

SECTION 16130

BOXES

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Wall and ceiling outlet boxes.
- B. Pull and junction boxes.

1.2 RELATED SECTIONS

- A. Section 16180 - Equipment Wiring Systems.
- B. Section 16141 - Wiring Devices.

1.3 REFERENCES

- A. ANSI/NEMA FB 1 - Fittings and Supports for Conduit and Cable Assemblies.
- B. ANSI/NEMA OS 1 - Sheet-steel Outlet Boxes, Device Boxes, Covers, and Box Supports.
- C. ANSI/NFPA 70 - National Electrical Code.
- D. NEMA 250 - Enclosures for Electrical Equipment (1000 Volts Maximum).

1.4 PROJECT RECORD DOCUMENTS

- A. Accurately record actual locations and mounting heights of outlet, pull, and junction boxes.

1.5 REGULATORY REQUIREMENTS

- A. Conform to requirements of ANSI/NFPA 70.
- B. Furnish products listed and classified by Underwriters Laboratories, Inc. as suitable for purpose specified and shown.

1.6 PROJECT CONDITIONS

- A. Verify field measurements are as shown on Drawings.
- B. Electrical boxes are shown in approximate locations unless dimensioned. Install at location required for box to serve intended purpose.

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PART 2 - PRODUCTS

2.1 OUTLET BOXES

- A. Sheet Metal Outlet Boxes: ANSI/NEMA OS 1, galvanized steel
 - 1. Luminaire and Equipment Supporting Boxes: Rated for weight of equipment supported; include ½ inch male fixture studs where required.
- B. Cast Boxes: NEMA FB 1, Type FS, aluminum. Provide gasketed cover by box manufacturer. Provide threaded hubs.
- C. Non-Metallic Outlet Boxes: PVC Type FS, UL listed.

2.2 PULL AND JUNCTION BOXES

- A. Sheet Metal Boxes: NEMA OS1, galvanized steel.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install electrical boxes as shown on Drawings, and as required for splices, taps, wire pulling, equipment connections and compliance with regulatory requirements.
- B. Install electrical boxes to maintain headroom and to present neat mechanical appearance.
- C. Install pull boxes and junction boxes above accessible ceilings and in unfinished areas only.
- D. Inaccessible Ceiling Areas: Install outlet and junction boxes no more than 6 inches from ceiling access panel or from removable recessed luminaire.
- E. Install boxes with suitable firestop material to preserve fire resistance rating of partitions and other elements.
- F. Align adjacent wall-mounted outlet boxes for switches, thermostats, and similar devices with each other.
- G. Use flush mounting outlet boxes in finished areas.
- H. Do not install flush mounting boxes back-to-back or side-to-side in walls; provide minimum 24-inch separation. Where 24 inch separation is not physically possible, approval for closer spacing shall be obtained from the Architect prior to rough-in. In such cases, provide UL listed firestop pads for boxes.

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- I. Secure flush mounting box to interior wall and partition studs. Accurately position to allow for surface finish thickness. Use stamped steel bridges to fasten flush mounting outlet box between studs.
- J. Install flush mounting box without damaging wall insulation or reducing its effectiveness.
- K. Use adjustable steel channel fasteners for hung ceiling outlet box.
- L. Use gang boxes where more than one device is mounted together. Do not use sectional box.
- M. Use gang box with plaster ring for single device outlets.
- N. Use cast outlet box in exterior locations exposed to the weather and wet locations.
- O. Use either sheet metal or non-metallic outlet boxes with non-metallic sheathed cable. Use sheet metal outlet boxes with Type MC cable.
- P. Provide UL-listed fire-stop material in boxes that are recessed into fire rated walls. Refer to Architectural Contract Drawing for identification of fire walls.
- Q. Where boxes are installed to be attached to metal roof deck, maintain a 1-1/2" clearance between the box and the roof deck.

3.2 INTERFACE WITH OTHER PRODUCTS

- A. Coordinate mounting heights and locations of outlets mounted above counters, benches, and backsplashes.
- B. Position outlet boxes to locate luminaires as shown on Architect's reflected ceiling plan.

3.3 ADJUSTING

- A. Adjust flush-mounting outlets to make front flush with finished wall material.
- B. Install knockout closure in unused box opening.

END OF SECTION