

POWERFLOR™ USA, INC.

Section 16128 - Cable Management System

Part I – GENERAL

1.01 WORK SUMMARY

- A. Contractor shall provide submittals, materials, and installation of the cable management system as shown on the contract drawings and as specified in this document.

1.02 RELATED WORK NOT INCLUDED

- A. General contractor shall provide clear access, dry secure storage, and a clean subfloor area, which is free of construction debris and other trades during installation of the cable management system. Area to receive the cable management system shall be enclosed and maintained at a temperature range of 40 to 90 F and a humidity range of 20% to 70% relative.
- B. Electrical contractor shall provide necessary material and labor to electrically connect the cable management system's electrical supply components to the building.
- C. Communications contractor shall provide necessary material and labor to connect network and phone service from building to all Cable Management System's service points as specified.

1.03 SYSTEM DESCRIPTION

Cable Management System shall provide complete electrical outlet / branch circuit and communication outlet / horizontal cabling systems, integrated with a horizontal chaseway. All power and communication system's components shall be modular and pre-terminated, with pressure connections. All outlets are to be flush mounted, to a fixed height chaseway floor system. Chaseway components shall be modular and pre-assembled, to include carpet tile surface, and installed unattached to the building structure.

Cable Management System (CMS) to meet or exceed the following requirements:

- A. All communication components provided shall meet EIA/TIA standards for Category 6 performance levels or greater, as specified.
- B. All communication outlets shall be provided as flush with floor surface. Outlet shall include appropriate faceplate for friction / clip in mounting of modular plug type connectors.
- C. All communication cabling shall be provided pre-terminated with specified connectors on one end for mounting into outlet faceplate and jacks for connection to wiring closet on other end. Cable length and connector type as specified.
- D. CMS shall include an intermediate wiring center as an integral part of the system, with internal cable chase access. The wiring center shall function as a distribution or consolidation point for the communication system, as specified. Wiring center shall provide an internal, secure, and accessible standard 19" wide wire rack mounting capability. Wiring center shall allow for full access to all wiring center connections, switches, hubs, or equipment, without horizontal chaseway access required. Wiring center shall be Powerflor USA, Inc. LDS Utility Center or equal.

POWERFLOR USA, INC.

Section 16128 – Cable Management System

1.03 SYSTEM DESCRIPTION

- E. All electrical power components shall be provided as part of a complete manufactured wiring system, UL-183 Listed and meeting National Electrical Code requirements as stated in Articles 604, 605, & 300-22C. System shall provide a minimum of four 20 ampere circuits per leg. All circuit shared neutral conductors shall be minimum size of 10 awg. All components to be UL rated at 20 amp. capacity. Power distribution system shall be AMPINERGY Power System, by Tyco Electronics, Inc. or equal.
- F. CMS shall allow for the relocation of all outlets, within the system, accomplished individually or in combinations as specified, without the use of any specialized tools or the dis-connection of the outlets being required. All outlets to be individually flush mounted within chaseway surface.
- G. No CMS component is to be adhered or mechanically affixed to the building structure in any fashion, except for power, data, and voice service connections and chaseway access ramps and railings as specified.
- H. CMS chaseway shall be provided in a panel configuration, with each panel being provided as a pre-assembled units, consisting of four identical supports 25 cm x 25 cm x 2 5/8" high, bonded to a standard 50 cm x 50 cm carpet tile.
- I. CMS chaseway panels shall be easily removable, by one person, without the removal of carpet from the panels. CMS chaseway will allow for the removal of a single panel without the removal of adjacent carpet tiles being required. No specialized tools shall be required for panel removal.
- J. CMS chaseway shall not exceed 3" nominal height, to include all components except railings and intermediate wiring centers. CMS chaseway shall support a uniform weight load of at least 50,000 lbs. per square foot.
- K. CMS shall include edge panel components provided to be field "cut to fit" and "assembled", to meet building constraints.
- L. CMS chaseway to be provided as a complete system with pedestrian access compliant with the Americans with Disabilities Act (ADA) as specified.
- M. CMS finished chaseway surface shall be modular carpet tile, compatible with Powerflor USA, Inc. production standards, as specified.

1.04 SHOP DRAWINGS AND PRODUCT DATA

- A. Submit drawings showing complete cable management system including floor panel layout and all accessories that are a part of the system.
- B. Submit details and descriptive notes for product data, warranty and maintenance.

1.05 SAMPLES

- A. Submit for approval one full size floor panel with finished surface and understructure components.

POWERFLOR™ USA, INC.

Section 16128 - Cable Management System

1.06 QUALITY ASSURANCE

- A. Cable Management System shall be installed in accordance with the manufacturer's installation guidelines, by a manufacturer's trained and certified installation contractor.
- B. Submit certified laboratory test data for approval, which indicates that the supplied system complies with the performance, indicated herein.

Part II – PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

Cable Management System shall be manufactured by **POWERFLOR USA, Inc.** 1406 Waterford Drive – Bel Air, Maryland 21015 – Phone: (410) 893-0035 / email: powerflorusa@aol.com
Alternative products shall meet or exceed design criteria.

2.02 MATERIAL

- A. Chaseway Panel Assemblies
 - 1. Dimensional Requirements
 - Size: 50 cm x 50 cm as specified.
 - Dimensional Tolerances:
 - Edge to Edge dimension: Plus or minus 0.015 inches.
 - Out of square (difference of diagonal dimensions): 0.035 maximum.

2.03 UNDERSTRUCTURE

- A. Stringerless
 - 1. Pedestals:
 - 25 cm x 25 cm molded polycarbonate.
 - Finished Height: 2 5/8".
- B. Pedestal / Panel Assembly
 - 1. A 50 cm square panel assembly shall consist of four pedestals and one carpet tile and provide a 1,000 lb. axial load without permanent deformation.
- B. System Performance
 - 1. Concentrated Load Performance:
 - Panels shall be capable of supporting a concentrated load of 1,500 lbs. placed on a one square inch area at any location on the panel with a maximum top surface permanent set not to exceed 0.010 inches after load is removed.
 - 2. Uniform Load Performance:
 - Panels shall be capable of supporting a minimum uniform load of 50,000 lbs. per square foot.

POWERFLOR™ USA, INC.

Section 16128 - Cable Management System

C. System Performance

3. Ultimate Load Performance:
The system shall provide a loading capacity of not less than 1,600 lbs. per square inch, without failure.
4. Rolling Load Performance:
The system shall meet the Rolling Load test in accordance with Cisca Standards Wheel A / 800 lbs.
5. Poly Carbonate components shall meet or exceed flammability testing in accordance with ASTM D 635, 1929, and 2843.

D. Floor Surface Covering

3. Floor panel finished surface shall be an approved 50 cm carpet tile as indicated on contract drawings or in this specification. Where floor coverings are by the cable management system manufacturer, the type, color and pattern to be selected from manufacturer's standards.

E. Accessories

1. Service outlets to be provided in locations as specified by architect and as detailed on the contract drawings. Outlets to accommodate and include pre-terminated power, communications and data cabling assemblies.
2. Provide 2% spare floor panels for maintenance stock. Deliver to project in manufacturer's standard packages clearly marked with the contents.

Part III – INSTALLATION

3.01 INSTALLATION

A. Qualification

3. Cable management system and accessories to be installed by the manufacturer's certified installation contractor to maintain the integrity of the products and acceptable performance of the completed installation.

B. Inspection

1. Examine sub-floor for unevenness, irregularities, and dampness that would affect the quality and execution of the work.
2. Do not proceed with installation until subfloor surfaces are clean, dry, and clear of other trades and ready to receive cable management system.
3. Inspect Powerflor components for damage prior to installation.

POWERFLOR™ USA, INC.

Section 16128 - Cable Management System

3.01 INSTALLATION

C. Preparation and Installation

1. The cable management system to be prepared and installed in accordance with the manufacturer's instructions covering preparation, layout, alignment, and installation.
2. Sub-floor shall be level within plus or minus 0.125 inches in 10 feet, and plus or minus 0.10 inches over the entire area. System to be installed with all components loose laid over foam underlay, squarely and firmly on the sub-floor and free of rocking panels.
3. Provide cutouts, ramps, and closure trim as indicated and as needed. Minimize the number of cut panels. Layout panels to avoid less than ½ panel units. Scribe to accurately fit trim pieces.

D. Adjust and Clean

1. Remove system installation debris as work progresses, maintaining area under finished system floor area in a clean condition.
2. The general contractor is to protect the finished floor system from damage and misuse until occupancy.