SECTION 16130

RACEWAYS AND BOXES

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\*\* NOTE TO SPECIFIER \*\* Thomas & Betts Corp.; electrical boxes.  
 .  
 This section is based on the products of Thomas & Betts Corp., which is located at:  
8155 T&B Blvd.  
Memphis, TN 38125  
Toll Free Tel: 800-888-0211  
Tel: 901-252-8000  
Fax: 800-888-0790  
Email: [request info (Dan.Michaelis@tnb.com)](http://admin.arcat.com/users.pl?action=UserEmail&company=Thomas+%26+Betts+Corp.&coid=36036&rep=&fax=800-888-0790&message=RE:%20Spec%20Question%20(16130tbc):%20%20&mf=)  
Web: [www.tnb.com](http://www.tnb.com)   
   
[ [Click Here](http://www.arcat.com/arcatcos/cos36/arc36036.html) ] for additional information.

From power transmission lines crisscrossing the countryside to local service entrance connections to outlet boxes behind the wall and electrical conduit in the ceiling, our products help control the constant - and increasing - flow of power and data. We offer one of the broadest product lines in the industry, supplying over 70% of the items used in a typical electrical application - be it commercial, industrial or residential construction or equipment maintenance and repair or original equipment manufacturing. We also provide market-leading commercial heating and ventilation products.  
   
 Thomas & Betts Corp. Boxes & Covers  
 For over 100 years, Thomas & Betts has been a leader in providing the highest-quality, most versatile, innovative and comprehensive line of metallic, non-metallic, indoor, outdoor, weatherproof, and floor boxes and covers in the industry. Anchored by the Steel City® and Iberville® brands, T&B's portfolio also includes Union® non-metallic boxes, Red Dot® weatherproof boxes, Nutek non-metallic boxes and Bowers® indoor boxes. Innovative, industry-exclusive features such as eccentric knockouts and wrap-mount brackets make our brands the preferred choice of electrical professionals. Wherever you need quality, durable, high-performance, easy-to-install boxes and covers, look to the brands of Thomas & Betts.  
   
 Thomas & Betts Corp. Cable Ties & Accessories  
 T&B's broad offering of cable ties also includes Ty-Fast®, Catamount®, and Deltec® fastening products and tools - all designed to make the task of fastening, bundling, clamping and managing wires easier for construction, communications, utility and OEM professionals as well as home improvement specialists and do-it-yourself enthusiasts.  
   
 Thomas & Betts Corp. Conduit & Cable Fittings  
 Thomas & Betts offers one-stop-shopping for electrical conduit and fittings with a portfolio of leading brand names -- Ocal®, Red Dot®, Steel City®, Shureseal, T&B®, Shamrock®. Whether for hazardous location applications, such as an oilrig or refinery, heavy-duty applications such as manufacturing or transportation, or light-duty applications such as hospitals or hotels, you can count on the brands of Thomas & Betts for dependable, quality assurance.  
   
 Thomas & Betts Corp. Connectors - Industrial Power Control  
 Thomas & Betts offers a complete line of pin and sleeve connectors designed to withstand the harsh environment of heavy duty industrial applications such as mining, petrochemical plants, refrigerated container and food processing industries, ports, terminals, transport and shipboard and automated assembly equipment.  
   
 Thomas & Betts Corp. Connectors - Power & Grounding  
 Thomas & Betts offers a range of proven grounding products for commercial, industrial and communications applications. Leading brands offered by T&B include the easy-to-install Furseweld® exothermic grounding system, Diamond®/Sachs® hardware, Color-Keyed® connectors and Battpac® compression tools.  
   
 Thomas & Betts Corp. Connectors - Telecom/CATV  
 As demand for broadband services (voice, data and video) has grown, so has the product offering Thomas & Betts. Our solutions for communications applications include a range of connectors used in the cable TV, satellite TV, telephony, wireless and security industries. Leading brands offered include Snap-N-Seal® compression connectors LRC® trunk and distribution connectors, 709 connectors for telephony pair splicing and Diamond®/Sachs® hardware.  
   
 Thomas & Betts Corp. Electrician Supplies  
 Making sure electricians, installation technicians and contractors are equipped with the tools they need to do their job efficiently and safely is a fundamental goal of Thomas & Betts. That's why we offer a wide assortment of the highest quality hand tools, wire connectors, fishtape, lubricants, and other essential everyday supplies for electrical construction, installation, and maintenance.  
   
 Thomas & Betts Corp. Hardware & Closures  
 As demand for broadband services (voice, data and video) has grown, so has the product offering of Thomas & Betts. Our solutions for communications applications, include coaxial connectors, bonding hardware used in the construction of cable splices, cold closures for splice and sheath repair in aerial and underground applications, as well as drop and pole line hardware. Our premium brands --- Kold-N-Klose®, Diamond®/Sachs® and Flexshell® - lead the industry for quality, durability and reliability.  
   
 Thomas & Betts Corp. Lighting  
 The proper lighting can make a big difference in the safety and security of residential, retail, commercial, institutional, and industrial facilities. Thomas & Betts offers a range of innovative, high-quality lighting products to address the distinct needs of various users. Our leading brands include Light Alarms and Emergi-Lite® emergency and exit lighting, Hazlux® heavy-duty industrial lighting, Red Dot weatherproof lighting for residential or light commercial applications and Amerace airfield lighting. In Europe we offer Emergi-Lite, Existalite, Kaufel and Van Lien emergency and exit lighting.  
   
 Thomas & Betts offers a broad range of high quality, modular, steel, aluminum and fiberglass-reinforced plastic framing products and accessories suitable for electrical, industrial, construction and infinite other applications. Requiring no welding and available in a variety of finishes including corrosion-resistant, galvanized, pvc-coated or electroplated zinc, T&B's Kindorf®, Superstrut® and Steel City® brands are known to contactors for their superior performance, high quality and versatility.  
   
 For nearly 50 years, Thomas & Betts has been a leader in providing the highest-quality, most reliable and innovative connectors and connector systems for the electrical power industry. Our Blackburn® product family includes bolted and mechanical connectors, compression connectors, and grounding clamps and couplings, as well as tools and dies specifically designed to simplify installation. Our Elastimold® product line includes the broadest line of molded separable connectors available today, including the broadest line of tapping, terminating, splicing, isolating, testing and grounding products for 200 to 600 amp systems and medium voltage (5kV to 35kV) applications.  
   
 Pioneers in the design and application of tubular steel structures in voltages up to 765kV, Meyer has forged an industry standard out of an application once only considered for special uses. Ease of installation, design flexibility, greater public acceptance, graceful aesthetics, low maintenance and low life-cycle costs make Meyer steel poles a logical choice.  
   
 For over a century, Thomas & Betts has been a leader in providing a broad range of connectors suitable for the majority of all electrical applications. In fact, the high quality, easy-to-use, versatile connectors from T&B have continually helped define the standards used throughout the electrical industry. T&B's family of products includes many of the most-requested brands in the industry including Color-Keyed®, Sta-Kon®, Spec-Kon™ , Shrink-Kon®, Snap-N-Seal®, Elastimold®, Blackburn®, and Marr®. Whatever the application - commercial, industrial, OEM, utility, residential, communications - and whatever the voltage - low, medium or high -- we have the right connector for you. If we don't have it, we'll custom design and manufacture products specifically suited to your application!  
   
 Managing the hundreds of thousands of feet of cable found in a typical construction job site can be a formidable challenge. Thomas & Betts offers hundreds of products to help wiring professionals route and conceal wiring. Leading T&B brands include T&B® cable tray, T&B Express Tray®, Steel City® floor boxes, Ty-Duct™ wiring duct and accessories, and Omni-Plus® voice/data accessories.

See our SpecWizard: [Click Here](http://www.arcat.com/specwizard/16130tbc/index.htm)

1. GENERAL
   1. SECTION INCLUDES

\*\* NOTE TO SPECIFIER \*\* Delete items below not required for project.

* + 1. Flush service floor boxes.
    2. Recessed service floor boxes.
    3. Above-floor service fittings.
    4. Fire-rated poke-through systems.
    5. Access floor modules for raised floors.
  1. RELATED SECTIONS

\*\* NOTE TO SPECIFIER \*\* Delete any sections below not relevant to this project; add others as required.

* + 1. Section 16050 - Basic Electrical Materials and Methods.
  1. REFERENCES

\*\* NOTE TO SPECIFIER \*\* Delete references from the list below that are not actually required by the text of the edited section.

* + 1. American Society for Testing and Materials (ASTM):
       1. ASTM Specification A48 - Standard Specification for Gray Iron Castings.
       2. ASTM A366 - Standard Specification for Commercial Steel (CS) Sheet, Carbon (0.15 Maximum Percent) Cold-Rolled.
       3. ASTM A386 - Specification for Zinc Coating (Hot-Dip) on Assembled Steel Products.
    2. Canadian Electric Code (CEC), 2006.
       1. CSA C22.1 - Canadian Electrical Code, Part I-Safety Standards for Electrical Installations.
       2. CSA C22.2 - Canadian Electrical Code, Part II-General Requirements.
    3. National Electrical Manufacturer's Association (NEMA).
       1. ANSI/NEMA WD-6-2002: Wiring Devices - Dimensional Requirements.
       2. NEMA 250-2003: Enclosures for Electrical Equipment.
    4. Underwriter's Laboratory, Inc. (UL).
       1. U.L. 514A - Metallic Outlet Boxes.
       2. U.L. G-90-U - Approved galvanized material for electrical component.
       3. U.L. QMFZ2 - Approved plastic material for electrical component.
  1. SUBMITTALS
     1. Submit under provisions of Section 01300.
     2. Product Data: Manufacturer's data sheets on each product to be used, including:
        1. Preparation instructions and recommendations.
        2. Storage and handling requirements and recommendations.
        3. Installation methods.
     3. Shop Drawings: Provide diagrams, identifying components with location.

\*\* NOTE TO SPECIFIER \*\* Delete selection samples if colors have already been selected.

* + 1. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.
    2. Verification Samples: For each finish product specified, two samples, minimum size 6 inches (150 mm) square, representing actual product, color, and patterns.
  1. QUALITY ASSURANCE

\*\* NOTE TO SPECIFIER \*\* Provide qualifications required for the installation quality of the products and systems. Delete if not required.

* + 1. Installer Qualifications: Installer shall have a minimum of two years experience in installing similar products.

\*\* NOTE TO SPECIFIER \*\* Include a mock-up if the project size and/or quality warrant taking such a precaution. The following is one example of how a mock-up on a large project might be specified. When deciding on the extent of the mock-up, consider all the major different types of work on the project.

* + 1. Mock-Up: Provide a mock-up for evaluation of installation techniques and application workmanship.
       1. Finish areas designated by Architect.
       2. Do not proceed with remaining work until workmanship is approved by Architect.
       3. Redo mock-up area as required to produce acceptable work.
  1. DELIVERY, STORAGE, AND HANDLING
     1. Store products in manufacturer's unopened packaging until ready for installation.
     2. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.
  2. PROJECT CONDITIONS
     1. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.
  3. WARRANTY
     1. Product is warranted free of defects in material or workmanship.
     2. Product is warranted to perform the intended function within design limits.
     3. Field-applied paint coatings on raceway, boxes, plates or fittings shall be excluded from raceway manufacturer's warranty.

1. PRODUCTS
   1. MANUFACTURERS
      1. Acceptable Manufacturer: Thomas & Betts Corp., which is located at: 8155 T&B Blvd.; Memphis, TN 38125; Toll Free Tel: 800-888-0211; Tel: 901-252-8000; Fax: 800-888-0790; Email: [Dan.Michaelis@tnb.com](mailto:Dan.Michaelis@tnb.com?subject=RE:ARCAT%20Spec%20Question%20(16130tbc):%20%20); Web: [www.tnb.com](http://www.tnb.com)

\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.

* + 1. Substitutions: Not permitted.
    2. Requests for substitutions will be considered in accordance with provisions of Section 01600.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* 1. FLUSH SERVICE FLOOR BOXES
     1. General: Flush service floor boxes for multiple services shall deliver power and communications cable, from the same device, without interference from electric power delivery.
        1. Construction shall be as required by U.L. 514A and listed.
        2. Cubic inch capacity shall be as shown on the plans or as required by code to accept number and size of conductors.
        3. Boxes shall accept conduit sizes as indicated or required. Provide bushings where required.

\*\* NOTE TO SPECIFIER \*\* Delete requirements not applicable.

* + - 1. When hinged cover is closed and no services in place, device shall have no obstructions above surface of floor.
      2. Cover assembly shall protect against the ingress of water and foreign material with a gasket and shall meet UL scrubwater exclusion requirements.

\*\* NOTE TO SPECIFIER \*\* Delete if not applicable.

* + 1. Device plates, faceplates and trims as scheduled or as required as manufactured by Thomas and Betts Corp. Refer to Materials Finish Schedule.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Round Flush Service Floor Boxes Series shall deliver power or communications cable.
       1. Provide shallow design where scheduled or required.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Product: 68 Series Round Floor Boxes as manufactured by Thomas and Betts Corp. Shall be stamped steel with a zinc plating minimum 0.0005 inch (0.0127 mm) thick on the outside and0 .00015 inch (0.0038 mm) thick on the inside as scheduled on the plans or as required.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Product: 600 Series Round Floor Boxes as manufactured by Thomas and Betts Corp. with cast iron fully adjustable watertight body.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Product: 68P Series Round Floor Box as manufactured by Thomas and Betts Corp. fabricated of PVC plastic.
         1. Provide voltage divider for dual service applications with power receptacle and data jacks as scheduled or required.
      2. Covers: 4 inches (102 mm) diameter, machine finished brass or aluminum with gasket.
         1. Carpet or tile frame shall be brass or aluminum. Refer to Materials Finish Schedule.
         2. Cover assembly shall protect against the ingress of water or foreign material with a gasket and shall meet UL scrubwater exclusion requirements.

\*\* NOTE TO SPECIFIER \*\* The 640/840 Series Concealed Service Floor Box provides both electric power and telephone (data) services from the same device for economy of space and cost, as well as affording a flush delivery (no above floor service fitting). Delete if not required.

* + 1. Rectangular Flush Service Floor Boxes: Fabricated of cast iron.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Product: 640 Series (1-4 gangs) as manufactured by Thomas and Betts Corp.
         1. Shall have 35 cubic inch (574 cubic cm) capacity in each gang.
         2. Shall be fully adjustable.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Product: 840 Series (1-3 gangs) as manufactured by Thomas and Betts Corp.
         1. Shall have 16 cubic inch (262 cubic cm) capacity in each gang.
         2. Shall provide leveling screws for adjustability before the concrete pour.
         3. Overall height of 2 inches (51 mm).
      2. Design:
         1. Shall accept conduit sizes up to 1 inch (25.4 mm).
         2. Shall deliver power and communications cable without interference from electric power delivery.
         3. Shall be painted inside and out with weatherproof paint intended for use on metal as indicated on the plans or as required.
      3. Covers:
         1. Carpet or tile frame shall be brass, aluminum, polycarbonate, nylon. Refer to Materials Finish Schedule.
         2. Cover assembly shall protect against the ingress of water or foreign material with a gasket and meet UL scrubwater exclusion requirements.

\*\* NOTE TO SPECIFIER \*\* The 740 Series Concealed Service Floor Box provides both electric power and telephone (data) services from the same device for economy of space and cost, as well as affording a flush delivery (no above floor service fitting). Delete if not required.

* + 1. Rectangular Flush Service Floor Boxes: Shall be 16 gage galvanized stamped steel.
       1. Product: 740 Series (1-3 gangs) as manufactured by Thomas and Betts Corp.
       2. Provide shallow floor box where scheduled or required.
       3. Design:
          1. Shall accept conduit sizes up to 1 inch (25.4 mm).
          2. Shall deliver power and communications cable without interference from electric power delivery.
       4. Covers:
          1. Carpet or tile frame shall be brass, aluminum, polycarbonate, nylon. Refer to Materials Finish Schedule.
          2. Cover assembly shall protect against the ingress of water or foreign material with a gasket and meet UL scrubwater exclusion requirements
    2. Rectangular Flush Service Floor Boxes: Shall be nonmetallic (Noryl plastic).
       1. Product: 640P Series (1-3 gangs) as manufactured by Thomas and Betts Corp.
       2. Design:
          1. Shall accept conduit sizes up to 1 inch (25.4 mm).
          2. Shall deliver power and communications cable without interference from electric power delivery.
       3. Covers:
          1. Carpet or tile frame shall be brass, aluminum, polycarbonate, nylon. Refer to Materials Finish Schedule.
          2. Power receptacle mounting plate constructed of PVC. Data plates constructed of polycarbonate.
          3. Cover assembly shall protect against the ingress of water or foreign material with a gasket and meet UL scrubwater exclusion requirements

\*\* NOTE TO SPECIFIER \*\* Delete cover type not required.

* + 1. Cover Type:
       1. Refer to Drawing General Notes for cover type application required.
       2. Plug cover for N.P.S size as scheduled or required.
       3. Duplex Lift Lid.
       4. Hinged Lift Lids.
       5. GFCI Lift Lid.

\*\* NOTE TO SPECIFIER \*\* Floor boxes are manufactured in various sizes, configurations and materials. The specifier should determine the most suitable product for his application. Refer to the T&B floor box catalog and select the appropriate paragraphs listed below. Delete if not required.

* 1. RECESSED SERVICE FLOOR BOXES
     1. General: Recessed service boxes for multiple services shall deliver power and communications cable, from the same device, without interference from electric power delivery.
        1. Construction shall be as required by U.L. 514A and listed.
        2. Boxes shall accept conduit sizes as indicated or required. Provide bushings where required.

\*\* NOTE TO SPECIFIER \*\* Delete requirements not required.

* + - 1. When hinged cover is closed and no services in place, device shall have no obstructions above surface of floor.
      2. Cover assembly shall protect against the ingress of water and foreign material with a gasket and shall meet UL scrubwater exclusion requirements.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Device plates, faceplates and trims as scheduled or as required as manufactured by Thomas and Betts Corp. Refer to the Materials Finish Schedule.

\*\* NOTE TO SPECIFIER \*\* The 663 Series Concealed Service Floor Box provides both electric power and telephone (data) services from the same device for economy of space and cost, as well as affording a flush delivery (no above floor service fitting). Delete if not required.

* + 1. 2 Compartment Recessed Service Floor Boxes with Round Covers:
       1. Product: 663-SC Series as manufactured by Thomas and Betts Corp.
       2. Design:
          1. Stamped electro galvanized 14-gauge sheet steel.
          2. Shall have 90 cubic inch (1475 cubic cm) total capacity with 25 cubic inch (410 cubic cm) power chambers.
          3. Shall accept conduit sizes up to 1-1/4 inches (32 mm). Provide flange and adjusting ring where scheduled or required.
       3. Cover and Carpet Plate: Shall meet UL scrubwater exclusion requirements.

\*\* NOTE TO SPECIFIER \*\* Delete cover material not required.

* + - * 1. Refer to Material Finish Schedule.
        2. Shall be constructed of brass.
        3. Shall be constructed of aluminum.
        4. Polycarbonate Cover Color: Charcoal.
        5. Polycarbonate Cover Color: Brown.
        6. Polycarbonate Cover Color: Gold.

\*\* NOTE TO SPECIFIER \*\* The 664 Series Concealed Service Floor Box provides both electric power and telephone (data) services from the same device for economy of space and cost, as well as affording a flush delivery (no above floor service fitting). Delete if not required.

* + 1. 2 Compartment Recessed Service Floor Boxes with Rectangular Covers:
       1. Product: 664 Series as manufactured by Thomas and Betts Corp.
       2. Model Numbers:

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - * 1. 664-SC: 3-1/4 inches (83 mm) depth. Stamped electro galvanized 14-gauge sheet steel. Shall have 90 cubic inch (1475 cubic cm) total capacity with 24 cubic inch (393 cubic cm) power chambers.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - * 1. 664-S: Stamped steel, shallow 2-7/8 inches (73 mm) depth and 70 cubic inch (1147 cubic cm) total capacity.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - * 1. 664-CI: 3-1/4 inches (83 mm) depth. Cast Iron. Shall have 90 cubic inch (1475 cubic cm) total capacity with 24 cubic inch (393 cubic cm) power chambers.
      1. Design:
         1. Shall accept conduit sizes up to 1-1/4 inches (32 mm).
         2. Shall provide 18 square inches (116 square cm) of access with cover open.
      2. Covers
         1. Shall be constructed of polycarbonate.
         2. Hinged lid shall be reinforced with a 5/32 inch (4 mm) steel plate.
         3. Shall meet UL scrubwater exclusion requirements.

\*\* NOTE TO SPECIFIER \*\* Delete color not required.

* + - * 1. Cover Color: Refer to Materials Finish Schedule.
        2. Cover Color: BLK (black)
        3. Cover Color: GRY (gray)
        4. Cover Color: BRN (brown)
        5. Cover Color: BGE (beige)

\*\* NOTE TO SPECIFIER \*\* This specification covers 4-gang floor boxes mounted in a recessed configuration for power and data wiring. Delete if not required.

* + 1. 4 Compartment Recessed Service Floor Boxes - Galvanized Steel:
       1. Box shall be constructed of 0.070 inch (1.8 mm) minimum thickness galvanized steel. Leveling legs shall be provided to allow for 1-1/2 inches (38 mm) adjustment prior to the concrete pour. The box shall be 4-gang with each gang having a capacity of 40 cubic inches (656 cubic cm) for devices and wiring. Each gang shall have (3) 1-1/4 inches (32 mm) KO's and (2) 3/4 inch (19 mm) KO's on the sides and (1) 1-1/4 inches (32 mm) KO and (1) 3/4 inch (19 mm) KO on the bottom. A wiring tunnel shall be provided to allow wiring to pass between adjacent or opposite gangs. The overall dimensions of the box shall be 12-1/8 inches by 12-1/8 inches by 3-1/2 inches (308 mm by 308 mm by 89 mm).
       2. Product: Model: 665-SC as manufactured by Thomas and Betts Corp.
       3. Covers: Covers shall be constructed of high-strength polycarbonate plastic with a 5/32 inch (4 mm) thick steel reinforcement plate. The steel reinforcement plate shall be recessed to accept floor-covering material. Covers shall be available in black, gray, brown, and beige. Refer to Materials Finish Schedule. Covers shall meet UL scrubwater exclusion requirements for carpet, wood and tile floors. The cord door shall lock in the open position to prevent damage to cables while in use. The load rating shall be 1000 lb (4536 kg) minimum.

\*\* NOTE TO SPECIFIER \*\* This specification covers 4-gang floor boxes mounted in a recessed configuration for power and data wiring. Delete if not required.

* + 1. 4 Compartment Recessed Service Floor Boxes - Cast Iron:
       1. The box shall be constructed of cast iron. Leveling legs shall be provided to allow for 1-1/2 inches (38 mm) adjustment prior to the concrete pour. The box shall be 4-gang with each gang having a capacity of 45 cubic inches (738 cubic cm) for devices and wiring. Two gangs shall have (2) 1-1/4 inches (32 mm) hubs and (1) 3/4 Inch (19 mm) hub, and the other two gangs shall have (1) 3/4 inch (19 mm) hub. Removable voltage dividers shall be provided to allow wiring to pass between adjacent gangs. The overall dimensions of the box shall be 14-13/16 inches by 14-13/16 inches by 3-5/8 inches (376 mm by 376 mm by 92 mm).
       2. Product: Model: 665-CI as manufactured by Thomas and Betts Corp.
       3. Covers: Covers shall be constructed of high-strength polycarbonate plastic with a 5/32 inch (4 mm) thick steel reinforcement plate. The steel reinforcement plate shall be recessed to accept floor-covering material. Covers shall be available in black, gray, brown, and beige. Refer to Material Finish Schedule. Covers shall meet UL scrubwater exclusion requirements for carpet, wood and tile floors. The cord door shall lock in the open position to prevent damage to cables while in use. The load rating shall be 1000 lb (4536 kg). minimum.

\*\* NOTE TO SPECIFIER \*\* This specification covers 4-gang floor boxes mounted in a recessed configuration for use in shallow 2-1/2 inches (64 mm) concrete pours. UL File Number: E2969, CSA File Number: LR12798. Delete if not required.

* + 1. 4 Compartment Recessed Service Floor Boxes - Ultra-Shallow:
       1. Box: The box shall be constructed of 0.070 inch (1.8 mm) minimum thickness galvanized steel. Leveling legs shall be provided to allow for 1-1/2 inches (38 mm) adjustment prior to the concrete pour. The box shall be 4-gang with two gangs having a capacity of 55 cubic inches (900 cubic cm) and the other 2 gangs having a capacity of 41 cubic inches (672 cubic cm) for devices and wiring. Each gang shall have (4) 1 inch (25.4 mm) KO's and (1) 3/4 inch (19 mm) KO's on the sides. On the bottom, the two large gangs shall have (1) 2 inch (51 mm) KO and (1) 3/4 inch (19 mm) KO, and the two smaller gangs shall have (1) 1 inch (25.4 mm) KO and (1) 3/4 inch (19 mm) KO. Removable voltage dividers shall be provided to route wiring between adjacent gangs. The overall dimensions of the box shall be 15-1/4 inches by 13-1/4 inches by 2-1/2 inches (387 mm by 387 mm by 64 mm).
       2. Product: Model 668-S as manufactured by Thomas and Betts Corp.
       3. Covers shall be constructed of die cast zinc. Covers shall be powder coated and available in brass, aluminum, black, brown, and beige colors. Refer to Materials Finish Schedule.
       4. Covers shall meet UL scrubwater exclusion requirements for carpet, wood and tile floors. The cord door shall lock in the open position to prevent damage to cables while in use. The load rating shall be 1000 lb (4536 kg) minimum.

\*\* NOTE TO SPECIFIER \*\* The 667 Series Concealed Service Floor Box provides both electric power and telephone (data) services from the same device for economy of space and cost, as well as affording a flush delivery (no above floor service fitting). Delete if not required.

* + 1. 4 Compartment Recessed Service Floor Boxes: Each compartment shall accept up to 2 power devices as required.
       1. Product: 667-SC Series stamped electro galvanized 14-gauge sheet steel as manufactured by Thomas and Betts Corp.
       2. Design:
          1. Shall have 128 cubic inch (2098 cubic cm) total capacity with 40 cubic inch (656 cubic cm) power chambers.
          2. Shall accept conduit sizes up to 1-1/4 inches (32 mm).
          3. Shall afford 74 square inches (477 square cm) of access with cover open.
          4. Shall have a depth of 3 inches (76 mm).
       3. Covers:
          1. Shall be constructed of polycarbonate.
          2. Hinged lid shall be reinforced with a 5/32 inch (4 mm) steel plate.
          3. Shall meet UL scrubwater exclusion requirements.

\*\* NOTE TO SPECIFIER \*\* Delete cover color not required.

* + - * 1. Refer to Materials Finish Schedule.
        2. BLK (black).
        3. GRY (gray).
        4. BRN (brown).
        5. BGE (beige).

\*\* NOTE TO SPECIFIER \*\* This specification encompasses round recessed covers used with boxes in concrete floor, wood sub-floor, and raised floor applications. Delete if not required.  
 Concrete Applications: The 68R covers shall be used with a Steel City 68P round PVC floor box.   
 Wood Sub-Floor / Raised Floor Applications: The 68R covers shall be used with an appropriate Steel City 3 inch by 2 inch metal switch box with mounting ears.  
 UL File Number: E2969.  
 CSA File Number: LR12798.

* + 1. Round Recessed Service Covers for Floor Box Applications:
       1. Product: 68R Series as manufactured by Thomas and Betts Corp.
       2. The covers shall meet the requirements of UL 514A and CSA C22.2 No. 18.
       3. Design:
          1. The cover shall be round and shall incorporate a recessed cavity with a lid that can be closed to conceal all plugs and receptacles below floor level. The lid shall rotate to expose a small opening for cords to exit the box. The lid shall close completely flush with the floor, even with cords plugged into the box.
          2. The cover shall include two set screws for securing the cover in the floor - no gluing required. The cover shall be removable for modifications.
          3. The cover shall meet UL scrubwater exclusion requirements for carpet, wood and tile floors when not in use.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Concrete Applications: The 68R covers shall be used with a Steel City 68P round PVC floor box.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Wood Sub-Floor Applications: The 68R covers shall be used with an appropriate Steel City 3 inches by 2 inches (76 mm by 51 mm) metal switch box with mounting ears.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Raised Floor Applications: The 68R covers shall be used with an appropriate Steel City 3 inches by 2 inches (76 mm by 51 mm) metal switch box with mounting ears.
      2. Construction:
         1. Voltage Divider: The voltage divider shall be constructed of polycarbonate.
         2. The recessed housing shall be constructed of PVC.
         3. Covers: The flange and lid shall be constructed of polycarbonate.

\*\* NOTE TO SPECIFIER \*\* Delete cover colors not required.

* + - * 1. Refer to Material Finish Schedule.
        2. Covers shall be gray.
        3. Covers shall be black. Black covers shall have optional brass or aluminum carpet flanges.
        4. Covers shall be brown.
        5. Covers shall be beige
        6. Device Plates: The power receptacle mounting plate shall be constructed of PVC. Data plates shall be constructed of polycarbonate.

\*\* NOTE TO SPECIFIER \*\* Service fitting heads are manufactured in various sizes, configurations and materials. The specifier should determine the most suitable product for his application. Refer to the T&B floor box catalog and select the appropriate paragraphs listed below. Delete if not required.

* 1. ABOVE-FLOOR SERVICE FITTINGS
     1. Product: Series SFH as manufactured by Thomas and Betts, Corp.

\*\* NOTE TO SPECIFIER \*\* Delete provisions not required.

* + - 1. Shall be sized as indicated on drawings or as required by code for size and quantity of conductors.
      2. Shall be brushed aluminum service fitting heads.
      3. Shall deliver electrical power from receptacles as designated on the plans.
      4. Shall deliver telephone/data through precut bushed opening.
      5. Shall be furnished standard with required receptacles.
      6. Shall be furnished standard with conduit nipple for direct screw threading into cover assembly.
      7. Shall be UL listed.
  1. FIRE-RATED POKE THROUGH SYSTEMS
     1. General:
        1. The device shall meet the requirements of UL 514A.
        2. The minimum spacing of 2 feet (610 mm) on center and not more than one unit per each 65 square feet (6 square meters) of floor area in each span.
        3. UL File Number: E2969.
        4. UL Fire Resistance Directory: R9140.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Provide City of Chicago approved base units where scheduled or required for poke through style specified.
    1. Fire Rating Application:

\*\* NOTE TO SPECIFIER \*\* For use in 1, 1-1/2 hour and 2-hour rated floors. Delete if not required.

* + - 1. 1-Hour Rated Floor:
         1. 2-1/4 inches (57 mm) minimum concrete over steel decking required.
         2. 3 inches (76 mm) minimum concrete for reinforced slab required.
         3. 7-1/2 inches (191 mm) maximum concrete thickness required.
      2. 2-Hour Rated Floor:
         1. 3-1/4 inches (86 mm) minimum concrete over steel decking.
         2. 4 inches (102 mm) minimum concrete for reinforced slab.
         3. 7-1/2 inches (191 mm) maximum concrete thickness.

\*\* NOTE TO SPECIFIER \*\* The poke through includes flush-mounted power and/or communications devices. Delete if not required.

* + 1. Provide a flush power and communications poke through for use in a 4 inch (102 mm) hole.
       1. Base: Die-cast zinc, galvanized steel and intumescent fire-stop material.
       2. Conduit Hubs: Cast Iron.

\*\* NOTE TO SPECIFIER \*\* Delete cover materials not required.

* + - * 1. Cover: Solid brass with brushed finish.
        2. Cover: Aluminum, brushed finish.
        3. Cover: Aluminum, powder-coated black finish.
        4. Cover: Aluminum, powder-coated brown finish.
        5. Cover: Aluminum, powder-coated beige finish.
        6. Cover: Aluminum, gray finish.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Product: FPT4-4P-4C Flush Poke Through Series as manufactured by Thomas and Betts Corp.:
         1. Shall accommodate four 20A receptacles on 2 circuits, each circuit can be wired as isolated ground.
         2. Shall accommodate up to four communications devices.
         3. Separation of services shall be maintained throughout
         4. Integral 1/2 inch (12 mm) hub for power wiring and an integral 1 inch (25 mm) hub for communications cabling.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Product: FPT4-2P-6C Flush Poke Through Series as manufactured by Thomas and Betts Corp.:
         1. Shall accommodate (2) 20A receptacles on the same circuit, the circuit can be wired as isolated ground.
         2. Shall accommodate up to (6) communications devices.
         3. Separation of services shall be maintained throughout
         4. Integral 1/2 inch (12 mm) hub for power wiring and an optional 1 inch (25 mm) hub for communications cabling.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Product: FPT4-8C Flush Poke Through Series as manufactured by Thomas and Betts Corp.:
         1. Shall accommodate up to 8 communications devices.
         2. Optional 1-1/4 inch (32 mm) hub for communications cabling.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Product: FPT4-1TL-2C Flush Poke Through Series as manufactured by Thomas and Betts Corp.:
         1. Shall accommodate one locking receptacle (20A-125V, 20A-250V, 30A-125V or 30A-250V) as scheduled or required.
         2. Shall accommodate up to two communications devices.
         3. Separation of services shall be maintained throughout.
         4. Integral 1/2 inch (12 mm) hub for power wiring and an optional 1/2 inch (12 mm) hub for communications cabling.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Communication Device Plates:
         1. Communication device plates shall be constructed of galvanized steel and shall be powder-coated black.
         2. Plates shall be available to accommodate specialty communications devices from common manufacturers.
         3. All plates shall be removable through the top of the poke-through without exposing power compartment(s).

\*\* NOTE TO SPECIFIER \*\* Not included on FPT4-8C series. Delete if not required.

* + - 1. Junction Box:
         1. The box shall be constructed of 0.062 inch (1.6 mm) minimum thickness galvanized steel.
         2. The box shall have a capacity of 27 cubic inches (442 cubic cm).
         3. The box shall be connected to the body with a 6 inches (152 mm) piece of 1/2 inch (12 mm) EMT conduit.
         4. The box shall be factory-installed and shall drop through the 4 inch (102 mm) core-drilled hole during installation.
    1. Provide a flush power and/or communications poke through for use in a 3 inch (76 mm) hole.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Product: FPT3 Series Flush Poke Through as manufactured by Thomas and Betts Corp.
         1. Capacity shall be one duplex receptacle and two data jacks.
         2. Base: Die-cast zinc, galvanized steel and intumescent fire-stop material.
         3. Junction Box: Galvanized steel.

\*\* NOTE TO SPECIFIER \*\* Delete cover materials not required.

* + - * 1. Cover: Solid brass with brushed finish.
        2. Cover: Aluminum, brushed finish.
        3. Cover: Aluminum, powder-coated black finish.
        4. Cover: Aluminum, powder-coated brown finish.
        5. Cover: Aluminum, powder-coated beige finish.
        6. Cover: Aluminum, gray finish.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Product: FPT Series Flush Poke Through as manufactured by Thomas and Betts Corp.
         1. Capacity shall be one duplex receptacle.
         2. Metallic Cover: Solid brass or aluminum with brushed finish.

\*\* NOTE TO SPECIFIER \*\* Delete cover materials not required.

* + - * 1. Cover: Nonmetallic, black color.
        2. Cover: Nonmetallic, brown color.
        3. Cover: Nonmetallic, beige color.
        4. Cover: Nonmetallic, gray color.
        5. Base: phenolic, galvanized steel and intumescent fire-stop material.
        6. Junction Box: 27 cubic inch capacity with 1/2 inch (12 mm) and 3/4 inch (19 mm) KO's for power conduit connections.

\*\* NOTE TO SPECIFIER \*\* The poke through is used to route power wires and/or communications cabling through a fire rated floor to feed modular furniture. Delete if not required.

* + 1. Provide furniture feed poke through service fitting for use in a 4 inch (102 mm) hole.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Product: FFPT4 Series Furniture Feed Poke Through as manufactured by Thomas and Betts Corp.
         1. Base: Die-cast zinc, galvanized steel and intumescent fire-stop material.
         2. The base shall include a 1-1/4 inch (32 mm) EMT conduit stub for communications cable entry.
         3. The base shall include a 3/4 inch (19 mm) EMT conduit stub connecting the poke through to the junction box.
         4. The base shall maintain separation of power and communications services throughout.

\*\* NOTE TO SPECIFIER \*\* Delete cover materials not required.

* + - * 1. Cover: Shall include a concentric 2 inch (51 mm) and 1-1/4 inch (32 mm) threaded hub for conduit connections.

\*\* NOTE TO SPECIFIER \*\* Delete cover materials not required.

* + - * 1. Cover: Solid brass with brushed finish.
        2. Cover: Aluminum, brushed finish.
        3. Cover: Aluminum, powder-coated black finish.
        4. Cover: Aluminum, powder-coated brown finish.
        5. Cover: Aluminum, powder-coated beige finish.
        6. Cover: Aluminum, gray finish.
    1. Provide furniture feed poke through service fitting for use in a 3 inch (76 mm) hole.
       1. Product: FFPT3 Series Furniture Feed Poke Through as manufactured by Thomas and Betts Corp.
          1. Base: Die-cast zinc, galvanized steel and intumescent fire-stop material.
          2. The base shall include a 2 inch (51 mm) EMT conduit stub for cable entry.

\*\* NOTE TO SPECIFIER \*\* Delete cover materials not required.

* + - * 1. Cover: Shall include a concentric 2 inch (51 mm) and 1-1/4 inch (32 mm) threaded hub for conduit connection.

\*\* NOTE TO SPECIFIER \*\* Delete cover materials not required.

* + - * 1. Cover: Solid brass with brushed finish.
        2. Cover: Aluminum, brushed finish.
        3. Cover: Aluminum, powder-coated black finish.
        4. Cover: Aluminum, powder-coated brown finish.
        5. Cover: Aluminum, powder-coated beige finish.
        6. Cover: Aluminum, gray finish.
      1. Product: FPT Series Furniture Feed Poke Through as manufactured by Thomas and Betts Corp.
         1. Base: phenolic, galvanized steel and intumescent fire-stop material.
         2. The base shall include an opening for communications cable with capacity equivalent to two 3/4 inch (19 mm) conduits.
         3. Junction Box: 27 cubic inch capacity with 1/2 inch (12 mm) and 3/4 inch (19 mm) KO's for power conduit connections.

\*\* NOTE TO SPECIFIER \*\* Delete cover material not required.

* + - * 1. Cover: Shall include two 1/2 inch (12 mm) threaded hubs and one 3/4 inch (19 mm) threaded hubs for conduit connection.

\*\* NOTE TO SPECIFIER \*\* Delete cover materials not required.

* + - * 1. Cover: Nonmetallic, black color.
        2. Cover: Nonmetallic, brown color.
        3. Cover: Nonmetallic, beige color.
        4. Cover: Nonmetallic, gray color.

\*\* NOTE TO SPECIFIER \*\* The poke through includes above-floor pedestal for power and/or communications devices. Delete if not required.

* + 1. Provide an above floor pedestal power and communications poke through service fitting for use in a 3 inches (76 mm) hole.
       1. Product: FPT3 Series as manufactured by Thomas and Betts Corp.
          1. Covers: Brushed Aluminum.
          2. Base: Die-cast zinc, galvanized steel and intumescent fire-stop material.
          3. Junction Box: Galvanized Steel.
          4. Capacity: 2 and 4 compartment for power and/or communications.

\*\* NOTE TO SPECIFIER \*\* Access floor modules are special floor boxes used to activate power and data wiring in raised floor applications. The installation of access floor modules shall be in compliance with the National Electric Code. Delete if not required.

* 1. ACCESS FLOOR MODULES
     1. Device panels shall be power or data / telephone as shown on drawings.
     2. Design:
        1. Data panels shall be designed to mount the data connectors and telephone connectors as shown on the drawings.
        2. Shall provide concealed service access to power and communications outlets in a raised floor installation.
        3. Shall deliver power and telephone/data cable without interference from electric power delivery.
        4. The raceway meets the requirements of UL 514A and CSA C22.2 No. 18.
     3. Product:

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Accepts up to 2 power receptacles. 7-1/8 inches by 4-1/8 inches by 4 inches deep (181 mm by 105 mm by 102 mm). Provides a minimum interior capacity of 75 cubic inches (1229 cubic cm).
         1. Product: AFM-2 as manufactured by Thomas and Betts, Corp.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Accepts up to 3 power receptacles. 7-15/16 inches by 7-15/16 inches by 4 inches deep (202 mm by 202 mm by 102 mm). Provides a minimum interior capacity of 150 cubic inches (2458 cubic cm).
         1. Product: AFM-4 as manufactured by Thomas and Betts, Corp.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Accepts up to 6 power receptacles. 7-15/16 inches by 10 inches by 4 inches deep (202 mm by 254 mm by 102 mm). Provides a minimum interior capacity of 225 cubic inches (3687 cubic cm).
         1. Product: AFM-6 as manufactured by Thomas and Betts, Corp.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Accepts up to 2 power receptacles. 7-15/16 inches by 10 inches by 2-1/2 inches deep (202 mm by 254 mm by 64 mm). Provides a minimum interior capacity of 172 cubic inches (2819 cubic cm).
         1. Product: AFM-6S as manufactured by Thomas and Betts, Corp.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Accepts up to 6 power receptacles. 7-15/16 inches by 10 inches by 4-11/16 inches deep (202 mm by 254 mm by 119 mm). Provides a minimum interior capacity of 201 cubic inches (3294 cubic cm).
         1. Product: AFM-6V as manufactured by Thomas and Betts, Corp.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Accepts up to 10 power receptacles. 9-5/8 inches by 9-5/8 inches by 5-5/8 inches deep (245 mm by 245 mm by 143 mm). Provides a minimum interior capacity of 325 cubic inches (5326 cubic cm).
         1. Product: AFM-8 as manufactured by Thomas and Betts, Corp.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Box: 3-compartment floor box for raised access floors.
         1. Product: AFM-4R Access Floor Module as manufactured by Thomas and Betts, Corp.
    1. Construction:
       1. Main box shall be made of 14 gage cold rolled steel, .070 inch (1.8 mm) minimum thickness, conforming to ASTM A366.
       2. Device panels shall be made of 16 gage cold rolled steel, .056 inch (1.4 mm) minimum thickness, conforming to ASTM A366.
       3. Device plates shall be constructed of galvanized steel and shall accommodate standard power and data devices.
       4. Hinged outer cover shall be reinforced with a 5/32 inch (4 mm) steel plate.
       5. Steel components to have an electrogalvanized zinc finish conforming to ASTM A386. Sheet metal steel fabrications shall be made of U.L. approved component G-90-U material.
       6. Nonmetallic cover components shall be nylon, U.L. recognized component QMFZ2.
    2. Cover:
       1. Shall be gray, brown, black or beige. Refer to Material Finish Schedule.
       2. Shall accept floor covering material as required.
       3. Shall be self-leveling when installed.
       4. Cover, when closed, shall protect exiting cables and cords from abuse and abrasion by retractable cable exits. Cover shall install flush with floor and be 180 degree reversible.
       5. Carpet edge shall be protected from fraying by a carpet trim ring of a matching color.
    3. Collar shall be constructed of aluminum. The collar shall couple together the cover and the box while creating a recessed area below floor level for electrical and communications plugs. The collar shall feature locking tabs to hold the recessed box securely in the raised floor tile. The locking tabs shall be actuated by thumbscrews located in the interior of the collar for easy removal.

\*\* NOTE TO SPECIFIER \*\* Access floor box pre-set inserts. Delete if not required.

* 1. PRE-SET INSERT
     1. GAB Multiple Service Floor Outlet Assembly as manufactured by Thomas & Betts Corp., Memphis, TN, (trade name, Steel City) consisting of:
        1. Pre-set insert, Series GAB.
        2. Activating unit shall be AFM-4, AFM-6 and AFM-8 as manufactured by Thomas & Betts Corp.
     2. Pre-Set shall be installed with conduit sizes as shown on the drawings.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. GAB-4 has standard 3/4 inch (19 mm) conduit thread on power side, in and out. Standard 1-1/4 inches (32 mm) conduit thread on data side, in and out. Special drilling and tapping up to 1-1/2 inches (38 mm) conduit size. Reducing bushings shall be provided to downsize conduit.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. GAB-6 has standard 3/4 inch (19 mm) conduit thread on power side, in and out. Standard 1-1/4 inches (32 mm) conduit thread on data side, in and out. Special drilling and tapping up to 1-1/2 inches (38 mm) conduit size. Reducing bushings shall be provided to downsize conduit.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. GAB-8-S has 3/4 inch (19 mm) KO on power side, in and out. 1-1/4 inches (32 mm) KO on data side, in and out.
      2. Conduits for power shall enter and leave in-line and on same side so as to maintain separation of services.
      3. Foam blocks or a steel cover shall exclude concrete from the interior.
         1. Foam blocks or steel cover shall permit a minimum of 1-1/4 inches (32 mm) of concrete over opening prior to activation.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Pre-set: GAB-4.
         1. 9 inches by 16 inches by 4-1/4 inches (229 mm by 406 mm by 108 mm) high.
         2. 8 inches by 8 inches (203 mm by 203 mm) nominal concrete opening. (Refer to GAB-4)
         3. Cast-iron components to be gray iron per ASTM Specification A48, Class 20A.
         4. Cast-iron components shall be protected with a painted coating as specified in U.L. 514A.
         5. Steel components to be fabricated from cold rolled steel, .070 inch (1.8 mm) minimum thickness, conforming to ASTM A366.
         6. Steel components to have an electrogalvanized zinc finish conforming to ASTM A386. Sheet metal steel fabrications shall be made of U.L. approved component G-90-U material.
         7. Nonmetallic components shall be glass-filled polymide nylon, U.L. recognized component QMFZ2.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Pre-set: GAB-6.
         1. 9 inches by 16 inches by 4-1/4 inches (229 mm by 406 mm by 108 mm) high.
         2. 8 inches by 10 inches (203 mm by 254 mm) nominal concrete opening. (Refer to GAB-6)
         3. Cast-iron components to be gray iron per ASTM Specification A48, Class 20A.
         4. Cast-iron components shall be protected with a painted coating as specified in U.L. 514A.
         5. Steel components to be fabricated from cold rolled steel, .070 inch (1.8 mm) minimum thickness, conforming to ASTM A366.
         6. Steel components to have an electrogalvanized zinc finish conforming to ASTM A386. Sheet metal steel fabrications shall be made of U.L. approved component G-90-U material.
         7. Nonmetallic components shall be glass-filled polymide nylon, U.L. recognized component QMFZ2.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Pre-set: GAB-8-S
         1. 10 inches by 10 inches (254 mm by 254 mm) nominal concrete opening (Refer to GAB-8-S).
         2. 9-3/4 inches by 16-3/8 inches by 5-7/8 inches (248 mm by 416 mm by 149 mm) high.
         3. Steel components to be fabricated from cold rolled steel, .070 inch (1.8 mm) minimum thickness, conforming to ASTM A366.
         4. Steel components to have an electrogalvanized zinc finish conforming to ASTM A386. Sheet metal steel fabrications shall be made of U.L. approved component G-90-U material.
         5. Nonmetallic components shall be glass-filled polymide nylon, U.L. recognized component QMFZ2.

\*\* NOTE TO SPECIFIER \*\* Access floor box pre-set activation unit. Delete if not required.

* + 1. Activation Unit:
       1. Sizes shall match pre-set insert opening as shown on drawings.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - * 1. 8 inches by 8 inches (203 mm by 203 mm) nominal size steel box (Refer to AFM-4). Provides a minimum interior capacity of 150 cubic inches (2458 cubic cm).

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - * 1. 8 inches by 10 inches (203 mm by 254 inches) nominal size steel box (Refer to AFM-6). Provides a minimum interior capacity of 225 cubic inches (3687 cubic cm). If two duplex power receptacles are required on a single panel, the pre-set insert and activation unit shall be GAB-6 and AFM-6 respectively.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - * 1. 10 inches by 10 inches (254 mm by 254 mm) nominal size steel box (Refer to AFM-8). Provides a minimum interior capacity of 325 cubic inches (5326 cubic cm).
      1. Device panels may be data or telephone as shown on drawings.
      2. Data panels shall be designed to mount the data connectors and telephone connectors as shown on the drawings.
      3. Cover shall be gray, brown, black or beige as indicated on the Materials Finish Schedule or specified on the drawings.
         1. Shall accept floor covering material as required.
         2. Shall be self-leveling when installed.
      4. Cover, when closed, shall protect exiting cables and cords from abuse and abrasion by retractable cable exits. Cover shall install flush with floor and be 180 degree reversible.
      5. Carpet edge shall be protected from fraying by a carpet trim ring of a matching color.

1. EXECUTION
   1. EXAMINATION
      1. Do not begin installation until substrates and supporting structures have been properly prepared.
      2. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
   2. INSTALLATION
      1. Install in accordance with manufacturer's instructions.
   3. QUALITY CONTROL - RACEWAY TESTING
      1. Verify layout of system to contract drawings.
      2. Raceway system shall be free of open gaps and exposed uneven cuts.
      3. All outlets, boxes, and enclosures shall be fastened securely to walls or permanent structures.
      4. Verify power wires and data cables are separated by a physical barrier. CAUTION: Power wires and data cables shall not be combined in any channel.
   4. PROTECTION
      1. Protect installed products until completion of project.
      2. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION