

SECTION 16130 - RACEWAYS

PART 1 - GENERAL

1.01 SUMMARY

- A. Section Includes: Raceways for electrical wiring. Types of raceways in this Section include the following:
 - 1. Electrical metallic tubing (EMT).
 - 2. Flexible metal conduit.
 - 3. Intermediate metal conduit.
 - 4. Liquidtight flexible conduit.
 - 5. Rigid metal conduit.
 - 6. Rigid nonmetallic conduit.
 - 7. Surface raceways.
 - 8. Electrical nonmetallic tubing.
 - 9. Wireway.
 - 10. Conduit bodies.

1.02 SUBMITTALS

- A. Shop Drawings: Submit in accordance with Section 0130, Shop Drawings covering the items included under this Section. Shop Drawing submittals shall include:
 - 1. Summary Sheet: Submit sheet that lists in tabular or matrix style the manufacturer, model and applicable part number for each piece of equipment. List shall include ratings and selected options.
 - 2. Product Data: Submit manufacturer's data (cut sheet) on conduit products and associated accessories. Only submit sheets that contain the equipment submitting. If a sheet contains other information, the spurious information shall be crossed out.
 - 3. Provide product data for the following products:
 - a. Surface raceway and fittings.
 - b. Wireway and fittings.
 - c. Conduit.
 - d. Conduit bodies.

1.03 QUALITY ASSURANCE

- A. Codes and Standards:
 - 1. NEMA Compliance: Comply with applicable requirements of NEMA standards pertaining to raceways.
 - 2. UL Compliance and Labeling: Comply with applicable requirements of UL standards pertaining to electrical raceway systems. Provide raceway products and components listed and labeled by UL, ETL, or CSA.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Subject to compliance with requirements, manufacturers offering products which may be incorporated in Work include:

1. Conduit:
 - a. Allied Tube.
 - b. Carlon.
 - c. General Electric Co.
 - d. Johns Manville.
 - e. Occidental Coatings.
 - f. Orangeburg.
 - g. Perma-Cote Industries.
 - h. Republic Steel.
 - i. Robroy Industries.
 - j. Steelduct Co.
 - k. Triangle Conduit.
 - l. Wheatland Tube.
 - m. Youngstown Sheet and Tube.
2. Liquidtight Conduit:
 - a. Anamet, Inc.
 - b. Carlon.
 - c. Electric-Flex.
 - d. Thomas and Betts.
3. Conduit Bodies:
 - a. Adalet-PLM.
 - b. American Electric.
 - c. Appleton Electric Co.
 - d. Carlon.
 - e. Crouse-Hinds Division, Cooper Industries, Inc.
 - f. Delta Industrial Products.
 - g. Killark Electric Mfg. Co.
 - h. Kraloy Products Co.
 - i. O-Z/Gedney Co.
 - j. Perma-Cote Industries.
 - k. Robroy Industries.
 - l. Spring City Electrical Mfg. Co.
4. Conduit Thread Paint:
 - a. CRC Chemicals, USA.
 - b. Sherwin Williams.
 - c. ZRC Chemical Products Co.
5. Wireway:
 - a. Alrey-Thompson Co.
 - b. Anchor Electric Co.
 - c. Hoffman Engineering Co.
 - d. Keystone/Rees, Inc.
 - e. Robroy Industries, Inc.
 - f. Square D Company.
6. Surface Metal Raceway:
 - a. Allied Tube & Conduit.
 - b. B-Line Systems, Inc.
 - c. Butler Mfg. Co.

- d. Hoffman Engineering Co.
- e. Isoduct Energy Systems.
- f. Isotrol Systems.
- g. Keystone/Rees, Inc.
- h. Square D Company.
- i. The Wiremold Co.
- 7. Surface Nonmetallic Raceway:
 - a. Anixter Brothers, Inc.
 - b. Hoffman Engineering Co.
 - c. Hubbell, Inc.
 - d. Panduit Corp.
 - e. Premier Telecom Products, Inc.
 - f. Thermotools Co.
 - g. The Wiremold Co.

2.02 METAL CONDUIT AND TUBING

- A. Rigid Metal Conduit: ANSI C 80.1, hot-dip galvanized, or 316 Stainless Steel.
- B. Intermediate Metal Conduit: UL 1242, hot-dip galvanized.
- C. Electrical Metallic Tubing and Fittings: ANSI C 80.3.
- D. Flexible Metal Conduit: UL 1, zinc-coated metal.
- E. Liquidtight Flexible Metal Conduit and Fittings: UL 360. Fittings shall be specifically approved for use with this raceway.

2.03 NONMETALLIC CONDUIT AND DUCTS

- A. Rigid Nonmetallic Conduit (RNC): NEMA TC 2 and UL 651, Schedule 40 or 80 PVC.
- B. PVC Conduit and Tubing Fittings: NEMA TC 3; match to conduit or conduit/tubing type and material.
- C. Liquidtight Flexible Nonmetallic Conduit and Fittings: UL 1660. Fittings shall be specifically approved for use with this raceway.

2.04 CONDUIT BODIES

- A. Provide matching gasketed covers secured with corrosion-resistant screws. Use cast covers in NEMA 4 areas and stamped steel covers in NEMA 1 and 12 areas. Use nonmetallic covers in NEMA 4X areas and threaded, ground joint covers in NEMA 7 and NEMA 9 areas.
- B. Metallic Conduit and Tubing: Use metallic conduit bodies as follows:
 - 1. Rigid Metal Conduit: Use cast or malleable iron conduit bodies with zinc electroplating, aluminum enamel or lacquer finish, and threaded hubs.
 - 2. Intermediate Metal Conduit: Use cast or malleable iron conduit bodies with zinc electroplating, aluminum enamel or lacquer finish, and threaded hubs.

3. Electrical Metallic Tubing: Use cast or malleable iron conduit bodies with zinc electroplating, aluminum enamel or lacquer finish, and compression type or setscrew connectors.
4. Nonmetallic Conduit and Tubing: Use nonmetallic conduit bodies conforming to UL 514 B.
5. NEMA 7 and NEMA 9 Areas: Use materials conforming to UL standards for the area.

2.05 WIREWAYS

- A. Fittings and accessories including but not limited to couplings, offsets, elbows, expansion joints, adapters, hold-down straps, and end caps shall match and mate with wireway as required for complete system. Where features are not indicated, select to fulfill wiring requirements and comply with applicable provisions of NEC.
- B. Wireway covers shall be hinged type.

2.06 SURFACE RACEWAYS

- A. Sizes and channels as indicated. Provide fittings that match and mate with raceway.
- B. Surface Metal Raceway: Construct of galvanized steel with snap-on covers, with 1/8-inch mounting screw knockouts in base approximately 8 inches o.c. Finish with manufacturer's standard prime coating suitable for painting. Provide raceways of types suitable for each application required.
- C. Surface Nonmetallic Raceway: Two-piece construction, manufactured of rigid PVC compound with matte texture and manufacturer's standard color. Raceway and system components shall meet UL 94 requirements for nonflammable, self-extinguishing characteristics.

PART 3 - EXECUTION

NOT USED

END OF SECTION