

SECTION 26 05 35 – ELECTRICAL BOXES AND FITTINGS

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

- A. The extent of electrical box and associated fittings work is indicated by Drawings and Schedules.

1.2 CODES AND STANDARDS

- A. NEC Compliance: Comply with NEC as applicable to construction and installation of electrical wiring boxes and fittings.
- B. UL Compliance: Comply with UL Std No.'s 50, 514-series and 886. Provide electrical boxes and fittings which are UL-listed and labeled.
- C. NEMA Compliance: Comply with applicable requirements of NEMA Stds/Pub No.'s OS1, OS2 and Pub 250.

PART 2 - PRODUCTS

2.1 FABRICATED MATERIALS

- A. Outlet Boxes: Provide galvanized coated flat-rolled sheet-steel outlet wiring boxes, of shapes, cubic inch capacities, and sizes, including box depths as indicated (or as required), suitable for installation at respective locations. Construct outlet boxes with mounting holes, and with cable and conduit-size knockout openings in bottom and sides. Provide boxes with threaded screw holes, with corrosion-resistant cover and grounding screws for fastening surface and device type box covers, and for equipment type grounding. Flush boxes must be mounted flush with finished wall surface.
- B. Outlet Box Accessories: Provide outlet box accessories as required for each installation, including box supports, mounting ears and brackets, wallboard hangers, box extension rings, fixture studs, cable clamps and metal straps for supporting outlet boxes, which are compatible with outlet boxes being used to fulfill installation requirements for individual wiring situations. Choice of accessories is Installer's code-compliant option.
- C. Device Boxes: Provide galvanized coated flat-rolled sheet-steel non-gangable device boxes, of shapes, cubic inch capacities, and sizes, including box depths as indicated (or as required), suitable for installation at respective locations. Construct device boxes for flush mounting with mounting holes, and with cable-size knockout openings in bottom and ends, and with threaded screw holes in end plates for fastening devices. Provide cables clamps and corrosion-resistant screws for fastening cable clamps, and for equipment type grounding. Flush boxes must be mounted flush with finished wall plate.
- D. Device Box Accessories: Provide device box accessories as required for each installation, including mounting brackets, device box extensions, switch box supports, plaster ears, and plaster board expandable grip fasteners, which are compatible with device boxes being utilized to fulfill installation requirements for individual wiring situations. Choice of accessories is Installer's codes-compliant option.

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- E. Surface-Mounted Device and Outlet Boxes: Provide a minimum depth galvanized-coated steel box where indicated on the Drawings, without pre-punched knockouts.
- F. Raintight Outlet Boxes: Provide corrosion-resistant cast-metal raintight outlet wiring boxes, of types, shapes and sizes, including depth of boxes, with threaded conduit holes for fastening electrical conduit, including face plate gaskets and corrosion-resistant plugs and fasteners. Provide raintight outlet boxes where installed outside, and within moisture rich environments (showers, locker areas, natatoriums, etc.)
- G. Junction and Pull Boxes: Provide galvanized code-gauge sheet steel junction and pull boxes, with screw-on covers; of types, shapes and sizes, to suit each respective location and installation; with welded seams and equipped with stainless steel nuts, bolts, screws and washers. Provide handles on covers over 4 square feet.
- H. Floor Boxes: Provide floor boxes at locations shown on plans. Unless noted otherwise, provide two (2) 1 1/4" conduits from floor boxes to above accessible ceilings for communications cables. Provide duplex receptacles (quantities as shown). Ground level boxes shall be cast type or with on grade finish, elevated slabs shall be stamped steel. Refer to Electrical legend on plans for catalog numbers. All floor boxes must meet mop-tight requirements.
 - 1. Unless noted otherwise, floor boxes shall be recessed type, similar to Wiremold RFBA4 series with 4 gangs. Cover shall be provided with finish, as selected by the architect at the time of shop drawings, and shall be provided with or without flooring insert as selected. No additional cost shall be assessed for any selection of listed cover option.
- I. Where surface or recessed boxes are indicated to be blank or with wire leads for future use, they shall be provided with blank covers per Division 26 "Wiring Devices".
- J. All boxes shall be metallic, unless noted otherwise.
- K. **Under no circumstances shall low voltage rings be used on the project. All outlet boxes used for low voltage system including, but not limited to tele/data, controls, A/V wiring, etc. shall be fully enclosed device boxes, rated for 600V wiring as specified above.**

PART 3 - INSTALLATION

3.1 GENERAL

- A. Install electrical boxes and fittings as indicated, in accordance with Manufacturer's written instructions, applicable requirements of NEC and NECA's "Standard of Installation", and in accordance with recognized industry practices to fulfill project requirements.
- B. When installed in stud walls (wood or steel), electrical boxes shall be installed in walls, supported from both sides, bridged between studs, the use of cantilevered supports shall be unacceptable.
- C. Coordinate installation of electrical boxes and fittings with wire/cable, wiring devices, and raceway installation work.
- D. Provide weathertight outlets for interior and exterior locations exposed to weather or moisture.
- E. Provide knockout closures to cap unused knockout holes where blanks have been removed.
- F. Install electrical boxes in those locations which ensure ready accessibility to enclosed electrical wiring.

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- G. Position recessed outlet boxes accurately to allow for surface finish thickness.
- H. Where devices are shown at casework, contractor shall coordinate exact location and height with casework to ensure usability of devices.
- I. Avoid using round boxes where conduit must enter box through side of box, which would result in difficult and insecure connections when fastened with locknut or bushing on rounded surfaces.
- J. Fasten electrical boxes firmly and rigidly to substrates, or structural surfaces to which attached, or solidly embed electrical boxes in concrete or masonry.
- K. Provide electrical connections for installed boxes.
- L. Subsequent to installation of boxes, protect boxes from construction debris and damage.
- M. Ground electrical boxes properly upon completion of installation work and demonstrate compliance with requirements. Ground electrical box and wiring device.
- N. Floor Boxes:
 - 1. Set floor boxes level and flush with finish flooring material.
 - 2. Verify location of **all** floor boxes with Architect before installation.
 - 3. At locations where floor box depth exceeds floor thickness, contractor shall be responsible to cut floor openings and provide strut or miscellaneous steel to support box flush with top of finished floor. Contractor shall patch concrete around box as required.
- O. Where poke-thru's are located, the contractor must core the opening after the floor has been placed to allow the architect/owner exact placement. The use of pre-installation concrete sleeves shall not be acceptable.
- P. Where boxes and conduit bodies are installed against roof deck, they shall be cast type.

3.2 INSTALLATION TO MEET ACOUSTICAL PERFORMANCE

- A. In order to reduce sound transmission through walls, when back boxes are installed to serve both sides of the wall, they shall be installed in different stud cavities. Where boxes are found to be installed in the same stud cavity, feeding two different sides of the wall, they will be required to be removed and reinstalled at the contractor's expense.

END OF SECTION 26 05 35