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Product Guide Specification

Specifier Notes: This product guide specification is written according to the Construction Specifications Institute (CSI) *Master format*, *Three-Part Section Format*, and *Page Format*, contained in the CSI *Manual of Practice*. Five-digit section numbers are from *Master Format*, 2004 edition.

The section must be carefully reviewed and edited by the Engineer to meet the requirements of the project and local building code. Coordinate with other specification sections and the drawings.

This section covers ACCESS CABLE TRAY "FLOORFLEX®" continuous, rigid, welded steel wire mesh cable management system, used in under floor or raised floor applications for cable management in industrial, electrical, commercial, and data communication applications.

SECTION 271123
SECTION 260536

CABLE MANAGEMENT SYSTEM –FLOORFLEX (RAISED FLOOR SYSTEM)

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Continuous, rigid, welded steel wire mesh cable management system.
- B. Cable tray systems include straight sections, supports and any accessories

1.2 RELATED SECTIONS

2004 Edition

- A. Section 26 05 13 - Medium-Voltage Cables.
- B. Section 26 05 19 - Low-Voltage Electrical Power Conductors and Cables.
- C. Section 26 05 23 - Control-Voltage Electrical Power Cables.
- D. Section 26 05 33 – Raceway and Boxes for Electrical Systems.
- E. Section 27 11 23 – Communication Cable Management & Ladder Racks.

- F. Section 26 05 36 – Cable Trays for Electrical Systems.
- G. Section 27 02 58.36 – Cable Trays for Communication Systems.
- H. Section 28 05 13 - Conductors and Cables for Electronic Safety and Security.
- I. Section 28 05 28.36 - Cable Trays for Electronic Safety and Security.

1995 Edition

- A. Section 16120 - Conductors and Cables.
- B. Section 16130 - Raceway and Boxes.
- C. Section 16140 - Wiring Devices.
- D. Section 16150 - Wiring Connections.
- E. Section 16200 - Electrical Power.
- F. Section 16700 - Communications.

1.3 REFERENCES

- A. ASTM A 123 - Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
- B. ASTM A 510 - General Requirements for Wire Rods and Coarse Round Wire, Carbon Steel
- C. ASTM B 633 - Electrodeposited Coatings of Zinc on Iron and Steel
- D. ASTM A 641 – Standard Specification for Zinc-Coated (Galvanized) Carbon Steel Wire
- E. ASTM A 580 – Standard Specification for Stainless Steel Wire
- F. ASTM A 653 – Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process
- G. NEMA VE1-2002 – Metal Cable Tray Systems
NEMA VE2-2006 – Cable Tray Installation Guidelines
- H. TIA 569-A – Commercial Building Standard for Telecommunications Pathways & Spaces
- I. NFPA 70 (2005) – National Electrical Code (NEC)
- J. CSA C22.2 No. 126. 1-02 – Metal Cable Tray Systems
- K. IEC 61537 (2001) – Cable Tray Systems and Cable Ladder Systems for Cable Management

- L. American Bureau of Shipping (ABS) 2005 Steel Vessel Rules, 2001 MODU Rules, Naval Vessel Rules
- M. ISO 9001:2000 Quality Management Systems - Requirements
- N. MIL-S-901D (NAVY) – Military Specification, Requirements for Shock Tests, High Impact; Shipboard Machinery, Equipment and Systems
- O. MIL-STD-167-1 (SHIPS) – Military Standards Mechanical Vibrations of Shipboard Equipment
- P. TIA -942 Data Center Standard

1.4 SUBMITTALS

- A. Comply with requirements of Section 01330 - Submittal Procedures.
- B. Product Data: Submit manufacturer's product data.
- C. Drawings: Include floor plans and sections drawn to scale. Include scaled Cable Tray Layout and relationships between components and adjacent structural and mechanical elements. Data presented on these drawings are as accurate as preliminary surveys and planning can determine. Field verification of all dimensions, routing, etc., is recommended.
- D. Design calculations. Verify loading capabilities for supports and tray fill capacities.
- E. Submit training certification for tray installers.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly indicating manufacturer and material.
- B. Storage: Store materials in a dry area indoors, protected from outdoor environments and damage in accordance with manufacturer's instructions.
- C. Handling: Protect materials and finishes during handling and installation to prevent damage.

PART 2 PRODUCTS

2.1 MANUFACTURER

- A. Access Cable Tray Corp., 1073 79th St. S
St. Petersburg, FL 33707
727 342 1111

2.2 FLOORFLEX CABLE MANAGEMENT SYSTEM

- A. Description: Access Cable Tray "® FLOORFLEX" continuous, rigid, welded steel wire mesh cable management system for access or raised floor applications
1. Mesh system permits continuous ventilation of cables and maximum dissipation of heat.
 2. **Continuous top wire safety edge, free of all sharp edges.**
 3. Wire mesh welded at all intersections.
 4. All mesh sections must have at least one (1) bottom longitudinal wire along entire length.
Wire Diameter: 0.197 inch (5mm) minimum on all mesh sections
 5. **Tray system must be self supporting and in no way attach or clip to flooring pedestals, stringers or tiles. FLOORFLEX System incorporates vertical and horizontal supports that independently support the tray sections.**
 6. FLOORFLEX Horizontal Fitting Flat used for Intersections Tee's and Elbows. No cutting or splicing of the trays is required.
- B. Classification: Straight sections 2 x 6, 12, and 24* inches (*actual width of all 24 inch trays are 21 7/8 inch in order to clear pedestal supports, 4 x 6, 12, and 24 inches, and 6 x 6, 10, 12, and 24 inches.
- C. Material: [Pre-Galvanized Steel Wire, ASTM A 641] [Stainless Steel Wire, ASTM A 580, 316L & 304L, 2B or 2D.]
- D. Standard Finish is PreGalvanized finish to avoid formation of Zinc Whiskers in the raised floor environment.
1. Powder Coating: painted surface treatment using Polyester or Polyester TGIC Powder Coating.
- E. Nominal Dimensions:
1. Mesh: 2 x 4 inches.
 2. FLOORFLEX Horizontal Fitting Flat used for intersections Tee's and Elbows is 2x2 welded grid mesh.
 3. Straight Section Length: 2 foot or 4 foot length sections.
 4. Standard Widths: 6 inches, 12 inches or 24 inches. Other widths are available by special order.
 5. Standard Depths: 2 inches, 4 inches, 6 inches and 8 inches.
 6. **Wire Diameter: 0.197 inch (5mm) minimum on all mesh sections.**
 7. Non-Standard widths and depths are available upon request.
 8. Part / Product Numbering Key:

FT (depth) X (width) X (length)

FT4X24X48 is Tray section 4 inches deep x 24 inches wide x 48 inches long.

- F. Fittings: No fittings are required. FLOORFLEX does not require any field fabrication, cutting or splicing in standard applications.
- G. Ground Clip shall be installed if trays are designated to used as an Equipment Ground Conductor.

 Specifier Notes: When using painted cable tray systems as an equipment ground conductor, remove paint at all points of contact.

- H. Hardware: Hardware, including Multi level solutions and Vertical Clips are available from manufacturer.
- I. Fill Ratio: Cable Tray may be filled to 40% of total fill capacity per TIA 569-A or 50% of total fill capacity per NEMA VE-1/CSA 22.2 No. 126.1.
- J. Load Span: UP TO 200LBS supported every 4ft.

2.3 SUPPORTS AND ACCESSORIES

A. DESCRIPTION: FLOORFLEX Tray System is raised to the specified height from the floor by the Vertical Supports. Two are required; The U shaped supports are positioned to fit around each pedestal. The horizontal support snaps into the two verticals to provide the bridge support, and accept the tray sections. This design is self supporting and in no way attaches or clips to the pedestal supports

- 1. VERTICAL SUPPORTS: Standard Heights : 2 inches, 4 inches, 6 inches, 10 inches, 12 inches, 18 inches, 20 inches. Custom heights available by special order:

VERTIACL SUPPORT VS (height) VS2 FOR 2" vertical

- 2. SEISMIC VERTICAL SUPPORTS: a Seismic Support is available for larger width pedestals. Add S to the end of the part number

VERTICAL SUPPORT VS (height) S VS20S for seismic 20" vertical

- 3. HORIZONTAL SUPPORTS: Standard widths of 6, 12 and 24 inches.

HORIZONTAL SUPPORT HS (width) FFHS24 for 24" Horizontal

HORIZONTAL SUPPORT HS (width) S FFHS24S for 24" Seismic Horizontal

- 4. HORIZONTAL FITTING FLAT: FLOORFLEX Horizontal Fitting Flat used for intersections Tee's and Elbows. No cutting or splicing of the trays is required.

FTINT 24" x 24" Intersection Flat

- 5. GROUND CLIP: Required if tray is to be classified as an Equipment Ground Conductor. Also used for additional hold down to Horizontal Supports and for Multi-Tier Installations.

GRDCLIP 50ea Clips per bag

6. MULTI-LEVEL SOLUTIONS: When additional tiers are to be installed, the brackets will allow you to add multiple layers or tiers above the initial installed trays.

AFVX (height) 4", 8", 12" Allows for additional runs / tiers above initial tray run. Requires one at each pedestal, and is used in conjunction with one additional Horizontal Support.

7. VERTICAL CLIP: Used to lock the vertical support around a pedestal support. Required when using the FLOORFLEX 6" and 12" Horizontal Supports

VSRC 50ea per bag

B. OTHER ACCESSORIES:

- a. Divider Strips: Divider strips allow for separation and segregation of multiple cable runs within a single tray.

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|--------|------------------|--------|------------------|
| CTD242 | 24" Long 2" High | CTD482 | 48" Long 2" High |
| CTD244 | 24" Long 4" High | CTD484 | 48" Long 4" High |
| CTD246 | 24" Long 6" High | CTD486 | 48" Long 6" High |

- b. Inserts Solid bottom tray for support/security of cables.

INSERT Insert widths are 6" 12" and 24"

PART 3 EXECUTION

3.1 EXAMINATION

- A. Inspect areas to receive cable management system. Notify the Engineer of conditions that would adversely affect the installation or subsequent utilization of the system. Do not proceed with installation until conditions are corrected.

3.2 INSTALLATION

- A. Install cable management system at locations indicated on the drawings and in accordance with manufacturer's instructions.
- B. Install cable management system using hardware, grounding, support, components, and accessories available from manufacturer.

END OF SECTION