SECTION 16141

BOXES FOR ELECTRICAL SYSTEMS

1. GENERAL
   * + 1. CONDITIONS AND REQUIREMENTS
          1. The General Conditions, Supplementary Conditions, and Division 1 – General Requirements apply.
       2. SECTION INCLUDES
          1. Floor boxes.
       3. RELATED SECTIONS

Specifier Note: In this article, specify work specified in other sections that is related to work of this section.

* + - * 1. Section 07841 - Penetration Firestopping Devices.
        2. Section 13700 - Security Access and Surveillance: Security systems and components.
        3. Division 16 - Electrical: Electrical systems and components.
        4. Section 16700 - Communications: Communications and audio-video systems and components.

Specifier Note: The following paragraph is a sample that may be used in this article. Add to or delete from the following as appropriate for the specific project.

* + - * 1. Section [xxxxx] – [Section Title]: [Include brief description of work specified in another section that is related to the work of this section.]
      1. SUBMITTALS

Specifier Note: In this article, specify various types of data to be furnished by the contractor before, during, or after construction. Topics included in this article are product data, shop drawings, samples, design data, test reports, certificates, manufacturers’ instructions, manufacturers’ field reports, qualification statements, and closeout submittals.

* + - * 1. Submit under provisions of Section [01330] [\_\_\_\_\_].
        2. Product Data: Submit for electrical floor boxes.
      1. QUALITY ASSURANCE

Specifier Note: In this article, describe qualifications, regulatory requirements, certifications, field samples, mock-ups, and pre-installation meetings.

* + - * 1. Manufacturer Qualifications: Firms regularly engaged in manufacture of electrical floor boxes and fittings of the types and sizes required, whose products have been in satisfactory use in similar service for not less than 10 years. Provide electrical floor boxes and fittings produced by a manufacturer listed in this section.
        2. Electrical Boxes and Fittings: Comply with requirements of applicable local codes, NEC, UL, ETL, and NEMA Standards pertaining to boxes and fittings. Listed and labeled in accordance with NFPA 70, Section 300-21.
      1. DELIVERY, STORAGE AND HANDLING
         1. Deliver electrical floor boxes in factory labeled packages.
         2. Store and handle in strict compliance with manufacturer’s written instructions and recommendations.
         3. Protect from damage due to weather, excessive temperature, and construction operations.

1. PRODUCTS
   * + 1. MANUFACTURERS
          1. Basis-of-Design Product: The design for electrical floor boxes and fittings is based on Evolution Series Floor Boxes manufactured by Legrand/Wiremold, 60 Woodlawn Street, West Hartford, CT 06110; toll-free 800-621-0049, telephone 860-233-6251, fax 860-232-2062; Web Site: [www.legrand.us/wiremold](http://www.legrand.us/wiremold).
          2. Substitutions will be considered under provisions of Section 01635.
       2. FLOOR BOXES
          1. Classification and Use: Floor boxes shall have been examined and tested by Underwriters Laboratories Inc. to meet UL514A and/or UL514C and Canadian Standard C22.2, No. 18.1-04 and 18.2-06 and bear the U.S. and Canadian UL Listing Mark. Floor boxes shall also have been tested by Underwriters Laboratories Inc. and classified for fire resistance and bear the U.S. and Canadian UL Classification Mark. Devices shall be classified for use in 2-hour rated, unprotected reinforced concrete floors and 2-hour rated floors employing unprotected steel floor units and concrete toppings (D900 Series Designs) or concrete floors with suspended ceilings (fire resistive designs with suspended ceilings should have provisions for accessibility in the ceiling below the floor boxes). Floor boxes shall also conform to the standards set in Section 300-21 of the National Electrical Code. Floor boxes shall meet UL scrub water requirements, but are not suitable for wet or damp locations, or other areas subject to saturation with water or other liquids such as commercial kitchens. Floor boxes shall also have been evaluated by UL to meet the applicable U.S. and Canadian safety standards for scrub water exclusion when used on tile, bare concrete, terrazzo, wood, and carpet covered floors. Floor boxes shall be suitable for use in air handling spaces in accordance with Section 300-22 (C) of the National Electrical Code.
          2. Floor Boxes, General: Boxes shall be compatible with complete line of Ortronics® workstation connectivity outlets and modular inserts.

Floor boxes provide the interface between power, communication, and audio/video (A/V) cabling in above-grade floors, on-grade concrete floors, raised floors, wood floors, and fire-classified floors and the workstation or activation location where power and communication and/or A/V device outlets are required. Boxes shall provide recessed device outlets that will not obstruct the floor area. Refer to Drawings for size and types.

Floor boxes shall permit all wiring to be completed at floor level. The FC models shall be used as defined by the UL Fire Resistance Directory at a minimum spacing of two (2) ft [610mm] on center.

Specifier Note: Retain any of the following seven (7) paragraphs whose products are incorporated into the project and delete the others.

* + - * 1. Model EFB45S Floor Boxes: Manufactured from stamped steel approved for use on above grade concrete floors, raised floors and wood floors with the same product. Boxes shall have the ability to accept a component (EFB45-CTR) that will allow the box to be installed in polished concrete or terrazzo floors. Boxes shall have a polyester based backed white enamel finished interior. Boxes shall be 12-1/16” L x 9-3/16” W x 5-15/16” H [306mm x 233mm x 151mm]. Provide boxes with provisions that enable installation into concrete floors, raised floors, or wood floors without having to purchase additional components or accessories. Provide boxes with four (4) independent wiring compartments that allow for up to four (4) receptacles, communication and/or audio/video services. Boxes shall have the ability to expand to five (5) independent wiring compartments by changing out the mounting brackets module. Boxes shall accept standard size single gang (2-3/4” x 4-1/2”), double gang (4-9/16” x 4-1/2”), and triple gang (6-3/8” x 4-1/2”) wall plates. Boxes shall permit feed to adjacent compartments. Each of the two (2) outer compartments shall have a minimum wiring capacity of 28-in3 [455ml]. Each of the two (2) center compartments shall have a minimum wiring capacity of 34-in3 [524ml]. Each of the four (4) compartments shall have a minimum depth of 3-1/2” [89mm] behind the plate. Provide boxes with removable compartments to facilitate installation and moves, additions, and changes. The compartments shall be removable from the top and back of the floor box. Provide boxes with two (2) cable guides to organize and maintain the cables egress out of the box. Provide boxes with removable knockout plates to allow for the maximum cable pass-through area. The cable pass-through area shall be a minimum of 11-5/8 in2 [7500m2]. The box shall contain the following number of knockouts: four (4) 3/4-inch trade size, four (4) 1-inch trade size, three (3) 1-1/4-inch trade size, and one (1) 2-inch trade size. Boxes shall be fully adjustable, accommodating a maximum 2-inch [51mm] pre-concrete pour and a maximum 1/2” [12.7mm] post-concrete pour adjustment. Equip boxes with toggle clamps to allow box to be secured to raised and wood floors. Include mounting brackets with the boxes that will accommodate 15-amp, 20-amp straight blade, 20 amp turn loc, 30-amp straight blade and 30 amp turn loc receptacles. Boxes shall have the ability to accommodate a bracket (EFB-50A) allowing for one (1) 50-amp receptacle. Boxes shall also accommodate Ortronics® workstation connectivity and modular adapters, a variety of audio/video devices from most manufacturers, and other open system devices.
        2. Model EFB45S-OG Floor Boxes: Manufactured from stamped steel approved for use in above grade and on-grade floor applications. Boxes shall have the ability to accept a component (EFB45-CTR) that will allow the box to be installed in polished concrete or terrazzo floors. Boxes shall be painted with a fusion-bonded epoxy designed for use on metal reinforcement bar and related accessories before encapsulation in concrete and be approved for use on-grade and above grade floors. Boxes shall be 12 1/16” L 9 3/16” W x 5 15/16” H [306mm x 233mm x 151mm]. Provide boxes with four (4) independent wiring compartments that allow for up to four (4) duplex receptacles, communication and/or audio/video services. Box shall have the ability to expand to five (5) independent wiring compartments by changing out the mounting brackets module. Boxes shall have removable and relocatable dividers to permit custom configuration of compartments as well as permit feed to adjacent compartments. Each of the two (2) outer compartments shall have a minimum wiring capacity of 28-in3 [455ml]. Each of the two (2) center compartments shall have a minimum wiring capacity of 34-in3 [455ml]. Each of the four (4) compartments shall have a minimum depth of 3-1/2” [89mm] behind the plate. Provide boxes with removable compartments to facilitate installation. The compartments shall be removable from the top of the floor box. Provide boxes with two (2) cable guides to organize and maintain the cables egress out of the box. The box shall contain the following number of knockouts: six (6) 1-inch trade size, three (3) 1-1/4-inch trade size, and two (2) 2-inch trade size. Boxes shall be fully adjustable, accommodating a maximum 2-inch [51mm] pre-concrete pour and a maximum 1/2” [12.7mm] post-concrete pour adjustment. The box shall be able to accept standard size single gang (2-3/4” x 4-1/2”), double gang (2-3/4” x 4-1/2”), and triple gang (6-3/8” x 4-1/2”) wall plates. Include mounting brackets with the boxes that will accommodate 15-amp, 20-amp straight blade, 20 amp turn loc, 30-amp straight blade and 30 amp turn loc receptacles. Boxes shall have the ability to accommodate a bracket (EFB-50A) allowing for one (1) 50-amp receptacle. Boxes shall also accommodate Ortronics® workstation connectivity and modular adapters, a variety of audio/video devices from most manufacturers, and other open system devices.
        3. Model EFB45S-FC Floor Boxes: Manufactured from stamped steel approved for use in 2-hour fire-rated concrete floors. Boxes shall have the ability to accept a component (EFB45-CTR) that will allow the box to be installed in polished concrete or terrazzo floors. Boxes shall have a polyester based backed white enamel finished interior. Boxes shall be 12 1/16” L 9 3/16” W x 5 15/16” H [306mm x 233mm x 151mm]. Provide boxes with an 18 11/16” L x 16 3/8” W x 15 1/16” H [475mm x 416mm x 383mm] sheet metal concrete pan to ensure that 3-1/4 inches [83mm] of concrete surrounds the box. Provide boxes with four (4) independent wiring compartments that allow for up to four (4) receptacles, communication and/or audio/video services. Box shall have the ability to expand to five (5) independent wiring compartments by changing out the mounting brackets module. Boxes shall have removable and repositionable dividers to permit feed to adjacent compartments and reconfiguration of devices. Each of the compartments shall have a minimum wiring capacity of 53-in3 [860ml]. Each of the four (4) compartments shall have a minimum depth of 3-1/2” [89mm] behind the plate. Provide boxes with two (2) cable guides to organize and maintain the cables egress out of the box. Provide boxes with four (4) intumescent services feed stems with a 1-1/4-inch [32mm] pass-through channel that allows the pathway to close off during a fire. Boxes shall be fully adjustable, accommodating a maximum 3-inch [76mm] pre-concrete pour and a maximum 1/2” [12.7mm] post-concrete pour adjustment. The box shall be able to accept standard size single gang (2-3/4” x 4-1/2”), double gang (4-9/16” x 4-1/2”), and triple gang (6-3/8” x 4-1/2”) wall plates. Include mounting brackets with the boxes that will accommodate 15-amp, 20-amp straight blade, 20 amp turn loc, 30-amp straight blade and 30 amp turn loc receptacles. Boxes shall have the ability to accommodate a bracket (EFB-50A) allowing for one (1) 50-amp receptacle. Boxes shall also accommodate Ortronics® workstation connectivity and modular adapters, a variety of audio/video devices from most manufacturers, and other open system devices.
        4. Model EFB45S-FC12 Floor Boxes: Manufactured from stamped steel approved for use in 2-hour fire-rated concrete floors. Boxes shall have the ability to accept a component (EFB45-CTR) that will allow the box to be installed in polished concrete or terrazzo floors. Boxes shall have a polyester based backed white enamel finished interior. Boxes shall be 12 1/16” L 9 3/16” W x 5 15/16” H [306mm x 233mm x 151mm]. Provide boxes with an 18 11/16” L x 16 3/8” W x 15 1/16” H [475mm x 416mm x 383mm] sheet metal concrete pan to ensure that 3-1/4 inches [83mm] of concrete surrounds the box. Provide boxes with four (4) independent wiring compartments that allow for up to four (4) receptacles, communication and/or audio/video services. Box shall have the ability to expand to five (5) independent wiring compartments by changing out the mounting brackets module. Boxes shall have removable and repositionable dividers to permit feed to adjacent compartments and reconfiguration of devices. Each of the compartments shall have a minimum wiring capacity of 53-in3 [860ml]. Each of the four (4) compartments shall have a minimum depth of 3-1/2” [89mm] behind the plate. Provide boxes with two (2) cable guides to organize and maintain the cables egress out of the box. Provide boxes with four (4) intumescent services feed stems. Two (2) of the intumescent service feed stems shall have a 1-1/4-inch [32mm] pass-through channel and two (2) intumescent service feed stems shall have a 2-inch [51mm] pass –through channel that allows the pathway to close off during a fire. Boxes shall be fully adjustable, accommodating a maximum 3-inch [76mm] pre-concrete pour and a maximum 1/2” [12.7mm] post-concrete pour adjustment. The box shall be able to accept standard size single gang (2-3/4” x 4-1/2”), double gang (4-9/16” x 4-1/2”), and triple gang (6-3/8” x 4-1/2”) wall plates. Include mounting brackets with the boxes that will accommodate 15-amp, 20-amp straight blade, 20 amp turn loc, 30-amp straight blade and 30 amp turn loc receptacles. Boxes shall have the ability to accommodate a bracket (EFB-50A) allowing for one (1) 50-amp receptacle. Boxes shall also accommodate Ortronics® workstation connectivity and modular adapters, a variety of audio/video devices from most manufacturers, and other open system devices.
        5. Model EFB6S Floor Boxes: Manufactured from stamped steel approved for use on above grade concrete floors, raised floors and wood floors with the same product. Boxes shall have the ability to accept a component (EFB610-CTR) that will allow the box to be installed in polished concrete or terrazzo floors. Boxes shall have a polyester based backed white enamel finished interior. Boxes shall be 15-3/16” L x 13-7/8” W x 4-3/16” H [385mm x 351mm x 107mm]. Provide boxes with provisions that enable installation into concrete floors, raised floors, or wood floors without having to purchase additional components or accessories. Provide boxes with six (6) independent wiring compartments that allow for up to six (6) receptacles, communication and/or audio/video services. Boxes shall have removable and relocatable dividers to permit custom configuration of compartments as well as permit feed to adjacent compartments. Boxes shall permit feed to compartments on the opposite side of the box through a tunnel. Each of the four (4) outer compartments shall have a minimum wiring capacity of 32-in3 [524ml]. Each of the two (2) center compartments shall have a minimum wiring capacity of 38.5-in3 [630ml]. Each of the six (6) compartments shall have a minimum depth of 3-7/8” [98mm] behind the plate. Provide boxes with removable compartments to facilitate installation and moves, additions, and changes. The compartments shall be removable from the top and back of the floor box. Provide boxes with two (2) cable guides to organize and maintain the cables egress out of the box. Provide boxes with removable knockout plates to allow for the maximum cable pass-through area. The cable pass-through area shall be a minimum of 6-15/16 in2 [176mm2]. The box shall contain the following number of knockouts: 10 1” trade size, six (6) 1-1/4” trade size, six (6) 3/4” trade size, and two (2) 2” trade size. Boxes shall be able to accept up to (6) six 2” trade size conduit feeds in the sides of the boxes, through the use of the EFB6S-2HUB and maintain a 4-inch-deep concrete pour. Boxes shall be fully adjustable, accommodating a maximum 2-inch [51mm] pre-concrete pour and a maximum 1/2” [12.7mm] post-concrete pour adjustment. Equip boxes with toggle clamps to allow box to be secured to raised and wood floors. The box shall be able to accept 2-3/4” x 4-1/2” standard size wall plates. Include mounting brackets with the boxes that will accommodate 15-amp, 20-amp straight blade, 20 amp turn loc, 30-amp straight blade and 30 amp turn loc receptacles, Ortronics® workstation connectivity and modular adapters, a variety of audio/video devices from most manufacturers, and other open system devices.
        6. Model EFB6S-OG Floor Boxes: Manufactured from stamped steel approved for use in above grade and on-grade floor applications. Boxes shall have the ability to accept a component (EFB610-CTR) that will allow the box to be installed in polished concrete or terrazzo floors. Boxes shall be painted with a fusion-bonded epoxy designed for use on metal reinforcement bar and related accessories before encapsulation in concrete and be approved for use on-grade and above grade floors. Boxes shall be 15-3/16” L x 13-7/8” W x 4-3/16” H [385mm x 351mm x 107mm]. Provide boxes with six (6) independent wiring compartments that allow for up to six (6) duplex receptacles, communication and/or audio/video services. Boxes shall have removable and relocatable dividers to permit custom configuration of compartments as well as permit feed to adjacent compartments. Boxes shall permit feed to compartments on the opposite side of the box through a tunnel. Each of the four (4) outer compartments shall have a minimum wiring capacity of 32-in3 [524ml]. Each of the two (2) center compartments shall have a minimum wiring capacity of 38.5-in3 [630ml]. Each of the six (6) compartments shall have a minimum depth of 3-7/8” [98mm] behind the plate. Provide boxes with removable compartments to facilitate installation. The compartments shall be removable from the top of the floor box. Provide boxes with two (2) cable guides to organize and maintain the cables egress out of the box. The box shall contain the following number of knockouts: 10 1” trade size, six (6) 1-1/4” trade size, six (6) 3/4” trade size, and two (2) 2” trade size. Boxes shall be able to accept up to (6) six 2” trade size conduit feeds in the sides of the boxes, through the use of the EFB6S-2HUB and maintain a 4-inch-deep concrete pour. Boxes shall be fully adjustable, accommodating a maximum 2-inch [51mm] pre-concrete pour and a maximum 1/2” [12.7mm] post-concrete pour adjustment. The box shall be able to accept 2-3/4” x 4-1/2” standard size wall plates. Include mounting brackets with the boxes that will accommodate 15-amp, 20-amp straight blade, 20 amp turn loc, 30-amp straight blade and 30 amp turn loc receptacles, Ortronics® workstation connectivity and modular adapters, a variety of audio/video devices from most manufacturers, and other open system devices.
        7. Model EFB6S-FC Floor Boxes: Manufactured from stamped steel approved for use in 2-hour fire-rated concrete floors. Boxes shall have the ability to accept a component (EFB610-CTR) that will allow the box to be installed in polished concrete or terrazzo floors. Boxes shall have a polyester based backed enamel finished interior (white). Boxes shall be 15-3/16” L x 13-7/8” W x 4-3/16” H [385mm x 351mm x 107mm]. Provide boxes with a 21-3/4” L x 17-1/4” W x 6-1/2” H [552mm x 438mm x 165mm] sheet metal concrete pan to ensure that 3-1/4 inches [83mm] of concrete surrounds the box. Provide boxes with six (6) independent wiring compartments that allow for up to six (6) receptacles, communication and/or audio/video services. Boxes shall permit feed to adjacent compartments. Boxes shall permit feed to compartments on the opposite side of the box through a tunnel. Each of the four (4) outer compartments shall have a minimum wiring capacity of 32-in3 [524ml]. Each of the two (2) center compartments shall have a minimum wiring capacity of 38.5-in3 [630ml]. Each of the six (6) compartments shall have a minimum depth of 3-7/8” [98mm] behind the plate. Provide boxes with two (2) cable guides to organize and maintain the cables egress out of the box. Provide boxes with four (4) intumescent services feed stems with a 1-1/4-inch [32mm] pass-through channel that allows the pathway to close off during a fire. Boxes shall be fully adjustable, accommodating a maximum 2-1/2-inch [64mm] pre-concrete pour and a maximum 1/2” [12.7mm] post-concrete pour adjustment. The box shall be able to accept 2-3/4” x 4-1/2” standard size wall plates. Include mounting brackets with the boxes that will accommodate 15-amp, 20-amp straight blade, 20 amp turn loc, 30-amp straight blade and 30 amp turn loc receptacles, Ortronics® workstation connectivity and modular adapters, a variety of audio/video devices from most manufacturers, and other open system devices.

Specifier Note: Retain any of the following three (3) paragraphs whose products are incorporated into the project and delete the others.

* + - * 1. Model EFB8S Floor Boxes: Manufactured from stamped steel approved for use on above grade concrete floors, raised floors and wood floors with the same product. Boxes shall have the ability to accept a component (EFB610-CTR) that will allow the box to be installed in polished concrete or terrazzo floors. Boxes shall have a polyester based backed enamel finished interior (white). Boxes shall be 15-3/16” L x 12-3/4” W x 6-1/16” H [385mm x 324mm x 154mm]. Provide boxes with provisions that enable installation into concrete floors, raised floors, or wood floors without having to purchase additional components or accessories. Provide boxes with eight (8) independent wiring compartments that allow for up to eight (8) receptacles, communication and/or audio/video services. Boxes shall accept standard size single gang (2-3/4” x 4-1/2”), double gang (4-9/16” x 4-1/2”), and triple gang (6-3/8” x 4-1/2”) wall plates. Boxes shall permit feed to adjacent compartments. Boxes shall permit feed to compartments on the opposite side of the box through a tunnel. Each of the four (4) outer compartments shall have a minimum wiring capacity of 28-in3 [455ml]. Each of the four (4) center compartments shall have a minimum wiring capacity of 34-in3 [524ml]. Each of the eight (8) compartments shall have a minimum depth of 3-1/2” [89mm] behind the plate. Provide boxes with removable compartments to facilitate installation and moves, additions, and changes. The compartments shall be removable from the top and back of the floor box. Provide boxes with two (2) cable guides to organize and maintain the cables egress out of the box. Provide boxes with removable knockout plates to allow for the maximum cable pass-through area. The cable pass-through area shall be a minimum of 11-5/8 in2 [7500mm2]. The box shall contain the following number of knockouts: four (4) 3/4-inch trade size, eight (8) 1-inch trade size, six (6) 1-1/4-inch trade size, and two (2) 2-inch trade size. Boxes shall be fully adjustable, accommodating a maximum 2-inch [51mm] pre-concrete pour and a maximum 1/2” [12.7mm] post-concrete pour adjustment. Equip boxes with toggle clamps to allow box to be secured to raised and wood floors. Include mounting brackets with the boxes that will accommodate 15-amp, 20-amp straight blade, 20 amp turn loc, 30-amp straight blade and 30 amp turn loc receptacles. Boxes shall have the ability to accommodate a bracket (EFB-50A) allowing for one (1) 50-amp receptacle. Boxes shall also accommodate Ortronics® workstation connectivity and modular adapters, a variety of audio/video devices from most manufacturers, and other open system devices.
        2. Model EFB8S-OG Floor Boxes: Manufactured from stamped steel approved for use in above grade and on-grade floor applications. Boxes shall have the ability to accept a component (EFB610-CTR) that will allow the box to be installed in polished concrete or terrazzo floors. Boxes shall be painted with a fusion-bonded epoxy designed for use on metal reinforcement bar and related accessories before encapsulation in concrete and be approved for use on-grade and above grade floors. Boxes shall be 15-3/16” L x 12-5/8” W x 6-1/16” H [385mm x 321mm x 154mm]. Provide boxes with eight (8) independent wiring compartments that allow for up to eight (8) duplex receptacles, communication and/or audio/video services. Boxes shall have removable and relocatable dividers to permit custom configuration of compartments as well as permit feed to adjacent compartments. Boxes shall permit feed to compartments on the opposite side of the box through a tunnel. Each of the four (4) outer compartments shall have a minimum wiring capacity of 28-in3 [455ml]. Each of the four (4) center compartments shall have a minimum wiring capacity of 34-in3 [455ml]. Each of the eight (8) compartments shall have a minimum depth of 3-1/2” [89mm] behind the plate. Provide boxes with removable compartments to facilitate installation. The compartments shall be removable from the top of the floor box. Provide boxes with two (2) cable guides to organize and maintain the cables egress out of the box. The box shall contain the following number of knockouts: 12 1-inch trade size, six (6) 1-1/4-inch trade size, and four (4) 2-inch trade size. Boxes shall be fully adjustable, accommodating a maximum 2-inch [51mm] pre-concrete pour and a maximum 1/2” [12.7mm] post-concrete pour adjustment. The box shall be able to accept standard size single gang (2-3/4” x 4-1/2”), double gang (2-3/4” x 4-1/2”), and triple gang (6-3/8” x 4-1/2”) wall plates. Include mounting brackets with the boxes that will accommodate 15-amp, 20-amp straight blade, 20 amp turn loc, 30-amp straight blade and 30 amp turn loc receptacles. Boxes shall have the ability to accommodate a bracket (EFB-50A) allowing for one (1) 50-amp receptacle. Boxes shall also accommodate Ortronics® workstation connectivity and modular adapters, a variety of audio/video devices from most manufacturers, and other open system devices.
        3. Model EFB8S-FC Floor Boxes: Manufactured from stamped steel approved for use in 2-hour fire-rated concrete floors. Boxes shall have the ability to accept a component (EFB610-CTR) that will allow the box to be installed in polished concrete or terrazzo floors. Boxes shall have a polyester based backed enamel finished interior (white). Boxes shall be 15-3/16” L x 13-7/8” W x 4-3/16” H [385mm x 351mm x 107mm]. Provide boxes with a 21-3/4” L x 17-1/4” W x 6-1/2” H [552mm x 438mm x 165mm] sheet metal concrete pan to ensure that 3-1/4 inches [83mm] of concrete surrounds the box. Provide boxes with eight (8) independent wiring compartments that allow for up to eight (8) receptacles, communication and/or audio/video services. Boxes shall have removable and repositionable dividers to permit feed to adjacent compartments and reconfiguration of devices. Boxes shall permit feed to compartments on the opposite side of the box through a tunnel. Each of the compartments shall have a minimum wiring capacity of 53-in3 [860ml]. Each of the eight (8) compartments shall have a minimum depth of 3-1/2” [89mm] behind the plate. Provide boxes with two (2) cable guides to organize and maintain the cables egress out of the box. Provide boxes with removable compartments to facilitate installation. Provide boxes with four (4) intumescent services feed stems with a 1-1/4-inch [32mm] pass-through channel that allows the pathway to close off during a fire. Boxes shall be fully adjustable, accommodating a maximum 2-1/2-inch [64mm] pre-concrete pour and a maximum 1/2” [12.7mm] post-concrete pour adjustment. The box shall be able to accept standard size single gang (2-3/4” x 4-1/2”), double gang (4-9/16” x 4-1/2”), and triple gang (6-3/8” x 4-1/2”) wall plates. Include mounting brackets with the boxes that will accommodate 15-amp, 20-amp straight blade, 20 amp turn loc, 30-amp straight blade and 30 amp turn loc receptacles. Boxes shall have the ability to accommodate a bracket (EFB-50A) allowing for one (1) 50-amp receptacle. Boxes shall also accommodate Ortronics® workstation connectivity and modular adapters, a variety of audio/video devices from most manufacturers, and other open system devices.

Specifier Note: Retain any of the following three (3) paragraphs whose products are incorporated into the project and delete the others.

* + - * 1. Model EFB10S Floor Boxes: Manufactured from stamped steel approved for use on above grade concrete floors, raised floors and wood floors with the same product. Boxes shall have the ability to accept a component (EFB610-CTR) that will allow the box to be installed in polished concrete or terrazzo floors. Boxes shall have a polyester based backed enamel finished interior (white). Boxes shall be 15-3/16” L x 12-3/4” W x 6-1/16” H [385mm x 324mm x 154mm]. Provide boxes with provisions that enable installation into concrete floors, raised floors, or wood floors without having to purchase additional components or accessories. Provide boxes with 10 independent wiring compartments that allow for up to 10 receptacles, communication and/or audio/video services. Boxes shall permit feed to adjacent compartments. Boxes shall permit feed to compartments on the opposite side of the box through a tunnel. Six (6) of the 10 compartments shall have a minimum wiring capacity of 23-1/2-in3 [597ml]. Four (4) of the 10 compartments shall have a minimum wiring capacity of 27-in3 [686ml]. Each of the 10 compartments shall have a minimum depth of 3-1/2” [89mm] behind the plate. Provide boxes with removable compartments to facilitate installation and moves, additions, and changes. The compartments shall be removable from the top and back of the floor box. Provide boxes with two (2) cable guides to organize and maintain the cables egress out of the box. Provide boxes with removable knockout plates to allow for the maximum cable pass-through area. The cable pass-through area shall be a minimum of 11-5/8 in2 [7500mm2]. The box shall contain the following number of knockouts: four (4) 3/4-inch trade size, 10 1-inch trade size, eight (8) 1-1/4-inch trade size, and two (2) 2-inch trade size. Boxes shall be fully adjustable, accommodating a maximum 2-inch [51mm] pre-concrete pour and a maximum 1/2” [12.7mm] post-concrete pour adjustment. Equip boxes with toggle clamps to allow box to be secured to raised and wood floors. Include mounting brackets with the boxes that will accommodate 15-amp, 20-amp straight blade, 20 amp turn loc, 30-amp straight blade and 30 amp turn loc receptacles. Boxes shall have the ability to accommodate a bracket (EFB-50A) allowing for one (1) 50-amp receptacle. Boxes shall also accommodate Ortronics® workstation connectivity and modular adapters, a variety of audio/video devices from most manufacturers, and other open system devices.
        2. Model EFB10S-OG Floor Boxes: Manufactured from stamped steel approved for use in above grade and on-grade floor applications. Boxes shall have the ability to accept a component (EFB610-CTR) that will allow the box to be installed in polished concrete or terrazzo floors. Boxes shall be painted with a fusion-bonded epoxy designed for use on metal reinforcement bar and related accessories before encapsulation in concrete and be approved for use on-grade and above grade floors. Boxes shall be 15-3/16” L x 12-5/8” W x 6-1/16” H [385mm x 321mm x 154mm]. Provide boxes with 10 independent wiring compartments that allow for up to 10 duplex receptacles, communication and/or audio/video services. Boxes shall have removable and relocatable dividers to permit custom configuration of compartments as well as permit feed to adjacent compartments. Boxes shall permit feed to compartments on the opposite side of the box through a tunnel. Six (6) of the 10 compartments shall have a minimum wiring capacity of 23-1/2-in3 [597ml]. Four (4) of the 10 compartments shall have a minimum wiring capacity of 27-in3 [686ml]. Each of the 10 compartments shall have a minimum depth of 3-1/2” [89mm] behind the plate. Provide boxes with removable compartments to facilitate installation. The compartments shall be removable from the top of the floor box. Provide boxes with two (2) cable guides to organize and maintain the cables egress out of the box. The box shall contain the following number of knockouts: 14 1-inch trade size, six (6) 1-1/4-inch trade size, and four (4) 2-inch trade size. Boxes shall be fully adjustable, accommodating a maximum 2-inch [51mm] pre-concrete pour and a maximum 1/2” [12.7mm] post-concrete pour adjustment. Include mounting brackets with the boxes that will accommodate 15-amp, 20-amp straight blade, 20 amp turn loc, 30-amp straight blade and 30 amp turn loc receptacles. Boxes shall have the ability to accommodate a bracket (EFB-50A) allowing for one (1) 50-amp receptacle. Boxes shall also accommodate Ortronics® workstation connectivity and modular adapters, a variety of audio/video devices from most manufacturers, and other open system devices.
        3. Model EFB10FC Floor Boxes: Manufactured from stamped steel approved for use in 2-hour fire-rated concrete floors. Boxes shall have the ability to accept a component (EFB610-CTR) that will allow the box to be installed in polished concrete or terrazzo floors. Boxes shall have a polyester based backed enamel finished interior (white). Boxes shall be 15-3/16” L x 13-7/8” W x 4-3/16” H [385mm x 351mm x 107mm]. Provide boxes with a 21-3/4” L x 17-1/4” W x 6-1/2” H [552mm x 438mm x 165mm] sheet metal concrete pan to ensure that 3-1/4 inches [83mm] of concrete surrounds the box. Provide boxes with 10 independent wiring compartments that allow for up to 10 receptacles, communication and/or audio/video services. Boxes shall have removable and repositionable dividers to permit feed to adjacent compartments and reconfiguration of devices. Boxes shall permit feed to compartments on the opposite side of the box through a tunnel. Each of the compartments shall have a minimum wiring capacity of 53-in3 [860ml]. Each of the 10 compartments shall have a minimum depth of 3-1/2” [89mm] behind the plate. Provide boxes with two (2) cable guides to organize and maintain the cables egress out of the box. Provide boxes with removable compartments to facilitate installation. The compartments shall be removable from the top of the floor box. Provide boxes with four (4) intumescent services feed stems with a 1-1/4-inch [32mm] pass-through channel that allows the pathway to close off during a fire. Boxes shall be fully adjustable, accommodating a maximum 2-1/2-inch [64mm] pre-concrete pour and a maximum 1/2” [12.7mm] post-concrete pour adjustment. Include mounting brackets with the boxes that will accommodate 15-amp, 20-amp straight blade, 20 amp turn loc, 30-amp straight blade and 30 amp turn loc receptacles. Boxes shall have the ability to accommodate a bracket (EFB-50A) allowing for one (1) 50-amp receptacle. Boxes shall also accommodate Ortronics® workstation connectivity and modular adapters, a variety of audio/video devices from most manufacturers, and other open system devices.

Specifier Note: Retain either of the following two (2) paragraphs whose products are incorporated into the project and delete the other one.

* + - * 1. Model EFBFF Floor Boxes: Manufactured from stamped steel approved for use on above grade concrete floors, raised floors and wood floors with the same product. Boxes shall have the ability to accept a component (FP-CTR) that will allow the box to be installed in polished concrete or terrazzo floors. Boxes shall be 7-1/16” L x 6-5/8” W x 4-1/8” H [179mm x 168mm x 105mm]. Provide boxes with provisions that enable installation into concrete floors, raised floors, or wood floors without having to purchase additional components or accessories. Provide boxes with two (2) independent wiring compartments that allow for power, communication and/or audio/video services. Each of the two (2) wiring compartments shall have a minimum wiring capacity of 64-1/2-in3 [1056ml]. The box shall be equipped with a metal divider to separate the services and maintain code requirements. The box shall contain the following number of knockouts: four (4) 1/2-inch trade size, four (4) 3/4"-inch trade size, one (1) 1-inch trade size, six (6) 1-1/4-inch trade size, one (1) 1-1/2-inch trade size, and two (2) 2-inch. Boxes shall be fully adjustable, accommodating a maximum 2-inch [51mm] pre-concrete pour and a maximum 1/2” [12.7mm] post-concrete pour adjustment. Equip boxes with toggle clamps to allow box to be secured to raised and wood floors.
        2. Model EFBFF-OG Floor Boxes: Manufactured from stamped steel approved for use in above grade and on-grade floor applications. Boxes shall have the ability to accept a component (FP-CTR) that will allow the box to be installed in polished concrete or terrazzo floors. Boxes shall be painted with a fusion-bonded epoxy designed for use on metal reinforcement bar and related accessories before encapsulation in concrete and be approved for use on-grade and above grade floors. Boxes shall be 7-1/16” L x 6-5/8” W x 4-1/8” H [179mm x 168mm x 105mm]. Provide boxes with provisions that enable installation into concrete floors, raised floors, or wood floors without having to purchase additional components or accessories. Provide boxes with two (2) independent wiring compartments that allow for power, communication and/or audio/video services. Each of the two (2) wiring compartments shall have a minimum wiring capacity of 64-1/2-in3 [1056ml]. The box shall be equipped with a metal divider to separate the services and maintain code requirements. The box shall contain the following number of knockouts: four (4) 1/2-inch trade size, four (4) 3/4"-inch trade size, one (1) 1-inch trade size, six (6) 1-1/4-inch trade size, one (1) 1-1/2-inch trade size, and two (2) 2-inch trade size. Boxes shall be fully adjustable, accommodating a maximum 2-inch [51mm] pre-concrete pour and a maximum 1/2” [12.7mm] post-concrete pour adjustment.
      1. ACTIVATION COVERS
         1. Evolution EFB45BT and EFB45CT Series Covers: Manufactured of die-cast aluminum. Activation covers shall be available in surface mount and flush versions. Provide covers with two (2) gaskets (one (1) for carpet and one (1) for tile) to go under the trim flange to maintain scrub watertightness. Covers shall be 13-7/8” x 9-15/16” x 3/16” [352mm x 252mm x 4mm]. Covers shall be available with a carpet recess area or a solid lid. Covers shall also be available with tamper-resistant protection. Secure the cover to the flange and enable cover to rotate greater than 180 degrees to reduce trip hazards and provide maximum amount of working space. Provide covers with spring-loaded self-closing slide egress doors to reduce egress opening when cables are exiting and reduce trip hazards. Each of the two (2) egress openings shall have a minimum of 2-in2 [102mm2], or a minimum of 4-in2 [203mm2] per cover assembly. Cover finish shall be available in three (3) powder coated finishes [black][gray][bronze] or three (3) durable finishes [brushed aluminum][satin brass][satin nickel].
         2. Evolution EFB6810BT and EFB6810CT Series Covers: Manufactured of die-cast aluminum. Activation covers shall be available in surface mount and flush versions. Provide covers with two (2) gaskets (one (1) for carpet and one (1) for tile) to go under the trim flange to maintain scrub watertightness. Covers shall be 16-15/16” x 12-1/2” x 3/16” [430mm x 318mm x 4mm]. Covers shall be available with a carpet recess area or a solid lid. Covers shall also be available with tamper-resistant protection. Secure the cover to the flange and enable cover to rotate greater than 180 degrees to reduce trip hazards and provide maximum amount of working space. Provide covers with spring-loaded self-closing slide egress doors to reduce egress opening when cables are exiting and reduce trip hazards. Each of the two (2) egress openings shall have a minimum of 4-in2 [102mm2], or a minimum of 8-in2 [203mm2] per cover assembly. Cover finish shall be available in three (3) powder coated finishes [black][gray][bronze] or three (3) durable finishes [brushed aluminum][satin brass][satin nickel].
         3. FloorPort FPFFTC Series Covers: Manufactured of die-cast aluminum or die-cast zinc, and available in brushed aluminum finish and powder-coated paint finishes (black, gray, bronze, nickel, and brass). Activation covers shall be available in flanged version. Covers shall come equipped with one (1) 1-inch trade size screw plug opening and one (1) combination 1-1/4-inch and 2-inch trade size screw plug.

Flanged covers shall be 7-3/4" L x 6-9/16" W [197mm x 167mm].

Specifier Note: In the following subparagraph, retain only one color and delete the others.

Powder coat finish, color shall be [black] [gray] [brass] [nickel] [bronze].

1. EXECUTION
   * + 1. EXAMINATION
          1. Examine conditions under which boxes and fittings are to be installed. Notify the [Architect/Engineer] [Construction Manager] in writing of conditions detrimental to proper completion of the work. Do not proceed with work until unsatisfactory conditions have been corrected.
       2. INSTALLATION
          1. Strictly comply with manufacturer's installation instructions and recommendations. Coordinate installation with adjacent work to ensure proper clearances and to prevent electrical hazards.
       3. CLEANING AND PROTECTION
          1. Clean exposed surfaces using non-abrasive materials and methods recommended by manufacturer.
          2. Protect boxes until acceptance.

END OF SECTION

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