

Section 27 11 00

COMMUNICATION EQUIPMENT ROOM FITTINGS

Section 27 11 16

Communications Cabinets, Racks, Frames and Enclosures

PART 1 – GENERAL

1.1 WORK INCLUDED

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

1.2 SCOPE OF WORK

- A. This section includes the minimum requirements for wall-mounted cabinets for use as telecommunications enclosures, consolidation point enclosures or in communications equipment rooms.
- B. Included in this section are the minimum composition requirements and installation methods for the following:
 - 1. Cabinets, wall-mounted.

1.3 QUALITY ASSURANCE

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

4. ANSI-J-STD – 607-A *Joint Standard for Commercial Building Grounding (Earthing) and Bonding Requirements for Telecommunications*, 2002
5. NFPA 70 – *National Electric Code*, 2005
6. BICSI – *Telecommunications Distribution Methods Manual*, 10th Edition, 2003

1.4 SUBMITTALS

A. Provide product data for the following:

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

PART 2 – PRODUCTS

2.1 Cabinets, Wall-Mounted

A. Wall-Mounted Equipment Cabinet (ThinLine™ II Wall-Mount Cabinet)

1. Provide secure low-profile wall-mount cabinet enclosures to store computer and networking equipment in any equipment space that is located outside of dedicated telecommunications and equipment rooms. Installed cabinets shall include thermal, power, and cable management accessories that control airflow through the cabinet and keep network and power cables separate and organized.
2. Wall-mounted cabinets shall be manufactured from steel. Each cabinet shall have a rectangular body with a removable top panel and a hinged, locking front door. The door shall be solid (no window) and shall be reversible to open from the right or left side. Each cabinet shall include two keys for the door.
3. The cabinet shall be 26"W x 26"H x 5"D (660 mm x 660 mm x 130 mm) and shall be punched with wall-mount holes on 16" (410 mm) and 24" (610 mm) centers.
Change the cabinet size to match the selected product. See the product list below.
4. The cabinet shall include a minimum of two pairs of 19" wide EIA-310-D compliant equipment mounting rails that can be mounted to the cabinet to align equipment with the top or front of the cabinet or at a 45° angle to the back of the cabinet. The mounting rails shall support 2 RMU of equipment. The cabinet shall provide space for equipment up to 20" (510 mm) deep when aligned with the top of the cabinet or 4" (100 mm) deep when aligned with the front of the cabinet.
Change the RMU to match the selected product. See the [data sheet](#) and the product list below. Change the equipment space to 30" (762 mm) deep for 36" high cabinets.
5. The cabinet shall support 100 lb (45.4 kg) of equipment. Load bearing capacity shall be stated in the manufacturer's product literature.

6. The sides and bottom of the cabinet shall be pre-punched with combination 3/4" and 1-1/2" conduit knockouts for network cable access. There shall be four conduit knockouts per side and two conduit knockouts on the bottom of the cabinet. The rear of the cabinet shall have a 4" x 6" (100 mm x 150 mm) opening located near the bottom center of the cabinet for through-the-wall network cable access. Cable tie points shall be located around the interior perimeter on the cabinet's rear panel.
7. The sides of the cabinet shall have louvers to permit airflow into and through the cabinet. The bottom of the cabinet shall have a grill to allow the addition of an accessory ventilation fan. Cabinets that support active (electrically-powered) equipment shall include an appropriately sized ventilation fan. The manufacturer of the cabinet shall offer an accessory ventilation fan sized for each cabinet as an accessory.
8. The cabinet shall provide spaces and attachment points at the bottom right and left corners for two-gang electrical junction boxes. Each side of the cabinet shall be pre-punched with a single combination 1/2" and 3/4" conduit knockout to allow electrical connections to the junction boxes. The cabinet shall include a single-gang 2" x 4" (50 mm x 100 mm) duplex electrical junction box for a single duplex electrical outlet pre-installed in the bottom left corner of the cabinet. The junction box can be repositioned to the bottom right corner of the cabinet if required.
9. Finish shall be **black** epoxy-polyester hybrid powder coat paint. Mounting rails are anodized aluminum.
Change the color to match the selected product. See the product list below.
10. The cabinet shall be delivered fully assembled and shall include installation hardware (hex lag screws) for wood studs and 50 each #12-24 equipment mounting screws.
11. Design Make shall be:
Chatsworth Products, Inc. (CPI),
ThinLine™ II Wall-Mount Cabinet:

Part Number **13050-111**, ThinLine II Wall-Mount Cabinet, 26" (660 mm) Wide x 26" (660 mm) High x 5" (130 mm) Deep Exterior, 19" EIA x 2 RMU, Gray.

Part Number **13050-211**, ThinLine II Wall-Mount Cabinet, 26" (660 mm) Wide x 26" (660 mm) High x 5" (130 mm) Deep Exterior, 19" EIA x 2 RMU, Computer White.

Part Number **13050-711**, ThinLine II Wall-Mount Cabinet, 26" (660 mm) Wide x 26" (660 mm) High x 5" (130 mm) Deep Exterior, 19" EIA x 2 RMU, Black.

Part Number **13050-112**, ThinLine II Wall-Mount Cabinet, 26" (660 mm) Wide x 26" (660 mm) High x 8.5" (216 mm) Deep Exterior, 19" EIA x 4 RMU, Gray.

Part Number **13050-212**, ThinLine II Wall-Mount Cabinet, 26" (660 mm) Wide x 26" (660 mm) High x 8.5" (216 mm) Deep Exterior, 19" EIA x 4 RMU, Computer White.

Part Number **13050-712**, ThinLine II Wall-Mount Cabinet, 26" (660 mm) Wide x 26" (660 mm) High x 8.5" (216 mm) Deep Exterior, 19" EIA x 4 RMU, Black.

Part Number **13050-113**, ThinLine II Wall-Mount Cabinet, 26" (660 mm) Wide x 26" (660 mm) High x 12" (300 mm) Deep Exterior, 19" EIA x 6 RMU, Gray.

Part Number **13050-213**, ThinLine II Wall-Mount Cabinet, 26" (660 mm) Wide x 26" (660 mm) High x 12" (300 mm) Deep Exterior, 19" EIA x 6 RMU, Computer White.

Part Number **13050-713**, ThinLine II Wall-Mount Cabinet, 26" (660 mm) Wide x 26" (660 mm) High x 12" (300 mm) Deep Exterior, 19" EIA x 6 RMU, Black.

Part Number **13050-121**, ThinLine II Wall-Mount Cabinet, 26" (660 mm) Wide x 36" (910 mm) High x 5" (130 mm) Deep Exterior, 19" EIA x 2 RMU, Gray.

Part Number **13050-221**, ThinLine II Wall-Mount Cabinet, 26" (660 mm) Wide x 36" (910 mm) High x 5" (130 mm) Deep Exterior, 19" EIA x 2 RMU, Computer White.

Part Number **13050-721**, ThinLine II Wall-Mount Cabinet, 26" (660 mm) Wide x 36" (910 mm) High x 5" (130 mm) Deep Exterior, 19" EIA x 2 RMU, Black.

Part Number **13050-122**, ThinLine II Wall-Mount Cabinet, 26" (660 mm) Wide x 36" (910 mm) High x 8.5" (216 mm) Deep Exterior, 19" EIA x 4 RMU, Gray.

Part Number **13050-222**, ThinLine II Wall-Mount Cabinet, 26" (660 mm) Wide x 36" (910 mm) High x 8.5" (216 mm) Deep Exterior, 19" EIA x 4 RMU, Computer White.

Part Number **13050-722**, ThinLine II Wall-Mount Cabinet, 26" (660 mm) Wide x 36" (910 mm) High x 8.5" (216 mm) Deep Exterior, 19" EIA x 4 RMU, Black.

Part Number **13050-123**, ThinLine II Wall-Mount Cabinet, 26" (660 mm) Wide x 36" (910 mm) High x 12" (300 mm) Deep Exterior, 19" EIA x 6 RMU, Gray.

Part Number **13050-223**, ThinLine II Wall-Mount Cabinet, 26" (660 mm) Wide x 36" (910 mm) High x 12" (300 mm) Deep Exterior, 19" EIA x 6 RMU, Computer White.

Part Number **13050-723**, ThinLine II Wall-Mount Cabinet, 26" (660 mm) Wide x 36" (910 mm) High x 12" (300 mm) Deep Exterior, 19" EIA x 6 RMU, Black.

B. Equipment-Mounting Hardware: **(ThinLine II Wall-Mount Cabinet)**

1. Provide additional equipment-mounting hardware if required to attach equipment to the equipment mounting rails in the cabinet.
2. Equipment mounting hardware shall be combination pan head, pilot point mounting screws, threaded #12-24, and 5/8" long.
3. Design Make shall be:
Chatsworth Products, Inc. (CPI),
ThinLine™ II Wall-Mount Cabinet,
Equipment Mounting Hardware:

Part Number **40605-001**, Hardware Kit For Threaded Mounting Rails, 12-24 Screws, Package Of 50, Zinc.

Part Number **40605-005**, Hardware Kit For Threaded Mounting Rails, 12-24 Screws, Package Of 50, Black.

C. Fan Kits: **(ThinLine II Wall-Mount Cabinet)**

1. Provide a fan with the cabinet whenever active (electrically-powered) equipment is stored within the cabinet.
2. The fan shall attach inside the cabinet over vents in the bottom of the cabinet. The fan shall include installation hardware.
3. The fan shall have solid state temperature control to vary fan speed as temperature rises. The fan for the 2 RMU cabinet shall have a minimum fan speed of 36 CFM in free air with a 28 dB noise level at air temperatures $\leq 77^{\circ}\text{F}$ and a maximum fan speed of 49 CFM in free air with a 36 dB noise level at air temperatures $\geq 113^{\circ}\text{F}$. The fan for the 4 RMU and 6 RMU cabinets shall have a minimum fan speed of 65 CFM in free air with a 34 dB noise level at air temperatures $\leq 77^{\circ}\text{F}$ and maximum fan speed of 120 CFM in free air with a 49 dB noise level at air temperatures $\geq 104^{\circ}\text{F}$.
4. The fan shall include a 120 VAC, 60 Hz to 12 VDC power supply and a power cord with a NEMA 5-15P plug.
5. Design Make shall be:
Chatsworth Products, Inc. (CPI),
ThinLine™ II Wall-Mount Cabinet,
Intelligent Fan Kit:

Part Number **13051-001**, Fan Kit for 4 RMU or 6 RMU ThinLine II Wall-Mount Cabinet, Temperature Controlled, 115 Volt, 60 Hertz, With Power Supply and Power Cord with NEMA 5-15P Plug, Black.

Part Number **13051-002**, Fan Kit for 2 RMU ThinLine II Wall-Mount Cabinet, Temperature Controlled, 115 Volt, 60 Hertz, With Power Supply and Power Cord with NEMA 5-15P Plug, Black.

D. Power Outlets: **(ThinLine™ II Wall-Mount Cabinet)**

1. Provide a single surge-suppressed duplex receptacle rated for 125 Volt ~15 Amps with two NEMA 5-15R outlets in each cabinet.
2. Design Make shall be:
Chatsworth Products, Inc. (CPI),
ThinLine™ II Wall-Mount Cabinet,
Surge-Suppressed Duplex Receptacle:

Part Number **12934-001**, Receptacle, 2 Outlets (NEMA 5-15R), 125 Volt, 15 Amp.

E. Fiber Slack Manager Panel: **(ThinLine™ II Wall-Mount Cabinet)**

1. Provide a fiber slack management panel inside the cabinet to take up cable slack.
2. The panel shall be 19" wide rack-mount, 4 RMU high and 2" (200 mm) deep with four plastic quarter-circle cable radius spools located near each corner forming a take-up loop.
3. The panel shall attach to the rack-mount rails and shall provide radius control allowing fiber patch cords or pre-terminated cable slack to be looped for storage.
4. Design Make shall be:
Chatsworth Products, Inc. (CPI),
ThinLine™ II Wall-Mount Cabinet,
Fiber Slack Manager Panel:

Part Number **12955-719**, Fiber Slack Manager Panel for ThinLine™ II Wall-Mount Cabinet, 19"W x 4RMU x 2" (200 mm)D, Black.

Part Number **12955-219**, Fiber Slack Manager Panel for ThinLine™ II Wall-Mount Cabinet, 19"W x 4RMU x 2" (200 mm)D, Computer White.

PART 3 – EXECUTION

3.1 INSTALLATION

A. Cabinets, Wall-Mounted (ThinLine™ II Wall-Mount Cabinet)

1. Provide all components of the cabinet system (cabinet, mounting rails, cable managers, power strips, and accessories) from a single manufacturer.
2. Attach the cabinet to the wall so that the front door 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 cabinet shall not be attached to sheet rock (gypsum wall board). The cabinet must be attached directly into studs through a 3/4" 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.
3. Cables shall enter/exit the cabinet through conduit knockouts in the sides and/or bottom of the cabinet or through the rectangular cut out in the back of the cabinet.
4. Install and adjust to position all accessories including cable managers, power strips, equipment-mounting rails, fan kits, etc. prior to installing equipment into the cabinet. Test fans and power strip/outlets prior to installing equipment.