

PART 1 - GENERAL

1.1 SECTION INCLUDES

a. The work under this section consists of furnishing all necessary labor, supervision, materials, equipment, tests and services to install complete cable tray systems as shown on Drawings.

b. Cable tray systems are defined to include: but are not limited to, straight sections of continuous wire mesh, field formed horizontal and vertical bends, tees, drop outs, supports and accessories.

1.2 RELATED SECTIONS

a. Section 01330 Submittals.

b. Section 16050 Basic Electrical Materials and Methods.

c. Section 07840 Firestopping.

1.3 REFERENCES

a. ANSI/NFPA 70 – National Electrical Code.

b. ASTM 6B33 – Specification for steel sheet, zinc-coated (galvanized) by the hot dip process.

c. ASTM A510 – Specification for general requirements for wire rods and coarse round wire, carbon steel.

1.4 DRAWINGS

1.4.1 The Drawings indicate the general route of the wire basket runway systems. Data presented on the Drawings is as accurate as preliminary surveys and planning can determine until final equipment selection is made. Accuracy is not guaranteed and field verification of all dimensions, routing, etc., is required.

1.4.1.1 Cable tray routing shown on the Drawings is for assistance and guidance. Exact routing, locations, distances and levels will be governed by actual field conditions. Perform field surveys prior to submitting system layout drawings.

1.5 SUBMITTALS FOR REVIEW

1.5.1 Submit in accordance with Section 01330.

1.5.1.1 Product Data: Submit manufacturer's data on wire basket runway including, but not limited to, types, materials, finishes and inside depths.

1.5.1.2 Shop Drawings:

a. Submit drawings of wire basket runway and accessories including connector assemblies, clamp assemblies, brackets, splice plates, splice bars, grounding clamps and hold down plates showing

accurately scaled components.

b. Submit system layout drawings showing proposed cable tray routing based on field surveys.

1.5.1.3 Test Reports: Provide manufacturer's test reports witnessed by an independent testing laboratory of the "worst case" loading conditions outlined in this specification and performed in accordance with the latest revision of NEMA VE-1.

1.6 REGULATORY REQUIREMENTS

1.6.1 Comply with NEMA VE 1, "Metal Cable Tray Systems," if cable tray types specified are defined in the standard.

1.6.1.1 NEC Compliance: Comply with NEC, as applicable to construction and installation of cable tray and cable channel systems (Article 318, NEC).

1.6.1.2 NFPA Compliance Comply with NFPA 70B, "Recommended Practice for Electrical Equipment Maintenance" pertaining to installation of cable tray systems.

1.7 DELIVERY, STORAGE AND HANDLING

1.7.1 Deliver Cable Tray systems and components carefully to avoid breakage, bending and scoring finishes. Do not install damaged equipment.

1.7.1.1 Store Cable Tray runways and accessories in original cartons and in clean dry space; protect from weather and construction traffic.

PART 2 - PRODUCTS

2.1 CABLE TRAY

2.1.1 General: Provide wire basket runways 13" wide x 4" deep as indicated; with connector assemblies, clamp assemblies, connector plates, splice plates and splice bars. Construct units with rounded edges and smooth surfaces; in compliance with applicable standards; and with the following additional construction features.

2.1.1.1 Materials and Finishes: Hot-Dip Galvanized After Fabrication: Straight sections shall be made from steel meeting the minimum mechanical properties of ASTM A510 and shall be coated after the wire basket runway has been fabricated in accordance with ASTM A123 (CSA Type 1). All hot-dip galvanized after fabrication runway sections must be returned to the point of manufacture after coating for inspection and removal of all icicles and excess zinc. Failure to do so may result in damage to cables and/or injury to installers.

2.1.1.2 Manufacturers Reference: B-Line WB412.

2.2 TYPE OF CABLE TRAY RUNWAY SYSTEM

2.1.1 Provide wire basket type cable tray runway made of high strength steel wires and formed into a standard 2 inch by 4 inch wire mesh pattern with intersecting wires welded together. Ensure wire

ends along runway sides (flanges) are rounded during manufacturing for safety of cables and installers.

2.1.1.1 Ensure straight section longitudinal wires are straight (with no bends).

2.1.1.2 Nominal wire basket sizes:

- a. Length (straight sections): 118 inches.
- b. Usable loading depth: 4 inches
- c. Width: 13 inches.

2.1.1.3 Field form fittings as needed.

2.1.1.4 Use bolted type splicing assemblies with serrated flange locknuts. Use either yellow or zinc dichromate hardware in accordance with ASTM B633 SC2.

2.1.4.5 Use trapeze snap hangers as wire basket runway supports.

2.1.4.6 Support trapeze snap hangers by 1/4 inch diameter rods.

2.1.4.7 Furnish special accessories as required to protect, support and install a wire basket runway system.

PART 3 - EXECUTION

3.1 CABLE TRAY

3.1.1 Install Cable Tray Runways as indicated; in accordance with recognized industry practices, to ensure that the cable tray equipment complies with requirements of NEC, and applicable portions of NFPA 70B and NECA's "Standards of Installation" pertaining to general electrical installation practices.

3.1.1.1 Coordinate Cable Tray Runway with other work as necessary to properly interface installation of Cable Tray runway with other work.

3.1.1.2 Provide sufficient space encompassing Cable Tray Runways to permit access for installing and maintaining cables.

3.1.1.3 Remove burrs and sharp edges from cable trays.

3.1.1.4 Fasten cable tray supports securely to building structure as specified in Section 16050, unless otherwise indicated. Locate and install supports according to NEMA VE 1. Space trapeze hangers a maximum of 6'-0" center to center.

3.1.1.5 Seal penetrations through fire and smoke barriers according to Section 07840.

3.1.1.6 Ground cable trays according to manufacturer's written instructions.

3.1.1.7 Test Cable Tray Runways to ensure electrical continuity of bonding and grounding connections, and to demonstrate compliance with specified maximum grounding resistance. See NFPA 70B,

Chapter 18, for testing and test methods.

END OF SECTION