550 mm)**][**470 inches (11938 mm)**][**564 inches (14326 mm)**][**658 inches (16713 mm)**][**752 inches (19101 mm)**][**846 inches (21488 mm)**][**940 inches (23876 mm)**].

Color: Powder coat [**Glacier White**][**Black**].

* + - 1. RACKS

[Basis-of-Design Product](http://www.specagent.com/LookUp/?ulid=12512&mf=04&src=wd): Subject to compliance with requirements, provide Chatsworth Products (CPI); Universal Rack.

Universal Rack is designed for use in computer and equipment room applications primarily as a storage solution for network cabling and switch equipment. Add shelves to store computer server and data storage equipment. Universal Rack is used in combination with vertical cable managers, refer to section 271123 Cable Management for product specifications. Universal Rack ships unassembled and is assembled on the site. Universal Rack is installed at the site and then populated with equipment.

Product webpage:

<http://www.chatsworth.com/products/rack-systems/two-post-racks/>

Product Data Sheet:

<http://www.chatsworth.com/uploadedfiles/files/46353_datasheet.pdf>

OSHPD OPM, Seismic Calculations:

<http://www.oshpd.ca.gov/FDD/Pre-Approval/OPM-0261-13.pdf>

<http://www.chatsworth.com/support-and-downloads/design-tools/oshpd-two-post-racks/>

Product AutoDesk Revit BIM model:<https://bimobject.com/en-us/chatsworthproducts/product/cpi-universal_two-post_rack>

Capacity: 1,500 lb (680.4 kg).

Mounting Channels: 3 inches (76 mm) deep and punched on the front and rear flange with the EIA-310-D Universal hole pattern.

UL and cUL Listed as a Communications Circuit Accessory, DUXR and DUXR7 category, file number 140851.

Size:

7 feet (2.1 m) high by 20.3 inches (515.9 mm) wide by 15 inches (381.0 mm) deep, 45U by 19 inch EIA in [**gray**][**computer beige**][**grained aluminum**][**glacier white**][**black**].

7 feet 6 inches (2.3 m) high by 20.3inches (515.9 mm) wide by 15 inches (381.0 mm)deep , 48U by 19 inch EIA in [**gray**][**computer beige**][**grained aluminum**][**glacier white**][**black**].

8 feet (2.4 m) high by 20.3 inches (515.9 mm) wide by 15 inches (381.0 mm) deep, 51U by 19 inch EIA in [**gray**][**computer beige**][**grained aluminum**][**glacier white**][**black**].

9 feet (2.7 m) high by 20.3 inches (515.9 mm) wide by 15 inches (381.0 mm) deep, 58U by 19 inches EIA in [**gray**][**computer beige**][**grained aluminum**][**glacier white**][**black**].

7 feet (2.1 m) high by 24.3 inches (617.5 mm) wide by 15 inches (381.0 mm) deep, 45U by 23 inches (584 mm) wide in [**gray**][**computer beige**][**grained aluminum**]**[glacier white**][**black**].

7 feet 6 inches (2.3 m) high by 24.3 inches (617.5 mm) wide by 15 inches (381.0 mm) deep, 48U by 23 inches (584 mm) wide in [**gray**][**computer beige**][**grained aluminum**]**[glacier white**][**black**].

8 feet (2.4 m) high by 24.3 inches (617.5 mm) wide by 15 inches (381.0 mm) deep, 51U by 23 inches (584 mm) wide in [**gray**][**computer beige**][**grained aluminum**]**[glacier white**][**black**].

9 feet (2.7 m) high by 24.3 inches (617.5 mm) wide by 15 inches (381.0 mm) deep, 58U by 23 inches (584 mm) wide in [**gray**][**computer beige**][**grained aluminum**]**[glacier white**][**black**].

[Basis-of-Design Product](http://www.specagent.com/LookUp/?ulid=12512&mf=04&src=wd): Subject to compliance with requirements, provide Chatsworth Products (CPI); Standard Rack.

Standard Rack is designed for use in computer and equipment room applications primarily as a storage solution for network cabling and switch equipment. Add shelves to store computer server and data storage equipment. Standard Rack is used in combination with vertical cable managers, refer to section 271123 Cable Management for product specifications. Standard Rack ships unassembled and is assembled on the site. Standard Rack is installed at the site and then populated with equipment.

Product webpage:

<http://www.chatsworth.com/products/rack-systems/two-post-racks/>

Product Data Sheet:

<http://www.chatsworth.com/uploadedfiles/files/55053_datasheet.pdf>

OSHPD OPM, Seismic Calculations:

<http://www.oshpd.ca.gov/FDD/Pre-Approval/OPM-0261-13.pdf>

<http://www.chatsworth.com/support-and-downloads/design-tools/oshpd-two-post-racks/>

Product AutoDesk Revit BIM model:

<https://bimobject.com/en-us/chatsworthproducts/product/cpi-standard_two-post_rack>

Capacity: 1,000 lb (453.6 kg).

Mounting Channels: 3 inches (76 mm) deep and punched on the front and rear flange with the EIA-310-D Universal hole pattern.

UL and cUL Listed as a Communications Circuit Accessory, DUXR and DUXR7 category, file number 140851.

Size:

7 feet (2.1 m) high by 20.3 inches (515.9 mm) wide by 15 inches (381.0 mm) deep, 45U by 19 inch EIA in [**gray**][**computer beige**][**grained aluminum**][**black**][**glacier white**].

8 feet (2.4 m) high by 20.3 inches (515.9 mm) wide by 15 inches (381.0 mm) deep, 52U by 19 inch EIA in [**gray**][**computer beige**][**grained aluminum**][**black**][**glacier white**].

9 feet (2.7 m) high by 20.3 inches (515.9 mm) wide by 15 inches (381.0 mm) deep, 58U by 19 inches EIA in [**gray**][**computer beige**][**grained aluminum**][**black**] [**glacier white**].

[Basis-of-Design Product](http://www.specagent.com/LookUp/?ulid=12512&mf=04&src=wd): Subject to compliance with requirements, provide Chatsworth Products (CPI); Seismic Frame Two-Post Rack.

Seismic Frame Two-Post Rack is designed for use in computer and equipment room applications primarily as a storage solution for network cabling and switch equipment. Use Seismic Frame in "seismic zones" where there is a high probability of seismic activity. This rack has a reinforced frame to resist movement during seismic events and has been load tested to GR-63-CORE zone 4 seismic conditions. Seismic Frame is always installed at the site and then populated with equipment. It is secured to the structural floor using seismic rated anchors.

Product webpage:

Product Data Sheet:

<http://www.chatsworth.com/uploadedfiles/files/13853_datasheet.pdf>

OSHPD OPM, Seismic Calculations:

<http://www.oshpd.ca.gov/FDD/Pre-Approval/OPM-0249-13.pdf>

<http://www.chatsworth.com/support-and-downloads/design-tools/oshpd-two-post-racks/>

Product AutoDesk Revit BIM model:

<https://bimobject.com/en-us/chatsworthproducts/product/cpi-seismic_frame_two-post_rack>

Capacity: 1,000 lb (453.6 kg) in seismic areas and meet Telecordia Technologies GR-63-CORE Network Equipment Building Systems (NEBS) Zone 4 requirements.

Mounting Channels: Punched on the front and rear flange with the EIA-310-D Universal hole pattern.

UL and cUL Listed as an Audio/Video, Information and Communications Technology Equipment Cabinet, Enclosure and Rack Systems, NWIN and NWIN7 category, file number 227626.

Size:

19 inches (482 mm) wide by 7 feet (2.1 m) high, 44U, [**Tapped #12-24 Zinc**][**Square-Punched Zinc**][**Tapped #12-24 Painted**][**Square-Punched Painted**] Rails in [**gray**][**computer beige**][**black**].

23 inches (584 mm) wide by 7 feet (2.1 m) high, 44U, [**Tapped #12-24 Zinc**][**Square-Punched Zinc**][**Tapped #12-24 Painted**][**Square-Punched Painted**] Rails in [**gray**][**computer beige**][**black**].

Cable Management:

Two-Post Rack Vertical Cabling Section: 6 inches (150 mm) wide by 6.3 inches (162 mm) deep by 7 feet (2.1 m) high in [**gray**][**computer beige**][**black**].

Cable Management Fingers Kit: 7 RMU plastic T-shaped snap-on cable guides.

Top-Mount Cable Waterfall Tray, 6 inches (150 mm) wide by 5.2 inches (132 mm) deep in [**gray**][**computer beige**][**black**].

Power Distribution:

Duplex Electrical Outlet Box: Zinc.

Vertical Power Strip Mounting Hardware Kit.

Single-Input Vertical Power Strip: Single-Phase, 125 VAC, 15 Amp, with (1) NEMA L5-20P plug and (14) MEMA 5-20R Outlets.

[Basis-of-Design Product](http://www.specagent.com/LookUp/?ulid=12512&mf=04&src=wd): Subject to compliance with requirements, provide Chatsworth Products (CPI); QuadraRack Four-Post Frame.

QuadraRack Four-Post Frame is designed for use in computer and equipment room applications primarily as a storage solution for network cabling and switch equipment. QuadraRack is used in combination with vertical cable managers, refer to section 271123 Cable Management for product specifications. QuadraRack ships unassembled and is assembled on the site. The Rack is installed at the site and then populated with equipment.

Product webpage:

<http://www.chatsworth.com/Products/Rack-Systems/QuadraRack/>

Product Data Sheet:

<http://www.chatsworth.com/product_docs/50120_datasheet.pdf>

OSHPD OPM, Seismic Calculations:

<http://www.oshpd.ca.gov/FDD/Pre-Approval/OPM-0260-13.pdf>

<http://www.chatsworth.com/support-and-downloads/design-tools/oshpd-four-post-racks/>

Product AutoDesk Revit BIM model:

<https://bimobject.com/en-us/chatsworthproducts/product/cpi-quadrarack_4-post_frame>

Capacity: 2,000 lb (907.2 kg).

Mounting Channels: Front and rear tapped #12-24 3 inch (76 mm) deep flange with the EIA-310-D Universal hole pattern.

Size:

19 inches (482 mm) wide by 7 feet (2.1 m) high, 45U in [**clear grained aluminum**][**gray**][**computer beige**][**glacier white**][**black**].

19 inches (482 mm) wide by 8 feet (2.4 m) high, 51U in [**clear grained aluminum**][**gray**][**computer beige**][**glacier white**][**black**].

19 inches (482 mm) wide by 9 feet (2.7 m) high, 58U in [**clear grained aluminum**][**gray**][**computer beige**][**glacier white**][**black**].

[Basis-of-Design Product](http://www.specagent.com/LookUp/?ulid=12512&mf=04&src=wd): Subject to compliance with requirements, provide Chatsworth Products (CPI); QuadraRack Server Frame.

QuadraRack Server Frame is designed for use in computer and equipment room applications primarily as a storage solution for computer server and data storage equipment. QuadraRack is used in combination with vertical cable managers, refer to section 271123 Cable Management for product specifications. QuadraRack ships unassembled and is assembled on the site. The Rack is installed at the site and then populated with equipment.

Product webpage:

<http://www.chatsworth.com/products/rack-systems/serverrack/>

Product Data Sheet:

<http://www.chatsworth.com/product_docs/15053_datasheet.pdf>

Product AutoDesk Revit BIM model:

https://bimobject.com/en-us/chatsworthproducts/product/cpi-quadrarack\_server\_frame

Capacity: 1,000 lb (453.6 kg).

Mounting Channels: front and rear square-punched flanges with the EIA-310-D Universal hole pattern.

Size: 19 inches (482 mm) wide by 7 feet (2.1 m) high, 45U in [**gray**][**computer beige**][**glacier white**][**black**].

Product below is an Open Four-Post Rack.

[Basis-of-Design Product](http://www.specagent.com/LookUp/?ulid=12512&mf=04&src=wd): Subject to compliance with requirements, provide Chatsworth Products (CPI); Adjustable [**QuadraRack**][**ServerRack**].

Adjustable QuadraRack is designed for use in computer and equipment room applications primarily as a storage solution for network cabling and switch equipment. Adjustable ServerRack is designed for use in computer and equipment room applications primarily as a storage solution for computer server and data storage equipment. Adjustable QuadraRack/ServerRack is used in combination with vertical cable managers, refer to section 271123 Cable Management for product specifications. Adjustable QuadraRack/ServerRack ships unassembled and is assembled on the site. The Rack is installed at the site and then populated with equipment.

Product webpage:

<http://www.chatsworth.com/Products/Rack-Systems/QuadraRack/>

<http://www.chatsworth.com/products/rack-systems/serverrack/>

Product Data Sheet:

<http://www.chatsworth.com/product_docs/1521x_datasheet.pdf>

OSHPD OPM, Seismic Calculations:

<http://www.oshpd.ca.gov/FDD/Pre-Approval/OPM-0302-13.pdf>

<http://www.chatsworth.com/support-and-downloads/design-tools/oshpd-four-post-racks/>

Product AutoDesk Revit BIM model:

https://bimobject.com/en-us/chatsworthproducts/product/cpi-adjustable\_quadrarack\_-\_serverrack

Capacity: 2,000 lb (907.2 kg).

Mounting Channels: Punched front and rear flanges with the EIA-310-D Universal hole pattern.

UL and cUL Listed as an Audio/Video, Information and Communications Technology Equipment Cabinet, Enclosure and Rack Systems, NWIN and NWIN7 category, file number 227626.

Size:

72 inches (1800 mm) high, 19 inch EIA x 38U, 15.75 inches (400 mm) to 21.65 inches (550 mm) deep in [**gray**][**computer beige**][**glacier white**][**black**].

84 inches (2100 mm) high, 19 inch EIA x 45U, 15.75 inches (400 mm) to 21.65 inches (550 mm) deep in [**gray**][**computer beige**][**glacier white**][**black**].

96 inches (2400 mm) high, 19 inch EIA x 51U, 15.75 inches (400 mm) to 21.65 inches (550 mm) deep in [**gray**][**computer beige**][**glacier white**][**black**].

108 inches (2740 mm) high, 19 inch EIA x 58U, 15.75 inches (400 mm) to 21.65 inches (550 mm) deep in [**gray**][**computer beige**][**glacier white**][**black**].

72 inches (1800 mm) high, 19 inch EIA x 38U, 22.64 inches (575 mm) to 28.54 inches (725 mm) deep in [**gray**][**computer beige**][**glacier white**][**black**].

84 inches (2100 mm) high, 19 inch EIA x 45U, 22.64 inches (575 mm) to 28.54 inches (725 mm) deep in [**gray**][**computer beige**][**glacier white**][**black**].

96 inches (2400 mm) high, 19 inch EIA x 51U, 22.64 inches (575 mm) to 28.54 inches (725 mm) deep in [**gray**][**computer beige**][**glacier white**][**black**].

108 inches (2740 mm) high, 19 inch EIA x 58U, 22.64 inches (575 mm) to 28.54 inches (725 mm) deep in [**gray**][**computer beige**][**glacier white**][**black**].

72 inches (1800 mm) high, 19 inch EIA x 38U, 29.53 inches (750 mm) to 35.43 inches (900 mm) deep in [**gray**][**computer beige**][**glacier white**][**black**].

84 inches (2100 mm) high, 19 inch EIA x 45U, 29.53 inches (750 mm) to 35.43 inches (900 mm) deep in [**gray**][**computer beige**][**glacier white**][**black**].

96 inches (2400 mm) high, 19 inch EIA x 51U, 29.53 inches (750 mm) to 35.43 inches (900 mm) deep in [**gray**][**computer beige**][**glacier white**][**black**].

108 inches (2740 mm) high, 19 inch EIA x 58U, 29.53 inches (750 mm) to 35.43 inches (900 mm) deep in [**gray**][**computer beige**][**glacier white**][**black**].

72 inches (1800 mm) high, 19 inch EIA x 38U, 36.42 inches (925 mm) to 42.32 inches (1075 mm) deep in [**gray**][**computer beige**][**glacier white**][**black**].

84 inches (2100 mm) high, 19 inch EIA x 45U, 36.42 inches (925 mm) to 42.32 inches (1075 mm) deep in [**gray**][**computer beige**][**glacier white**][**black**].

96 inches (2400 mm) high, 19 inch EIA x 51U, 36.42 inches (925 mm) to 42.32 inches (1075 mm) deep in [**gray**][**computer beige**][**glacier white**][**black**].

108 inches (2740 mm) high, 19 inch EIA x 58U, 36.42 inches (925 mm) to 42.32 inches (1075 mm) deep in [**gray**][**computer beige**][**glacier white**][**black**].

Product below applies to QuadraRack only.

Accessory Equipment Mounting Rail Kit: 19 inch EIA by [**38U**][**45U**][**51U**][**58U**], Threaded No. 12-24, 1 pair in [**gray**][**computer beige**][**glacier white**][**black**].

Product below applies to ServerRack only.

Adjustable ServerRack Center Rail: 19 inch EIA by [**38U**][**45U**][**51U**][**58U**], Square Punched, 1 pair in [**gray**][**computer beige**][**glacier white**][**black**].

Shelves: Rated for 200 lb (90.7 kg) of equipment.

[**Solid**][**Vented**]: 19 inch EIA by 1U, 15.75 inches (400 mm) to 21.65 inches (550 mm) mounting depth, 17.68 inch (449.1 mm) by 13.84 inch (351.5 mm) mounting surface in [**gray**][**computer beige**][**glacier white**][**black**].

[**Solid**][**Vented**]: 19 inch EIA by 1U, 22.64 inches (575 mm) to 28.54 inches (725 mm) mounting depth, 17.68 inch (449.1 mm) by 20.73 inch (526.5 mm) mounting surface in [**gray**][**computer beige**][**glacier white**][**black**].

[**Solid**][**Vented**]: 19 inch EIA by 1U, 29.53 inch (750 mm) to 35.43 inch (900 mm) mounting depth, 17.68 inch (449.1 mm) by 27.62 inch (701.6 mm) mounting surface in [**gray**][**computer beige**][**glacier white**][**black**].

[**Solid**][**Vented**]: 19 inch EIA by 1U, 36.42 inch (925 mm) to 42.32 inch (1075 mm) mounting depth, 17.68 inch (449.1 mm) by 34.51 inch (876.6 mm) mounting surface in [**gray**][**computer beige**][**glacier white**][**black**].

Equipment Support Rails: Rated for 200 lb (90.7 kg) of equipment.

15.75 inches (400 mm) to 19.69 inches (500 mm) mounting depth in [**gray**][**computer beige**][**glacier white**][**black**].

20.67 inches (525 mm) to 24.61 inches (625 mm) mounting depth in [**gray**][**computer beige**][**glacier white**][**black**].

25.59 inches (650 mm) to 29.53 inches (750 mm) mounting depth in [**gray**][**computer beige**][**glacier white**][**black**].

30.51 inches (775 mm) to 34.45 inches (875 mm) mounting depth in [**gray**][**computer beige**][**glacier white**][**black**].

35.43 inches (900 mm) to 39.37 inches (1000 mm) mounting depth in [**gray**][**computer beige**][**glacier white**][**black**].

40.35 inches (1025 mm) to 44.29 inches (1125 mm) mounting depth in [**gray**][**computer beige**][**glacier white**][**black**].

Cable Runway Mounting Bracket: 3.3 inches (84 mm) wide by 1.0 inch (25 mm) high by 24.4 inches (620 mm) long in [**gray**][**computer beige**][**glacier white**][**black**].

[Basis-of-Design Product](http://www.specagent.com/LookUp/?ulid=12512&mf=04&src=wd): Subject to compliance with requirements, provide Chatsworth Products (CPI); Adjustable Rail [**QuadraRack**][**ServerRack**].

Adjustable Rail QuadraRack is designed for use in computer and equipment room applications primarily as a storage solution for network cabling and switch equipment. Adjustable Rail ServerRack is designed for use in computer and equipment room applications primarily as a storage solution for computer server and data storage equipment. The Rack is used in combination with vertical cable managers, refer to section 271123 Cable Management for product specifications. The Rack ships unassembled and is assembled on the site. The Rack is installed at the site and then populated with equipment.

Product webpage:

<http://www.chatsworth.com/Products/Rack-Systems/QuadraRack/>

<http://www.chatsworth.com/products/rack-systems/serverrack/>

Product Data Sheet:<http://www.chatsworth.com/uploadedfiles/files/15251_datasheet.pdf>

OSHPD OPM, Seismic Calculations:<http://www.oshpd.ca.gov/FDD/Pre-Approval/OPM-0301-13.pdf>

<http://www.chatsworth.com/support-and-downloads/design-tools/oshpd-four-post-racks/>

Product AutoDesk Revit BIM model:

<https://bimobject.com/en-us/chatsworthproducts/product/cpi-adjustable_rail_quadrarack_-_serverrack>

Capacity: 2,200 lb (1,000 kg).

Mounting Channels: Punched front and rear flange with the EIA-310-D Universal hole pattern. Rear flange adjust in depth.

UL and cUL Listed as an Audio/Video, Information and Communications Technology Equipment Cabinet, Enclosure and Rack Systems, NWIN and NWIN7 category, file number 227626.

QuadraRack Size:

23.62 inches (600 mm) wide by 72 inches (1800 mm) high by 23.62 inches (600 mm) deep, 19 inch EIA by 38U, 15 inches (380 mm) to 29.5 inches (750 mm) rail depth in [**gray**][**computer beige**][**glacier white**][**black**].

23.62 inches (600 mm) wide by 84 inches (2100 mm) high by 23.62 inches (600 mm) deep, 19 inch EIA by 45U, 15 inches (380 mm) to 29.5 inches (750 mm) rail depth in [**gray**][**computer beige**][**glacier white**][**black**].

23.62 inches (600 mm) wide by 96 inches (2400 mm) high by 23.62 inches (600 mm) deep, 19 inch EIA by 51U, 15 inches (380 mm) to 29.5 inches (750 mm) rail depth in [**gray**][**computer beige**][**glacier white**][**black**].

23.62 inches (600 mm) wide by 72 inches (1800 mm) high by 35.43 inches (900 mm) deep, 19 inch EIA by 38U, 15 inches (380 mm) to 41.3 inches (1050 mm) rail depth in [**gray**][**computer beige**][**glacier white**][**black**].

23.62 inches (600 mm) wide by 84 inches (2100 mm) high by 35.43 inches (900 mm) deep, 19 inch EIA by 45U, 15 inches (380 mm) to 41.3 inches (1050 mm) rail depth in [**gray**][**computer beige**][**glacier white**][**black**].

23.62 inches (600 mm) wide by 96 inches (2400 mm) high by 35.43 inches (900 mm) deep, 19 inch EIA by 51U, 15 inches (380 mm) to 41.3 inches (1050 mm) rail depth in [**gray**][**computer beige**][**glacier white**][**black**].

Shelves: Rated for 200 lb (90.7 kg) of equipment.

[**Solid**][**Vented**]: 19 inch EIA by 1U, 15.75 inches (400 mm) to 21.65 inches (550 mm) mounting depth, 17.68 inch (449.1 mm) by 13.84 inch (351.5 mm) mounting surface in [**gray**][**computer beige**][**glacier white**][**black**].

[**Solid**][**Vented**]: 19 inch EIA by 1U, 22.64 inches (575 mm) to 28.54 inches (725 mm) mounting depth, 17.68 inch (449.1 mm) by 20.73 inch (526.5 mm) mounting surface in [**gray**][**computer beige**][**glacier white**][**black**].

[**Solid**][**Vented**]: 19 inch EIA by 1U, 29.53 inch (750 mm) to 35.43 inch (900 mm) mounting depth, 17.68 inch (449.1 mm) by 27.62 inch (701.6 mm) mounting surface in [**gray**][**computer beige**][**glacier white**][**black**].

[**Solid**][**Vented**]: 19 inch EIA by 1U, 36.42 inch (925 mm) to 42.32 inch (1075 mm) mounting depth, 17.68 inch (449.1 mm) by 34.51 inch (876.6 mm) mounting surface in [**gray**][**computer beige**][**glacier white**][**black**].

Equipment Support Rails: Rated for 200 lb (90.7 kg) of equipment.

Size: [**23.62 inches (600 mm)**][**35.43 inches (900 mm)**] mounting depth in [**gray**][**computer beige**][**glacier white**][**black**].

Cable Runway Mounting Bracket: 3.3 inches (84 mm) wide by 1.0 inch (25 mm) high by 24.4 inches (620 mm) long in [**gray**][**computer beige**][**glacier white**][**black**].

Side Panel:

Size: [**72 inches (1800 mm)**][**84 inches (2100 mm)**][**96 inches (2400 mm)**] high x [**23.62 inches (600 mm)**][**35.43 inches (900 mm)**] deep in [**gray**][**computer beige**][**glacier white**][**black**].

[Basis-of-Design Product](http://www.specagent.com/LookUp/?ulid=12512&mf=04&src=wd): Subject to compliance with requirements, provide Chatsworth Products (CPI); EasySwing Wall-Mount Rack.

EasySwing Wall-Mount Rack is designed for use in computer and equipment room applications primarily as a storage solution for network cabling and switch equipment. EasySwing is installed at the site and then populated with equipment.

Product webpage:

<http://www.chatsworth.com/Products/Wall-Mount-Systems/EasySwing-Wall-Mount-Rack/>

Product Data Sheet:

<http://www.chatsworth.com/uploadedfiles/files/13602_datasheet.pdf>

Product AutoDesk Revit BIM model:

<https://bimobject.com/en-us/chatsworthproducts/product/cpi-easyswing_wall-mount_rack>

Description: Wall-mount rack with swing gate, pivots open 180-degrees.

Material: Sheet and tubular steel

Capacity: 85 lb (38.6 kg).

Mounting Channels: Tapped #12-24 flange with the EIA-310-D Universal hole pattern.

Size:

11U x 19 inch EIA by [**6.5 inches (165 mm) deep usable, 24.5 inches (622 mm) high by 20.3 inches (516 mm) wide by 8 inches (204 mm)**][**10.5 inches (266 mm) deep usable, 24.5 inches (622 mm) high by 20.3 inches (516 mm) wide by 12 inches (305 mm)**][**16.5 inches (419 mm) deep usable, 24.5 inches (622 mm) high by 20.3 inches (516 mm) wide by 18 inches (457 mm)**][**23.5 inches (596 mm) deep usable, 24.5 inches (622 mm) high by 20.3 inches (516 mm) wide by 25 inches (635 mm)**] deep overall in [**gray**][**computer beige**][**glacier white**][**black**].

19U x 19 inch EIA by [**6.5 inches (165 mm) deep usable, 38.5 inches (978 mm) high by 20.3 inches (516 mm) wide by 8 inches (204 mm)**][**10.5 inches (266 mm) deep usable, 38.5 inches (978 mm) high by 20.3 inches (516 mm) wide by 12 inches (305 mm)**][**16.5 inches (419 mm) deep usable, 38.5 inches (978 mm) high by 20.3 inches (516 mm) wide by 18 inches (457 mm)**][**23.5 inches (596 mm) deep usable, 38.5 inches (978 mm) high by 20.3 inches (516 mm) wide by 25 inches (635 mm)**] deep overall in [**gray**][**computer beige**][**glacier white**][**black**].

26U x 19 inch EIA by [**10.5 inches (266 mm) deep usable, 51.5 inches (1308 mm) high by 20.3 inches (516 mm) wide by 12 inches (305 mm)**][**16.5 inches (419 mm) deep usable, 51.5 inches (1308 mm) high by 20.3 inches (516 mm) wide by 18 inches (457 mm)**] overall in [**gray**][**computer beige**][**glacier white**][**black**].

[Basis-of-Design Product](http://www.specagent.com/LookUp/?ulid=12512&mf=04&src=wd): Subject to compliance with requirements, provide Chatsworth Products (CPI); Fixed Wall-Mount Equipment Rack.

Fixed Wall-Mount Equipment Rack is designed for use in computer and equipment room applications primarily as a storage solution for network cabling and switch equipment. The Rack is installed at the site and then populated with equipment.

Product webpage:

<http://www.chatsworth.com/Products/Wall-Mount-Systems/Fixed-Wall-Rack/>

Product Data Sheet:

<http://www.chatsworth.com/uploadedfiles/files/11960_cut.pdf>

OSHPD OPM, Seismic Calculations:

<http://www.oshpd.ca.gov/FDD/Pre-Approval/OPM-0265-13.pdf>

Product AutoDesk Revit BIM model:

<https://bimobject.com/en-us/chatsworthproducts/product/cpi-fixed_wall-mount_equipment_rack>

Description: Wall-mount rack with fixed mounting channels

Material: Sheet aluminum and aluminum extrusions.

Capacity: 200 lb (90.7 kg).

Mounting Channels: Tapped #12-24 flange with the EIA-310-D Universal hole pattern.

UL and cUL Listed as an Audio/Video, Information and Communications Technology Equipment Cabinet, Enclosure and Rack Systems, NWIN and NWIN7 category, file number 227626.

Size:

12U by 19 inch EIA by [**6 inches (150 mm) deep usable, 27.4 inches (696 mm) high by 22.4 inches (569 mm) wide by 6.6 inches (168 mm)**][**12 inches (300 mm) deep usable, 27.4 inches (696 mm) high by 22.4 inches (569 mm) wide by 12.6 inches (320 mm)**][**18 inches (457 mm) deep usable, 27.4 inches (696 mm) high by 22.4 inches (569 mm) wide by 18.6 inches (472 mm)**] deep overall in [**gray**][**computer beige**] [**glacier white**][**brushed aluminum**][**black**].

20U by 19 inch EIA by [**6 inches (150 mm) deep usable, 41.4 inches (1052 mm) high by 22.4 inches (569 mm) wide by 6.6 inches (168 mm)**][**12 inches (300 mm) deep usable, 41.4 inches (1052 mm) high by 22.4 inches (569 mm) wide by 12.6 inches (320 mm)**][**18 inches (457 mm) deep usable, 41.4 inches (1052 mm) high by 22.4 inches (569 mm) wide by 18.6 inches (472 mm)**] deep overall in [**gray**][**computer beige**][**glacier** **white**][**brushed aluminum**][**black**].

40U by 19 inch EIA by [**6 inches (150 mm) deep usable, 76.4 inches (1941 mm) high by 22.4 inches (569 mm) wide by 6.6 inches (168 mm)**][**12 inches (300 mm) deep usable, 76.4 inches (1941 mm) high by 22.4 inches (569 mm) wide by 12.6 inches (320 mm)**][**18 inches (457 mm) deep usable, 76.4 inches (1941 mm) high by 22.4 inches (569 mm) wide by 18.6 inches (472 mm)**] deep overall in [**gray**][**computer beige**][**glacier white**][**brushed aluminum**][**black**].

12U by 23 inches (584.2 mm) wide by [**6 inches (150 mm) deep usable, 27.4 inches (696 mm) high by 26.4 inches (671 mm) wide by 6.6 inches (168 mm)**][**12 inches (300 mm) deep usable, 27.4 inches (696 mm) high by 26.4 inches (671 mm) wide by 12.6 inches (320 mm)**][**18 inches (457 mm) deep usable, 27.4 inches (696 mm) high by 26.4 inches (671 mm) wide by 18.6 inches (472 mm)**] deep overall in [**gray**][**computer beige**][**glacier white**][**brushed aluminum**][**black**].

20U by 23 inches (584.2 mm) wide by [**6 inches (150 mm) deep usable, 41.4 inches (1052 mm) high by 26.4 inches (671 mm) wide by 6.6 inches (168 mm)**][**12 inches (300 mm) deep usable, 41.4 inches (1052 mm) high by 26.4 inches (671 mm) wide by 12.6 inches (320 mm)**][**18 inches (457 mm) deep usable, 41.4 inches (1052 mm) high by 26.4 inches (671 mm) wide by 18.6 inches (472 mm)**] deep overall in [**gray**][**computer beige**][**glacier white**][**brushed aluminum**][**black**].

40U by 23 inches (584.2 mm) wide by [**6 inches (150 mm) deep usable, 76.4 inches (1941 mm) high by 26.4 inches (671 mm) wide by 6.6 inches (168 mm)**][**12 inches (300 mm) deep usable, 76.4 inches (1941 mm) high by 26.4 inches (671 mm) wide by 12.6 inches (320 mm)**][**18 inches (457 mm) deep usable, 76.4 inches (1941 mm) high by 26.4 inches (671 mm) wide by 18.6 inches (472 mm)**] deep overall in [**gray**][**computer beige**][**glacier white**][**brushed aluminum**][**black**].

[Basis-of-Design Product](http://www.specagent.com/LookUp/?ulid=12512&mf=04&src=wd): Subject to compliance with requirements, provide Chatsworth Products (CPI); Heavy-Duty Wall-Mount Equipment Rack.

Heavy-Duty Wall-Mount Equipment Rack is designed for use in computer and equipment room applications primarily as a storage solution for network cabling and switch equipment. The Rack is installed at the site and then populated with equipment.

Product webpage:

<http://www.chatsworth.com/products/wall-mount-systems/heavy-duty-rack/>

Product Data Sheet:

<http://www.chatsworth.com/uploadedfiles/files/15320_cut.pdf>

OSHPD OPM, Seismic Calculations:

<http://www.oshpd.ca.gov/FDD/Pre-Approval/OPM-0265-13.pdf>

<http://www.chatsworth.com/support-and-downloads/design-tools/oshpd-wall-mount-systems/>

Product AutoDesk Revit BIM model:

<https://bimobject.com/en-us/chatsworthproducts/product/cpi-heavy-duty_wall-mount_equipment_rack>

Description: Wall-mount rack with fixed mounting channels

Material: Sheet aluminum and aluminum extrusions.

Capacity: 350 lb (158.8 kg).

Mounting Channels: Tapped #12-24 flange with the EIA-310-D Universal hole pattern.

Size:

20U by 19 inch EIA by [**18 inches (457 mm) deep usable, 41.2 inches (1046 mm) high by 23.0 inches (584 mm) wide by 18.0 inches (457 mm)**][**24 inches (610 mm) deep usable, 41.2 inches (1046 mm) high by 23.0 inches (584 mm) wide by 24.0 inches (610 mm)**] deep overall in [**gray**][**computer beige**][**glacier white**][**brushed aluminum**][**black**].

40U by 19 inches EIA by [**18 inches (457 mm) deep usable, 76.2 inches (1935 mm) high by 23.0 inches (584 mm) wide by 18 inches (457 mm)**][**24 inches (610 mm) deep usable, 76.2 inches (1935 mm) high by 23.0 inches (584 mm) wide by 24.0 inches (610 mm)**] deep overall in [**gray**][**computer beige**][**glacier white**][**brushed aluminum**][**black**].

20U by 23 inches (584.2 mm) wide by [**18 inches (457 mm) deep usable, 41.2 inches (1046 mm) high by 27.0 inches (686 mm) wide by 18.0 inches (457 mm)**][**24 inches (610 mm) deep usable, 41.2 inches (1046 mm) high by 27.0 inches (686 mm) wide by 24.0 inches (610 mm)**] deep overall in [**gray**][**computer beige**][**glacier white**][**brushed aluminum**][**black**].

40U by 23 inches (584.2 mm) wide by [**18 inches (457 mm) deep usable, 76.2 inches (1935 mm) high by 27.0 inches (686 mm) wide by 18.0 inches (457 mm)**][**24 inches (610 mm) deep usable, 76.2 inches (1935 mm) high by 27.0 inches (686 mm) wide by 24.0 inches (610 mm)**] deep overall in [**gray**][**computer beige**][**glacier white**][**brushed aluminum**][**black**].

[Basis-of-Design Product](http://www.specagent.com/LookUp/?ulid=12512&mf=04&src=wd): Subject to compliance with requirements, provide Chatsworth Products (CPI); Standard Swing Gate Wall Rack.

Standard Swing Gate Wall Rack is designed for use in computer and equipment room applications primarily as a storage solution for network cabling and switch equipment. The rack is installed at the site and then populated with equipment.

Product webpage:

<http://www.chatsworth.com/products/wall-mount-systems/standard-swing-gate/>

Product Data Sheet:

<http://www.chatsworth.com/uploadedfiles/files/11790_cut.pdf>

OSHPD OPM, Seismic Calculations:

<http://www.oshpd.ca.gov/FDD/Pre-Approval/OPM-0263-13.pdf>

<http://www.chatsworth.com/support-and-downloads/design-tools/oshpd-wall-mount-systems/>

Product AutoDesk Revit BIM model:

http://seek.autodesk.com/product/latest/agg/chatsworthproductscpi/Chatsworth-Products-CPI/CPIStandard\_Swing\_Gate\_Wall\_Rack

Description: Wall-mount rack with swing gate, pivots open 90-degrees.

Material: Sheet aluminum and steel and aluminum extrusions.

Capacity: 100 lb (45.4 kg).

Mounting Channels: Tapped #12-24 flange with the EIA-310-D Universal hole pattern.

UL and cUL Listed as an Audio/Video, Information and Communications Technology Equipment Cabinet, Enclosure and Rack Systems, NWIN and NWIN7 category, file number 227626.

Size:

12U by 19 inch EIA by [**11 inches (280 mm) deep usable, 29.1 inches (739 mm) high by 21.7 inches (551 mm) wide by 12.2 inches (310 mm)**][**17 inches (430 mm) deep usable, 29.1 inches (739 mm) high by 21.7 inches (551 mm) wide by 18.2 inches (462 mm)**][**24 inches (610 mm) deep usable, 29.1 inches (739 mm) high by 21.7 inches (551 mm) wide by 25.2 inches (640 mm)**] deep overall in [**gray**][**computer beige**][**glacier white**][**black**].

20U by 19 inch EIA by [**11 inches (280 mm) deep usable, 43.1 inches (1095 mm) high by 21.7 inches (551 mm) wide by 12.2 inches (310 mm)**][**17 inches (430 mm) deep usable, 43.1 inches (1095 mm) high by 21.7 inches (551 mm) wide by 18.2 inches (462 mm)**][**24 inches (610 mm) deep usable, 43.1 inches (1095 mm) high by 21.7 inches (551 mm) wide by 25.2 inches (640 mm)**] deep overall in [**gray**][**computer beige**][**glacier white**][**black**].

26U by 19 inch EIA by [**11 inches (280 mm) deep usable, 53.6 inches (1361 mm) high by 21.7 inches (551 mm) wide by 12.2 inches (310 mm)**][**17 inches (430 mm) deep usable, 53.6 inches (1361 mm) high by 21.7 inches (551 mm) wide by 18.2 inches (462 mm)**][**24 inches (610 mm) deep usable, 53.6 inches (1361 mm) high by 21.7 inches (551 mm) wide by 25.2 inches (640 mm)**] deep overall in [**gray**][**computer beige**][**glacier white**][**black**].

40U by 19 inch EIA by [**11 inches (280 mm) deep usable, 78.1 inches (1984 mm) high by 21.7 inches (551 mm) wide by 12.2 inches (310 mm)**][**17 inches (430 mm) deep usable, 78.1 inches (1984 mm) high by 21.7 inches (551 mm) wide by 18.2 inches (462 mm)**][**24 inches (610 mm) deep usable, 78.1 inches (1984 mm) high by 21.7 inches (551 mm) wide by 25.2 inches (640 mm)**] deep overall in [**gray**][**computer beige**][**glacier white**][**black**].

12U by 23 inches (584 mm) wide by [**11 inches (280 mm) deep usable, 29.1 inches (739 mm) high by 25.7 inches (653 mm) wide by 12.2 inches (310 mm)**][**17 inches (430 mm) deep usable, 29.1 inches (739 mm) high by 25.7 inches (653 mm) wide by 18.2 inches (462 mm)**][**24 inches (610 mm) deep usable, 29.1 inches (739 mm) high by 25.7 inches (653 mm) wide by 25.2 inches (640 mm)**] deep overall in [**gray**][**computer beige**][**glacier white**][**black**].

20U by 23 inches (584.2 mm) wide by [**11 inches (280 mm) deep usable, 43.1 inches (1095 mm) high by 25.7 inches (653 mm) wide by 12.2 inches (310 mm)**][**17 inches (430 mm) deep usable, 43.1 inches (1095 mm) high by 25.7 inches (653 mm) wide by 18.2 inches (462 mm)**][**24 inches (610 mm) deep usable, 43.1 inches (1095 mm) high by 25.7 inches (653 mm) wide by 25.2 inches (640 mm)**] deep overall in [**gray**][**computer beige**][**glacier white**][**black**].

26U by 23 inches (584.2 mm) wide by [**11 inches (280 mm) deep usable, 53.6 inches (1361 mm) high by 25.7 inches (653 mm) wide by 12.2 inches (310 mm)**][**17 inches (430 mm) deep usable, 53.6 inches (1361 mm) high by 25.7 inches (653 mm) wide by 18.2 inches (462 mm)**][**24 inches (610 mm) deep usable, 53.6 inches (1361 mm) high by 25.7 inches (653 mm) wide by 25.2 inches (640 mm)**] deep overall in [**gray**][**computer beige**][**glacier white**][**black**].

40U by 23 inches (584.2 mm) wide by [**11 inches (280 mm) deep usable, 78.1 inches (1984 mm) high by 25.7 inches (653 mm) wide by 12.2 inches (310 mm)][17 inches (430 mm) deep usable, 78.1 inches (1984 mm) high by 25.7 inches (653 mm) wide by 18.2 inches (462 mm)**][**24 inches (610 mm) deep usable, 78.1 inches (1984 mm) high by 25.7 inches (653 mm) wide by 25.2 inches (640 mm)**] deep overall in [**gray**][**computer beige**][**glacier white**][**black**].

Heavy Duty Swing Gate Kit: Increases the load bearing capacity of the rack to 150 lb (68 kg).

[Basis-of-Design Product](http://www.specagent.com/LookUp/?ulid=12512&mf=04&src=wd): Subject to compliance with requirements, provide Chatsworth Products (CPI); Universal Swing Gate Wall Rack.

Universal Swing Gate Wall Rack is designed for use in computer and equipment room applications primarily as a storage solution for network cabling and switch equipment. The rack is installed at the site and then populated with equipment.

Product webpage:

<http://www.chatsworth.com/products/wall-mount-systems/universal-swing-gate-wall-rack/>

Product Data Sheet:

<http://www.chatsworth.com/uploadedfiles/files/11347_cut.pdf>

Product AutoDesk Revit BIM model:

<https://bimobject.com/en-us/chatsworthproducts/product/cpi-universal_swing_gate_wall_rack>

Description: Wall-mount rack with swing gate, pivots open 180-degrees.

Material: Sheet aluminum and aluminum extrusions.

Capacity: 150 lb (68 kg).

Mounting Channels: Tapped #12-24 flange with the EIA-310-D Universal hole pattern.

Size:

20U by 19 inch EIA by [**12 inches (300 mm) deep usable, 40.4 inches (1026 mm) high by 22.1 inches (562 mm) wide by 12.8 inches (325 mm)**][**18 inches (457 mm) deep usable, 40.4 inches (1026 mm) high by 22.1 inches (562 mm) wide by 18.8 inches (478 mm)**] deep overall in [**gray**][**computer beige**][**glacier white**][**brushed aluminum**][**black**].

20U by 23 inches (584.2 mm) wide by [**12 inches (300 mm) deep usable, 40.4 inches (1026 mm) high by 26.1 inches (663 mm) wide by 12.8 inches (325 mm)**][**18 inches (457 mm) deep usable, 40.4 inches (1026 mm) high by 26.1 inches (663 mm) wide by 18.8 inches (478 mm)**] deep overall in [**gray**][**computer beige**][**glacier white**][**brushed aluminum**][**black**].

* + - 1. CONSOLIDATION POINT ENCLOSURES

[Basis-of-Design Product](http://www.specagent.com/LookUp/?ulid=12512&mf=04&src=wd): Subject to compliance with requirements, provide Chatsworth Products (CPI); Zone Cabling Enclosures Ceiling-Mounted Consolidation Point Enclosures.

Zone Cabling Enclosures Ceiling Mounted Consolidation Point Enclosures is designed for use in overhead office ceiling applications primarily as a storage solution for network cabling. The enclosure is installed at the site and then populated with equipment.

Product webpage:

<http://www.chatsworth.com/products/zone-cabling-and-wireless-enclosures/ceiling-systems/>

Product Data Sheet:

<http://www.chatsworth.com/uploadedfiles/files/a1222-pp_cut.pdf>

<http://www.chatsworth.com/uploadedfiles/files/a1222-lp_cut.pdf>

<http://www.chatsworth.com/uploadedfiles/files/a1024-lp_cut.pdf>

<http://www.chatsworth.com/uploadedfiles/files/a1024-pp_cut.pdf>

Material: Sheet aluminum; 0.06 inch thickness.

Hinged access door.

Brackets for 19 inch EIA patch panels will provide a minimum of four rack-mount spaces (U) for equipment. Equipment mounting holes will be EIA-310-D compliant with threaded No. 12-24 inserts spaced on 1-1/4 inch wide vertical centers.

Capacity: [**80 lb total, 50 lb on door for 2 foot by 4 foot**][**70 lb total, 20 lb on door for 2 foot by 2 foot**] enclosure.

Color: White.

Size:

2 feet by 2 feet, 12 inches deep, with 1 removable mounting panel for block terminating hardware.

2 feet by 2 feet, 12 inches deep, with 1 removable 19 inch EIA x 4U equipment-mounting bracket for patch panels.

2 feet by 4 feet, 12 inches deep, with 2 removable mounting panels for block terminating hardware.

2 feet by 4 feet, 12 inches deep, with 2 removable 19 inch EIA x 4U equipment-mounting bracket for patch panels.

[Basis-of-Design Product](http://www.specagent.com/LookUp/?ulid=12512&mf=04&src=wd): Subject to compliance with requirements, provide Chatsworth Products (CPI); Zone Cabling Enclosures Floor-Mounted Consolidation Point Enclosures.

Zone Cabling Enclosures Floor-Mounted Consolidation Point Enclosures are designed for use in raised floor office or data center applications primarily as a storage solution for network cabling. The enclosure is installed at the site and then populated with equipment.

Product webpage:

<http://www.chatsworth.com/products/zone-cabling-and-wireless-enclosures/raised-floor-systems/>

Product Data Sheet:

<http://www.chatsworth.com/uploadedfiles/files/a0422-rf_cut.pdf>

<http://www.chatsworth.com/uploadedfiles/files/a0622-rf_cut.pdf>

<http://www.chatsworth.com/uploadedfiles/files/a0802-rf-di_cut.pdf>

<http://www.chatsworth.com/uploadedfiles/files/a1422-rf_cut.pdf>

Material: Sheet aluminum; 0.06 inch thickness.

Brackets for 19 inch EIA patch panels will provide a minimum of two rack-mount spaces (U) for equipment. Equipment mounting holes will be EIA-310-D compliant with threaded No. 12-24 inserts spaced on 1-1/4 inch wide vertical centers.

Finish: Mill.

Size:

2 feet by 2 feet, [**2 inches**][**4 inches**] deep, with (2) pivoting 19 inch EIA by 1U equipment-mounting brackets for patch panels.

2 feet by 2 feet, 6 inches deep, with (2) pivoting 19 inch EIA by 2U equipment-mounting brackets for patch panels.

2 feet by 2 feet, 8 inches deep, with (2) pivoting 19 inch EIA by 4U equipment-mounting brackets for patch panels.

2 feet by 2 feet, 14 inches deep, with (1) fixed 19 inch EIA by 11U equipment-mounting bracket for patch panels.

2 feet by 2 feet, 8 inches deep, with (1) fixed 19 inch EIA by 4U equipment-mounting bracket (removable) for fiber enclosures.

* + - 1. TELECOMMUNICATIONS ENCLOSURES

[Basis-of-Design Product](http://www.specagent.com/LookUp/?ulid=12512&mf=04&src=wd): Subject to compliance with requirements, provide Chatsworth Products (CPI); Zone Cabling Enclosures Ceiling-Mounted Telecommunications Enclosures.

Zone Cabling Enclosures Ceiling-Mounted Telecommunications Enclosures is designed for use in overhead office ceiling applications primarily as a storage solution for network cabling and switch equipment. The enclosure is installed at the site and then populated with equipment.

Product webpage:

<http://www.chatsworth.com/products/zone-cabling-and-wireless-enclosures/ceiling-systems/>

Product Data Sheet:

<http://www.chatsworth.com/product_docs/a1222-hr_cut.pdf>

<http://www.chatsworth.com/uploadedfiles/files/a1024-hr_cut.pdf>

Material: Sheet aluminum; 0.06 inch thickness.

Hinged access door.

Brackets for 19 inch EIA patch panels will provide a minimum of four rack-mount spaces (U) for equipment. Equipment mounting holes will be EIA-310-D compliant with threaded No. 12-24 inserts spaced on 1-1/4 inches wide vertical centers.

Capacity: [**80 lb total, 50 lb on door for 2 foot by 4 foot**][**70 lb total, 20 lb on door for 2 foot by 2 foot**] enclosure.

Finish: Mill.

Size: 2 feet by 2 feet, 12 inches deep, with [**1**][**2**] removable 19 inch EIA by 4U equipment-mounting bracket, one ventilation fan, one electrical junction box, and bonding point.

[Basis-of-Design Product](http://www.specagent.com/LookUp/?ulid=12512&mf=04&src=wd): Subject to compliance with requirements, provide Chatsworth Products (CPI); Zone Cabling Enclosures Floor-Mounted Telecommunications Enclosures.

Zone Cabling Enclosures Floor-Mounted Telecommunications Enclosures are designed for use in raised floor office or data center applications primarily as a storage solution for network cabling and switch equipment. The enclosure is installed at the site and then populated with equipment.

Product webpage:

http://www.chatsworth.com/products/zone-cabling-and-wireless-enclosures/raised-floor-systems/

Product Data Sheet:

http://www.chatsworth.com/uploadedfiles/files/a1411-rf-hr\_cut.pdf

Material: Sheet aluminum; 0.06 inch thickness.

Hinged access door.

Brackets for 19 inch EIA patch panels will provide a minimum of four rack-mount spaces (U) for equipment. Equipment mounting holes will be EIA-310-D compliant with threaded #12-24 inserts spaced on 1-1/4" (wide) vertical centers.

Capacity: [**85 lb for 2 foot by 4 foot**][**70 lb for 2 foot by 2 foot**] enclosure.

Finish: Mill.

Size:

2 feet by 2 feet, 14 inches deep, with (1) removable 19 inch EIA by 4U equipment-mounting tray, one ventilation fan, one electrical junction box, and bonding point.

2 feet by 2 feet, 14 inches deep, with (2) removable 19 inch EIA by 4U equipment-mounting tray, one ventilation fan, one electrical junction box, and bonding point.

1. EXECUTION
	* + 1. INSTALLATION OF FLOOR MOUNTED EQUIPMENT CABINETS

This article applies to ZetaFrame cabinets.

General: Comply with NECA 1.

* + - * 1. Install and adjust to position all cabinet/frame accessories including thermal management accessories, vertical cable managers, vertical power managers and equipment-mounting rails, using the manufacturer's installation instructions prior to baying and/or placing the cabinet for attachment to the building and before installing any rack-mount equipment into the cabinet.
				2. Shelves, horizontal cable managers and filler panels (rack-mount accessories), if used, may be installed after the cabinet is placed.
				3. When attached to the structural floor, the installer shall provide installation hardware.

Retain paragraph below for seismic cabinets.

* + - * 1. Seismic Installations: Install anchors as designed by Structural Engineer licensed in <**Insert State**> and as detailed.
				2. When used in a multi-cabinet bay, cabinets shall be attached side-by-side using included baying kits according to the manufacturer's instructions.
				3. Attach overhead ladder rack or cable tray to the ceiling or the top of the cabinet. A 3 inch (75 mm) minimum clearance between the top of the cabinet and the bottom of the ladder rack/cable tray shall be maintained. Ladder rack/cable tray shall be positioned so that it does not interfere with hot air exhaust through the cabinet's top panel. Use radius drops where cable enters/exits the ladder rack/cable tray.
			1. INSTALLATION OF WALL MOUNTED EQUIPMENT CABINETS SYSTEM

This article applies to CUBE iT only.

Attach the cabinet to the wall so that the front door and cabinet body can be opened fully without obstruction by other building, storage or architectural components. Follow the manufacturer's installation instructions when securing the cabinet to the wall and backboard.

The wheeled base on floor-supported cabinets must contact the floor and should not be removed and omitted from the installation.

Attach the cabinet directly into studs through a 3/4 inch (19 mm) plywood backboard.

The cabinet may be attached to a masonry wall when the installer provides hardware.

Use included hardware or the appropriate hardware as defined by local code or the authority having jurisdiction. The top of the cabinet when installed should not exceed 84 inches (2133.6 mm) above the finished floor.

Cables shall enter/exit the cabinet through conduit knockouts in the top and/or bottom of the rear panel of the cabinet or through the rectangular cut outs in the back of the rear panel of the cabinet. Use edge-protection grommets on conduit knockouts when cables pass through a conduit knockout but are not enclosed in conduit.

Install and adjust to position all accessories including [**vertical cable managers,**][ **power strips,**][ **equipment-mounting rails,**][ **fan and filter kits,**][ **and lights**] prior to installing equipment into the cabinet. Verify that [**fans,**][ **light**][ **and**][ **power strips**] work prior to installing equipment.[ **Shelves, if used, may be installed with equipment.**]

* + - 1. INSTALLATION OF WALL MOUNTED RACK SYSTEMS

Attach the rack to the wall so that it can be accessed fully without obstruction by other building, storage, or architectural components. Follow the manufacturer's installation instructions when securing the cabinet to the wall and backboard.

Attach the rack directly into studs through a 3/4 inch (19 mm) plywood backboard.

The rack may be attached to a masonry wall when the installer provides hardware.

Use included hardware or the appropriate hardware as defined by local code or the authority having jurisdiction. The top of the rack when installed should not exceed 84 inches (2133.6 mm) above the finished floor.

* + - 1. BONDING

Install bonding according to BICSI TDMM, "Grounding, Bonding, and Electrical Protection" Chapter.

* + - * 1. Attach a bonding conductor sized as defined in ANSI/TIA-607 and as defined by local code or the authority having jurisdiction (AHJ) between the Bonding Busbar and the cabinet.
				2. Attach the bonding conductor to the cabinet using a ground terminal block according to the manufacturer's installation instructions. The installer shall provide the bonding conductor and other necessary hardware required to make the connections between the cabinet and the Bonding Busbar.
			1. INSTALLATION OF [**HOT**][ **AND** ][**COLD**] AISLE CONTAINMENT ENCLOSURES

Install aisle containment doors using the manufacturer's installation instructions. Doors must be secured to the cabinets and the floor. Installers shall provide appropriate floor installation hardware as defined by local code or the authority having jurisdiction (AHJ). Additional installation brackets or panels may be required.

Bay cabinets together side-by-side using baying kits and seal kits and/or expandable adhesive foam tape to block airflow between cabinets. Each cabinet should be equipped with an air dam kit and filler/blanking panels to block front-to-rear bypass airflow through the cabinet/around equipment. Also use raised floor grommets to seal openings in the raised floor to prevent the loss of cold air.

Install full height blanking panels using the manufacturer's installation instructions. Full height blanking panels must seal spaces between cabinets where cabinets are omitted or on the ends of cabinet rows if cabinets do not fill the entire space between aisle containment doors.

Install additional overhead filler panels using the manufacturer's installation instructions. Overhead filler panel must seal spaces above cabinets between the tops of cabinets and the overhead duct.

* + - * 1. Install overhead ducts panels using the manufacturer's installation instructions. Ducts must be field fitted to match ceiling height and secured to the tops of cabinets. Ducts must be sealed between the top of the panel and the drop ceiling or overhead exhaust ductwork. Install additional overhead filler panels where required to seal spaces created when the cabinet and/or door heights vary. Additional installation brackets may be required.

Install cabinet to floor sealing kits around the base of the cabinets using the manufacturer's installation instructions or use expandable adhesive foam tape or panels if no specific kit is available. When cabinets are elevated on leveling feet or casters, the space between the bottom of the cabinet and the floor must be sealed to block airflow under the cabinets.

* + - 1. INSTALLATION OF FLOOR MOUNTED EQUIPMENT RACKS

Assemble [**relay racks**][**frames**] according to manufacturer's instructions. Verify that equipment mounting rails are sized properly for rack-mount equipment before attaching the rack to the floor.

Use CPI Part Number 40604-003 for concrete slab floors or 40607-001 wood floors. Raised floor support kits are also available.

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. Racks shall be bonded to the bonding busbar using appropriate hardware provided by the contractor. The bond will meet local code requirements and will be approved by the Authority Having Jurisdiction (AHJ).

In seismic areas, the rack should have additional bracing as required by building codes and the recommendations of a licensed structural engineer.

Ladder rack may be attached to the top of the rack to deliver cables to the rack. The rack shall not be drilled to attach ladder rack. Use appropriate hardware from the ladder rack manufacturer.

The equipment load will 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. In seismic areas, secure equipment to shelves with additional bracing.

The next three paragraphs apply to Open Four-Post Racks.

* + - * 1. Accessory Equipment Mounting Rails: Equipment must be attached to the equipment mounting rails and must not exceed the accessory equipment mounting rails load capacity. Verify that the rack has sufficient load capacity for the accessory equipment mounting rails and equipment.
				2. Shelves: Equipment placed on the shelf must fit completely within the shelf surface and must not exceed the shelf load capacity. Verify that the rack has sufficient load capacity for the shelf and equipment.**[ In seismic areas, additional bracing should be used to secure equipment to the shelf or rack.**]
				3. Cable Runway Mounting Bracket: Install according to manufacturer's instructions.
			1. INSTALLATION OF ENCLOSURES

Ceiling Enclosures:

Attach the enclosure to the ceiling so that the access door can be opened fully without obstruction by other building, storage or architectural components. Locate the enclosure near the center of the cabling zone. The enclosure should be positioned so that access to the enclosure does not require movement of furnishings and so that disturbance in the workspace is minimized. The ceiling space must provide sufficient height for the enclosure. Access to the enclosure through surrounding ceiling tiles should also be considered when selecting location of the enclosure.

Follow the manufacturer's installation instructions when securing the enclosure to the ceiling and installing equipment. The enclosure must be attached to building structure with threaded rods and cannot be supported by the drop ceiling grid (t-bars) or tiles unless the enclosure is provided with brackets specifically for this purpose. Use 3/8 inch hardware or appropriate hardware as defined by local code or the authority having jurisdiction to secure the enclosure to building structure. Auxiliary framing may be required to position the enclosure as desired. The body of the enclosure should be above the drop ceiling tiles. The access door of the enclosure should be flush with the drop ceiling grid. Seal the cable port(s) with the included foam sealing kit(s) per instructions in plenum ceilings used as air handling spaces.

Seismic Installations: Install anchors as designed by Structural Engineer licensed in <**Insert State**> and as detailed.

Raised-Floor Enclosures:

Select a position for the raised floor enclosure where the enclosure (tile over the enclosure) can be opened fully without obstruction by other building, storage or architectural components. Location should be central within the cabling zone. The enclosure should be positioned so that access to the enclosure does not require movement of furnishings and so that disturbance in the workspace is minimized. The floor space must provide sufficient depth for the enclosure. Access to the enclosure through surrounding raised floor tiles should also be considered when selecting location of the enclosure.

Follow the manufacturer's installation instructions when securing the enclosure to the floor or raised floor pedestals and installing equipment. The body of the enclosure should be below the raised floor tiles. The raised floor tile above the enclosure serves as the cover for the enclosure and should be flush with the floor. Seal the cable port(s) with the included foam sealing kit(s) per instructions in raised floor plenums used as air handling spaces.

Seismic Installations: Install anchors as designed by Structural Engineer licensed in <**Insert State**> and as detailed.

END OF SECTION 271100