

SECTION 26 05 36

ELECTRICAL CABLE TRAY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

- A. The Conditions of the Contract and applicable requirements of Divisions 0 and 1 and Section 26 00 01, "Electrical General Provisions", govern this Section.

1.2 DESCRIPTION OF WORK:

- A. Work Included: Provide electrical cable tray as shown, scheduled, indicated, and as specified.
- B. Types: The types of electrical cable tray required for the project include, but are not limited to, the following:

[VERIFY TYPES]

1. Ladder type cable tray **[general purpose]**.
2. Trough type cable tray **[for smaller cables]**.
3. Solid bottom cable tray **[, and for sensitive communications cables]**.
4. Channel type tray **[branch runs for one to two cables]**.
5. Center supported rung type tray.

1.3 STANDARDS:

- A. Products shall be designed, manufactured, tested, and installed in compliance with the following standards:
 1. NEC Article 318 - Cable Tray.
 2. NEMA Publication VE-1.

1.4 QUALITY ASSURANCE:

- A. Manufacturers: Provide products complying with these specifications and produced by one of the following:
 1. B-Line Systems, Inc.
 2. Chalfant, Inc.
 3. T. J. Cope, Inc.
 4. U. S. Gypsum (Globetray).
 5. Mono-Systems, Inc.
 6. Square D Company.
- B. NEMA Compliance: All cable tray components shall comply with NEMA Standard VE-1.

1.5 SUBMITTALS:

- A. The submittal shall include, but is not limited to, the following:
 1. Manufacturer's cutsheets clearly indicating all products which will be used on the project.
 2. 1/8" scale floor plan layouts tray components, accessories, elevations, offsets, supports, and anchors.
 3. Additional information as required in Section 26 00 01, "Electrical General Provisions".

1.6 STORAGE AND HANDLING:

- A. Handle cable trays and appurtenances to avoid damage, breaking, denting, and scoring. Damaged equipment shall not be installed.
- B. Store cable trays in a clean dry space and protect from weather.

PART 2 - PRODUCTS

2.1 ELECTRICAL CABLE TRAY:

- A. General: Provide electrical cable trays in the types and sizes indicated, constructed in compliance with the applicable standards, and with additional features as indicated or required.

[VERIFY CLASS TYPE FROM THE FOLLOWING TABLE]

- B. Class Designation: Provide NEMA Class 12C cable tray for use on this Project. Mounting supports shall be spaced consistent with the class designation.

<u>CLASS</u>	<u>SUPPORT SPAN</u>	<u>WORKING LOAD (LBS./L.F.)</u>
8A	8'	50
8B	8'	75
8C	8'	100
12A	12'	50
12B	12'	75
12C	12'	100
16A	16'	50
16B	16'	75
16C	16'	100
20A	20'	50
20B	20'	75
20C	20'	100

[VERIFY MATERIAL TYPE]

- C. Material: Cable trays and accessories shall be constructed of **[aluminum, alloy 6063-T6.]**

[VERIFY FINISH]

- D. Finish: [Aluminum cable tray shall be supplied in a natural finish state **[VERIFY SIZES]**

- E. Inside Width and Depth: Cable tray shall have a usable depth of **[4"] [12"] [18"] [24"] [30"] [36"]** or as shown on the Drawings and required by the cable sizes.

[VERIFY SIZES]

- F. Elbows and Fittings: The bending radii of cable tray elbows and fittings shall be **[12"] [24"] [36"]** or as required by the cable bending limitations and construction details.

[SELECT APPROPRIATE TYPE]

- G. Ladder Type Cable Tray: Cable tray shall consist of two longitudinal side rails connected by individual cross members or rings. Rung spacing shall be **[9"] on center.]**

[OR]

- H. **Trough Type Cable Tray**: Cable tray shall consist of two longitudinal side rails with closely spaced rings or ventilated bottoms with a maximum 4" opening between transverse elements.]
- [OR]
- [SOLID BOTTOM TRAYS REQUIRE A REDUCTION IN CABLE FILL FROM VENTILATED TRAYS.]**
- I. **Solid Bottom Cable Tray**: Cable tray shall consist of two longitudinal side rails connected with a corrugated or reinforced solid bottom.]
- [OR]
- J. **Channel Type Cable Tray**: Cable tray shall consist of one piece construction and may be ventilated or solid bottom design. Cable tray shall be [4-5/8"] [6"] wide.]
- [OR]
- K. **Center Supported Tray**: Cable tray shall be constructed of a center rectangular aluminum support which forms a spine to which cross rungs are attached. Cross rungs shall be bent up at their ends to form a center supported, open sided, ladder-like assembly. Rungs shall emanate from the top of the spine [to maximize usable area] [so that the spine divides the tray into two halves and the overall tray depth is minimized].]
- [DELETE ANY NOT REQUIRED]**
- L. **Accessories**: Provide barrier strips, hold down clips, box connectors, covers, and endplates where shown or required. Provide all necessary hangers and splice pieces as required to install the cable tray where shown or specified and as recommended by the manufacturer.
- M. **Fire Stopping**: Provide a permanent, reusable fire stop system which utilizes dustless heat expanding pillows or bags and is FM-approved and UL-classified for a minimum 2 hour fire rating. The system shall be fully removable and reusable without damage to the integrity of the seal and shall have been tested by UL for use with aluminum cable tray. The fire stopping system shall be KBS Sealbags as distributed by P-W Industries, Inc., Bio Fireshield, Inc., or an approved equal.

PART 3 - EXECUTION

3.1 INSTALLATION:

- A. **General**: Install cable trays where shown, in accordance with the manufacturer's written instructions, NEC, NEMA Standard VE-1, and with recognized industry practices to ensure that the cable trays comply with the specified requirements and serve the intended purposes. Coordinate installation with field conditions and all other trades. Install cable tray level. Minimum clear access space above top of cable tray shall be 12", or as indicated; minimum clear access space in front of cable tray shall be 18", or as indicated.
- B. **Finishing**: Remove burrs and sharp edges of cable trays wherever these could possibly be injurious to wiring insulation or jacket.
- C. **Support**: Cable tray shall be supported from the building slab using [1/2"] threaded rod or a similar support on minimum [5'] centers and at bends, cable drops, elbows, tees, reducers, and offsets.
- D. **Anchors**: Rigidly anchor the cable tray system to the building structure at each change in direction and tray fitting to prevent movement during cable installation.

- E. Grounding: Electrically ground cable trays to ensure continuous electrical conductivity. Bond at all bends, any conduit shall ground bushing and bond to tray. Provide grounding jumpers at all cable tray connections for grounding purposes.
- F. Cutting: Where field cutting is required, cable trays shall be cut square with a cable tray saw and sharp edges filed where in contact with cable insulation.
- G. Cables:
 - 1. Complete cable tray installation before starting the installation of cables.
 - 2. Provide sufficient space to permit access for installing, splicing, and maintaining the cables.
- H. Cable Tray Wall Penetrations: Provide a sheet metal window where the cable tray penetrates partitions, as detailed on the Drawings. Seal penetrations through rated partitions, after cabling is installed, using fire protection seal bags installed in accordance with the manufacturer's UL-listed installation instructions. Conduit shall only run to bottom of cable tray and shall be clamped to tray.

END OF SECTION 26 05 36