

SECTION 16131

OUTLET BOXES

PART 1 - GENERAL

1.1 DESCRIPTION

- A. This section describes general requirements, products and methods of execution relating to outlet boxes for use with wiring devices, lighting fixture outlets and telecommunications outlets approved for use at ANC. Outlet boxes shall be sized per NEC Article 370 unless otherwise noted.

1.2 QUALITY ASSURANCE

- A. Underwriters' Laboratory listing for intended usage is required. Manufacturer and Model numbers shall be as indicated herein.

PART 2 - PRODUCTS

2.1 CAST BOXES

- A. Cast boxes with threaded hubs, external mounting brackets or holes, and gasketed covers shall be used in the following locations:
 - 1. Exterior locations
 - 2. Wet or damp locations
 - 3. Mechanical rooms and pump stations, etc., where subject to physical damage
 - 4. Adjacent to, water or steam connections
 - 5. Floor boxes installed in concrete
 - 6. Exposed interior locations below 96 inches above floor such as baggage handling areas and areas accessible to vehicles where subject to physical damage
 - 7. Where shown on drawings

2.2 STEEL BOXES

- A. Galvanized pressed steel boxes may be used wherever they are permitted by code, except in areas indicated in the preceding paragraph.
- B. Flush mounted, pressed steel boxes shall be equipped with external mounting brackets for attachment to framing members with screws or nails.
- C. Ceiling boxes and wall boxes for bracket lights shall be not less than 4 inches in diameter by 1 1/4 inch deep and shall have 3/8 inch malleable iron fixture studs if required.
- D. Grounding Screw: Stamped steel boxes shall have a drilled and tapped hole in the back of the box for a grounding screw.
- E. Accessories: Box covers, extension rings, bases, hanger bars, etc., for use in connection with the installation, shall be approved for use in the various applications.

2.3 TELECOMMUNICATION OUTLET BOXES

- A. Boxes for telecommunication outlets shall be a minimum of 4-11/16 inches square by 2 1/8 inches deep.

- B. Device rings for telecommunication outlets shall be single-gang, minimum 5/8 inches deep, to provided a minimum internal finished depth of 2- 3/4 inches.

2.4 MULTI-SERVICE FLOOR BOXES

- A. Floor boxes shall provide a fully flush appearance whether in use or not. Boxes in use shall have a hinged slot for the egress of cables from outlets to user equipment.
- B. Boxes shall consist of a base preset for installation in concrete, and a floor insert with high capacity power, data and communications compartments. Preset castings shall be threaded to accept 1-1/4 inch conduit on one side and 3/4 inch conduit on the other.
- C. Box tops shall be Polymide, and shall include carpet/tile floor flange, hinged plate and retractable exit. Color selection shall include charcoal gray, dark brown and medium beige, minimum.
- D. Boxes shall be equipped with all wiring devices and data/communications outlets as required by the application. Provide all accessories.
- E. Boxes shall be "Steel City GAB Series AFM Pre-set Floor Box" or approved equal except boxes provided for power/telecom connections at floor mounted advertising signs shall be in accordance with 16131-2.5 below. Provide AFM-6 insert capable of up to four duplex receptacles with data and communications.

2.5 MULTI-SERVICE FLOOR BOXES FOR POWER/TELECOM CONNECTIONS AT ADVERTISING SIGNS

- A. Floor boxes for power/telecom connections at floor mounted advertising signs shall be the flush type with brass covers to present a flush and protected appearance when not in use. Furnish finish hardware consistent with the floor finish (carpet, wood, concrete, etc.) Floor boxes shall be two gang (one gang power, one gang telecom).
- B. The floor box shall be cast iron with a gray powder paint corrosion resistant finish. Each cast iron box shall have a #12 AWG grounding pigtail (green, solid copper, 6 inches long) prewired to the ground screw in the box. The box shall have a removable cover to simplify conduit connections. Floor boxes shall be rectangular, multi-gang boxes; Hubbell Catalog No. B423341 (two gang, 36.5 cubic inches per gang, with 4@1 inch and 2@ 3/4 inch threaded conduit hubs) or approved equal.
- C. Floor box covers shall be brushed brass, Hubbell S3825 on power side (duplex flap) and Hubbell S2625 on telecom side (combination 2-1/8" x 1" screw opening).

2.6 FIRE RATED POKE THROUGHS

- A. Fire rated poke throughs shall provide power and telecommunications service to floor mounted service pedestals via a through floor fitting that installs in a two inch hole.
- B. The unit shall incorporate individual EMT tubes for power and telecommunications. Power tube shall be 1/2 inch diameter EMT and telecommunications tube shall be 3/4 inch EMT. Unit shall be UL Listed to accommodate up to ten #12 AWG type THHN wires and up to two 25 pair telecommunication cables. The total allowable copper cross-sectional area shall not be less than 11 square inches.
- C. The through floor fitting shall accept 2, 4 and 8 gang service pedestals that are partitioned to permit both power and telecommunications services.

- D. All fittings shall be UL classified for fire resistance 1-4 hour rated reinforced concrete floors and 1-3 hour rated floors employing steel form units.
- E. Service pedestals shall be equipped with required wiring devices and data/communications outlets. Provide all accessories.
- F. Units shall be Hubbell 2 inch diameter fire rated poke throughs with gray service pedestals (2 gang, 4 gang or 8 gang as required by the application).

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Outlet boxes shall be securely fastened in position and supported independently of the conduit system.
- B. Outlet boxes located in suspended ceiling system shall be fastened to ceiling "t-bar" system with bar-hanger rods manufactured for the purpose, or from hanger rods with solid supports from structure above. "T-bar" hanger rods shall be clipped to cross-members supported by the main ceiling support members. Outlet boxes supported from the suspended ceiling system shall be provided with one safety wire attached to the box or box support clip, or two safety wires attached to the bar hanger.
- C. Boxes shall be installed true to the building lines and at equal heights in conformity with mounting heights specified in other sections of the specification.
- D. Provide the best suitable box for each outlet requirement. Extension rings shall not be used on new construction except where needed to bring an outlet box out to 1/8 inch of the finished wall or ceiling line.
- E. Boxes shall have only the holes necessary to accommodate the conduits at point of installation. All boxes shall have lugs or ears to secure covers.
- F. All boxes shall be rigidly secured in position. All recessed boxes shall be so set that the front edge of the box shall be flush with the finished wall or ceiling line, or not more than 1/8 inch back of same. This requirement is more stringent than NEC requirements.
- G. All boxes shall be accessible.
- H. Provide boxes for each application that will not violate the fire rating of the wall, floor or ceiling assembly in which the box is installed.
- I. Do not place order for floor boxes without ensuring that ANC has positively approved submittals for the specific cover types/styles colors necessary for all applications and locations.
- J. Recessed boxes shall not be placed back-to-back in adjacent rooms. They shall be offset at least 12 inches, or greater as required by codes (e.g., NEC Article 300-21) and standards applicable to the specific construction.
- K. Boxes (electrical boxes, outlet boxes and telecommunication boxes, etc) penetrating fire rated walls or wall types containing sound attenuation batts (sound rated (STC) construction), shall be sealed airtight using STI Series SSP Firestop Putty Pads to reduce sound transmission and increase fire resistance. Mold putty pads around electrical junction boxes and conduits to form an airtight seal in accordance with manufacturer's installation instructions.

END OF SECTION