

SECTION 16130P - RACEWAY AND BOXES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes conduit and tubing, surface raceways, wireways, outlet boxes, pull and junction boxes, and handholes.

1.2 DESIGN REQUIREMENTS

- A. Minimum Raceway Size: 3/4 inch unless otherwise specified.
- B. Although historic interiors require special consideration and project-specific direction, exceptions to this Section require written approval of Brown Project Manager.

1.3 SYSTEM DESCRIPTION

- A. Raceway and boxes located as indicated on Drawings, and at other locations required for splices, taps, wire pulling, equipment connections, and compliance with regulatory requirements. Raceway and boxes are shown in approximate locations unless dimensioned. Provide raceway to complete wiring system.
- B. Underground More than 5 feet outside Foundation Wall: Provide thickwall nonmetallic conduit. Provide cast metal boxes or nonmetallic handhole.
- C. Underground Within 5 feet from Foundation Wall: Provide rigid steel conduit. Provide cast metal or nonmetallic boxes.
- D. In or Under Slab on Grade: Provide thickwall nonmetallic conduit. Provide cast or nonmetallic metal boxes.
- E. Outdoor Locations, Above Grade: Provide rigid steel conduit. Provide cast metal or nonmetallic outlet, pull, and junction boxes.
- F. In Slab Above Grade: Provide electrical metallic tubing or thickwall nonmetallic conduit. Provide cast or nonmetallic boxes.
- G. Wet and Damp Locations: Provide rigid steel conduit or thickwall nonmetallic conduit. Provide cast metal or nonmetallic outlet, junction, and pull boxes. Provide flush mounting outlet box in finished areas.
- H. Concealed Dry Locations: Provide electrical metallic tubing. Provide sheet-metal boxes. Provide flush mounting outlet box in finished areas. Provide hinged enclosure for large pull boxes.

- I. Exposed Dry Locations: Provide electrical metallic tubing. Provide sheet-metal boxes. Provide flush mounting outlet box in finished areas. Provide hinged enclosure for large pull boxes.

PART 2 - PRODUCTS

2.1 METAL CONDUIT

- A. Rigid Steel Conduit: ANSI C80.1.
- B. Rigid Aluminum Conduit: Not Allowed.
- C. Intermediate Metal Conduit (IMC): Not Allowed.
- D. Fittings and Conduit Bodies: NEMA FB 1; all steel threaded fittings.

2.2 FLEXIBLE METAL CONDUIT

- A. Product Description: Interlocked steel construction.
- B. Fittings: NEMA FB 1. Fittings approved for use only. No aluminum fittings allowed.
- C. Provide ground wire.

2.3 LIQUIDTIGHT FLEXIBLE METAL CONDUIT

- A. Product Description: Interlocked steel construction with PVC jacket.
- B. Fittings: NEMA FB 1. Water tight fittings only. No aluminum fittings allowed.
- C. Provide ground wire.

2.4 ELECTRICAL METALLIC TUBING (EMT)

- A. Product Description: ANSI C80.3; galvanized tubing.
- B. Fittings and Conduit Bodies: NEMA FB 1; steel compression type or set screw. Die cast fittings are not allowed.

2.5 NONMETALLIC CONDUIT

- A. Product Description: NEMA TC 2; Schedule 40 PVC.
- B. Fittings and Conduit Bodies: NEMA TC 3. Approved PVC fittings only.

2.6 OUTLET BOXES

- A. Sheet Metal Outlet Boxes: NEMA OS 1, galvanized steel with galvanized hardware.
 - 1. Luminaire and Equipment Supporting Boxes: Rated for weight of equipment supported; furnish 1/2 inch (13 mm) male fixture studs where required.
 - 2. Concrete Ceiling Boxes: Concrete type.
- B. Nonmetallic Outlet Boxes: Not Allowed.
- C. Cast Boxes: NEMA FB 1, Type FD, cast ferrous alloy. Furnish gasketed cover by box manufacturer.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Ground and bond raceway and boxes in accordance with Section 16060.
- B. Fasten raceway and box supports to structure and finishes in accordance with Section 16070.
- C. Identify raceway and boxes in accordance with Section 16075.
- D. All fixture boxes shall be tagged with their panelboard, circuit number, and voltage.
- E. All junction box covers shall be marked with their panelboard and circuit number. Conductors shall be color coded per voltage.
- F. LB fittings shall be pulling type listed.

END OF SECTION