

SECTION 26 05 38
CONDUITS

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions apply to this Section.

1.2 SECTION INCLUDES

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

1.3 RELATED SECTIONS

- A. Section on Raceways and Boxes.
- B. Section on Grounding.
- C. Section on Supporting Devices.
- D. Section on Electrical Identification.
- E. Section on Painting.

1.4 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 and Intermediate Metal CMA TC 2 - Electrical Plastic Tubing (EPT) and Conduit (EPC-40 and EPC-80).

G. NEMA TC 3 - PVC Fittings for Use with Rigid PVC Conduit and Tubing.

H. NEMA TC 3 – PVC Fittings for Use with Rigid PVC Conduit and Tubing.

I. ANSI 651A – Rigid PVC Conduit.

1.5 DESIGN REQUIREMENTS

A. Conduit Size: As specified on drawings and conformance with ANSI/NFPA 70.

B. $\frac{3}{4}$ inch trade size minimum.

1.6 SUBMITTALS

A. Submit under provisions of Section 013300.

B. Product Data: Provide for metallic conduit, flexible metal conduit, liquid tight flexible metal conduit, metallic tubing, PVC conduit, fittings, and conduit bodies.

1.7 PROJECT RECORD DOCUMENTS

A. Accurately record actual routing of conduits larger than 1/2 inch.

1.8 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.

1.9 DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, protect, and handle Products to site.

B. Accept conduit on site. Inspect for damage.

C. Protect conduit from corrosion and entrance of debris by storing above grade. Provide appropriate covering.

1.10 PROJECT CONDITIONS

A. Verify that field measurements are as shown on Drawings.

B. Verify routing and termination locations of conduit prior to rough-in.

C. Route as required to complete the wiring system

2.00 PRODUCTS

2.1 CONDUIT REQUIREMENTS

- A. Minimum Size: $\frac{3}{4}$ inch unless otherwise specified.
- B. Underground Installations:
 - 1. Outside Foundation Wall: Use rigid steel conduit or Schedule 40 nonmetallic conduit.
 - 2. In or Under Slab on Grade: Use rigid steel conduit or Schedule 40 nonmetallic conduit.
- C. Outdoor Locations, Above Grade: Use rigid steel metal conduit.
- D. Wet and Damp Locations: Use rigid steel metal conduit.
- E. Dry Locations:
 - 1. Concealed: Use electrical metallic tubing
 - 2. Exposed: Use rigid steel or intermediate metal conduit.

2.2 METAL CONDUIT

- A. Manufacturers:
 - 1. Allied Tube and Conduit.
 - 2. Triangle PWC, Inc.
 - 3. Wheat Land Tube Co.
 - 4. Substitutions: Under provisions of Section 012500.
- B. Rigid Steel Conduit: ANSI C80.1.
- C. Fittings and Conduit Bodies: ANSI/NEMA FB 1; material to match conduit.

2.3 LIQUIDTIGHT FLEXIBLE METAL CONDUIT

- A. Manufacturers:
 - 1. Anamet Electrical, Electri-Flex, Graybar.
 - 2. Substitutions: Under provisions of Section 012500.
- B. Description: Interlocked steel construction with PVC jacket.
- C. Fittings: ANSI/NEMA FB 1.

2.4 ELECTRICAL METALLIC TUBING (EMT)

- A. Manufacturers:

1. Allied Tube and Conduit.
2. Triangle PWC, Inc.
3. Wheat Land Tube Co.
4. Substitutions: Under provisions of Section 012500.

B. Description: ANSI C80.3; galvanized tubing.

C. Fittings and Conduit Bodies: ANSI/NEMA FB 1; steel or malleable iron, compression type.

2.5 MANUFACTURERS

- A. Carlon
- B. Cantex Industries
- C. Kraloy
- D. Allied Tube & Conduit

3.0 EXECUTION

3.1 INSTALLATION

- A. Install conduit in accordance with NECA "Standard of Installation."
- B. Arrange supports to prevent misalignment during wiring installation.
- C. Support conduit using coated steel or malleable iron straps, lay-in adjustable hangers, clevis hangers, and split hangers.
- D. Group related conduits; support using conduit rack. Construct rack using steel channel; provide space on each for 25 percent additional conduits.
- E. Fasten conduit supports to building structure and surfaces under provisions of Section 16190.
- F. Do not support conduit with wire or perforated pipe straps. Remove wire used for temporary supports
- G. Do not attach conduit to ceiling support wires.
- H. Arrange conduit to maintain headroom and present neat appearance.
- I. Route exposed conduit parallel and perpendicular to walls.
- J. Route conduit installed above accessible ceilings parallel and perpendicular to walls.
- K. Cut conduit square using saw or pipe cutter; de-burr cut ends.

- L. Bring conduit to shoulder of fittings; fasten securely.
- M. Join nonmetallic conduit using cement as recommended by manufacturer. Wipe nonmetallic conduit dry and clean before joining. Apply full even coat of cement to entire area inserted in fitting. Allow joint to cure for 20 minutes, minimum.
- N. Use conduit hubs or sealing locknuts to fasten conduit to sheet metal boxes.
- O. Avoid moisture traps; provide junction box with drain fitting at low points in conduit system.
- P. Provide suitable fittings to accommodate expansion and deflection where conduit crosses seismic, control and expansion joints.
- Q. Provide suitable pull string in each empty conduit except sleeves and nipples. Label each end and place nomenclature on as-built drawings.
- R. Use suitable caps to protect installed conduit against entrance of dirt and moisture.
- S. Ground and bond conduit.
- T. Identify conduit.

3.2 INTERFACE WITH OTHER PRODUCTS

- A. Seal penetrations thru fire rated floors or walls with fire resistant compound equal to Chase Foam CTC PR-855 Fire Resistant Foam Sealant or approved equivalent.
- B. Route conduit through roof openings through suitable roof jack with pitch pocket.

END OF SECTION 260538

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