

SECTION 16130

BOXES

PART 1 GENERAL

1.1 WORK INCLUDED

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

1.2 REFERENCES

- A. ANSI/NEMA FB 1-88 - Fittings and Supports for Conduit and Cable Association.
- B. ANSI/NEMA OS 1 - Sheet-Steel Outlet Boxes, Device Boxes, Covers and Box Supports.
- C. ANSI/NFPA 70 - National Electrical Code/California Electrical Code.

1.3 PROJECT RECORD DOCUMENTS

- A. Submit under provisions of Division 1.
- B. Accurately records actual locations and mounting heights of outlet, pull and junction boxes.

1.4 REGULATORY REQUIREMENTS

- A. Conform to requirements of ANSI/NFPA 70.
- B. Furnish products listed and classified by Underwriters Laboratories Inc. or testing firm acceptable to authority having jurisdiction as suitable for purpose specified and shown.

1.5 PROJECT CONDITIONS

- A. Verify field measurements are as shown on drawings.
- B. Verify locations of floor boxes and outlets in offices and work areas prior to rough in.
- C. Electrical boxes are shown on drawings in approximate locations unless dimensioned. Install at location required for box to serve intended purpose. Include installation within 10 feet of location shown.

PART 2 PRODUCTS

2.1 OUTLET BOXES

- A. Sheet Metal Outlet Boxes: ANSI/NEMA OS 1; galvanized steel.
- B. Surface Mounted Cast Metal Boxes: NEMA FB 1, Type FD, aluminum or cast ferroalloy. Provide gasketed cover by box manufacturer. Provide threaded hubs.

2.2 FLOOR BOXES

- A. Floor Boxes: ANSI/NEMA OS 1, fully adjustable semi-adjustable.
- B. Material: Cast metal.

- C. Shape: Rectangular.
- D. Conform to regulatory requirements for concrete-tight floor boxes.

2.3 PULL AND JUNCTION BOXES

- A. Sheet Metal Boxes: ANSI/NEMA OS 1; galvanized steel.
- B. Surface-Mounted Cast Metal Box: NEMA 250, Type 4; flat-flanged, surface-mounted junction box.
 - 1. Material: Galvanized cast iron or cast aluminum.
 - 2. Cover: Furnish with ground flange, neoprene gasket, and stainless steel cover screws.

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 pullboxes and junction boxes above accessible ceiling 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 to preserve fire resistance rating of partitions and other elements, using materials and methods under the provisions of Division 7.
- F. Align adjacent wall-mounted outlet boxes for switches, thermostats, and similar devices with each other.
- G. Use flush mounting outlet boxes in finished area.
- H. Do not install flush mounting boxes back-to-back in walls; provide minimum 6-inch separation. Provide minimum 24 inches separation in acoustic rated walls.
- I. Secure flush mounting boxes to interior wall and partition studs. Accurately position to allow for surface finish thickness.
- J. Use stamped steel bridges to fasten flush mounting outlet box between studs.
- K. Install flush mounting box without damaging wall insulation or reducing its effectiveness.
- L. Use adjustable steel channel fasteners for hung ceiling outlet box.
- M. Do not fasten boxes to ceiling support wires.
- N. Support boxes independently of conduit, except cast box that is connected to two rigid metal conduits, both supported within 12 inches of box.
- O. Use gang boxes where more than one device is mounted together. Do not use sectional boxes.
- P. Use gang box with plaster ring for single device outlets.
- Q. Use cast outlet boxes in exterior locations exposed to the weather and wet locations.

- R. Use cast floor boxes for installations in slab on grade; formed steel boxes are acceptable for other installations.
- S. Set floor boxes level.
- T. Large Pullboxes: Boxes larger than 100 cubic inches in volume or 12 inches in any dimension.
 - 1. Interior Dry Locations: Use hinged enclosure under provisions of Section 16160.
 - 2. Other Locations: Use surface-mounted cast metal box.

3.2 INTERFACE WITH OTHER PRODUCTS

- A. Coordinate locations and sizes of required access doors with Division 8.
- B. Locate flush mounting box in masonry wall to require cutting of masonry unit corner only. Coordinate masonry cutting to achieve neat opening.
- C. Coordinate mounting heights and locations of outlets mounted above counters, benches, and backsplashes.
- D. Position outlets to locate luminaires as shown on reflected ceiling plans.

3.3 ADJUSTING

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

END OF SECTION