

SECTION 16110
CONDUIT

PART 1 GENERAL

1.1 SECTION INCLUDES:

- A. Metal conduit.
- B. Flexible metal conduit.
- C. Liquid tight flexible metal conduit.
- D. Electrical metallic tubing.
- E. Non-metallic conduit.
- F. Fittings and conduit bodies.

1.2 REFERENCES

- A. ANSI C80.1 - Rigid Steel Conduit, Zinc Coated.
- B. ANSI C80.3 - Electrical Metallic Tubing, Zinc Coated.
- C. ANSI/NEMA FB 1 - Fittings, Cast Metal Boxes, and Conduit Bodies for Conduit and Cable Assemblies.
- D. ANSI/NFPA 70 - National Electrical Code.
- E. NECA "Standard of Installation."
- F. NEMA RN 1 - Polyvinyl Chloride (PVC) Externally Coated Galvanized Rigid Steel conduit.
- G. NEMA TC 3 - PVC Fittings for Use with Rigid PVC Conduit and Tubing.
- H. Section 02310 – Earthwork, for all underground installations.

1.3 DESIGN REQUIREMENTS

- A. Conduit Size: ANSI/NFPA 70.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01300.

1.5 PROJECT RECORD DOCUMENTS

- A. Submit under provisions of Section 01700.
- B. Accurately record (1.3) n(dt)aDTDond EyOcti6.52 0TJ4590.0014 Tc5.0004 Tw((Asse)- et u2(it u8(pty)Torit b

PART 2 PRODUCTS**2.1 CONDUIT REQUIREMENTS**

A. Minimum Size: ½" unless otherwise specified. ¾" for home runs and feeders.

B. Underground Installations:

1. Use rigid galvanized steel conduit (RGS), plastic coated conduit, or thick wall nonmetallic conduit. All metallic conduits and fittings in slabs shall be coated with two (2) coats of bitumastic paint (or equal) prior to installation.
2. Minimum Size: ¾" for home runs and feeders.
3. Install conduits outside building line at a minimum of 30" below finished grade (except for conduits for Utility Company's cables.)
4. Terminate PVC conduits with bell ends or connectors and bushings.
5. Underground PVC conduits 2" and larger outside of building footprint shall be covered with three inches thick by trench width, 2,500 psi. Concrete.
6. In areas with muck, conduit shall be supported from structure or slabs.
7. Duct seal, outdoor conduit termination, a

2.2 METAL CONDUIT

- A. Rigid Galvanized Steel Conduit: ANSI C80.1.
- B. Fittings and Conduit Bodies: ANSI/NEMA FB 1; material to match conduit; all steel fittings. No push-in or snap-in connectors or couplings are permitted.

2.3 PVC COATED METAL CONDUIT

- A. Description: NEMA RN 1, rigid galvanized steel conduit with external PVC coating, 20-mil thick.
- B. Fittings and Conduit Bodies: ANSI/NEMA FB 1; steel fittings with external PVC coating to match conduit. No push-in or snap-in connectors or couplings are permitted.

2.4 FLEXIBLE METAL CONDUIT

- A. Description: Interlocked steel construction.
- B. Fittings: ANSI/NEMA FB 1. Connectors and/or couplings shall be steel or malleable iron. No push-in or snap-in connectors or couplings are permitted.

2.5 LIQUID TIGHT FLEXIBLE METAL CONDUIT

- A. Description: Interlocked steel construction with PVC jacket.
- B. Fittings: ANSI/NEMA FB 1. Connectors and/or couplings shall be steel or malleable iron. No push-in or snap-in connectors or couplings are permitted.

2.6 ELECTRICAL METALLIC TUBING (EMT)

- A. Description: ANSI C80.3; galvanized tubing.
- B. Fittings and Conduit Bodies: ANSI/NEMA FB 1; steel, compression or setscrew type. No push-in or snap-in connectors or couplings are permitted.

2.7 NONMETALLIC CONDUIT

- A. Description: NEMA TC 2; Schedule 40 PVC, Schedule 80 PVC. No ENT is permitted.
- B. Fittings and Conduit Bodies: NEMA TC 3. No push-in or snap-in connectors or couplings are permitted.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Install conduit in accordance with NECA "Standard of Installation."
- B. Install nonmetallic conduit in accordance with manufacturer's instructions.
- C. Arrange supports to prevent misalignment during wiring installation.
- D. Support conduit using coated steel or malleable iron straps, lay-in adjustable hangers, clevis hangers, and split hangers.
- E. Multiple parallel runs of suspended conduits shall be supported by steel channel and straps.
- F. Fasten conduit supports to building structure and surfaces under provisions of Section 16190.
- G. Do not support conduit with perforated pipe straps. Remove wire used for temporary supports.
- H. Steel tie wire may support conduit within interior partitions only.
- I. Arrange conduit to maintain a minimum of 6'-6" of headroom and present neat appearance.
- J. Route exposed conduit parallel and perpendicular to walls. Exposed conduit below 10' above floor in student areas, shall have two-hole straps spaced a maximum of 5'.
- K. Do not route conduits on floors in areas used for access to any equipment.

END OF SECTION