

SECTION 260537 - J-HOOK PATHWAYS FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 GENERAL

- A. Conduit/Raceway/Pathway: “Conduit”, “raceway”, “pathway” and similar terms shall be taken to mean “conduit” unless specifically indicated otherwise in project manual documents, or unless specifically directed otherwise in field by Owner or Design Professionals. All such terms shall be considered synonymous for the general purposes of installation means and methods.
- B. Provide J-Hook pathway systems only for the following limited applications: Class 2 (“low-voltage”) control wiring, except for fire alarm system wiring.
- C. Coordination Drawing Submittals: Prior to commencing with any related work, submit routing plans, drawn to scale, on which the following items are shown and coordinated with each other, using input from installers of items involved:
 - 1. Routing.
 - 2. Scaled layout and relationships between components and adjacent structural, electrical, and mechanical elements.
 - 3. Vertical and horizontal offsets and transitions.
 - 4. Clearances for access above and to side of pathways.
 - 5. Vertical elevation of pathways above the floor or below bottom of ceiling structure.
 - 6. Structural members in paths of conduit groups with common supports.
 - 7. HVAC and plumbing items and architectural features in paths of conduit groups with common supports.

PART 2 - PRODUCTS

2.1 J-HOOK PATHWAYS

- A. Acceptable Manufacturers: Subject to being equivalent and subject to compliance with requirements, provide product by one of the manufacturers listed below, or equivalent NRTL listed and labeled equivalent.
 - 1. Cooper B-Line (basis of design, model numbers as specified further below)
 - 2. Mono-Systems, Inc.
- B. Materials Description:
 - 1. Provide J-Hook system components that are plenum-rated (regardless of whether air plenum ceilings exist on the project). Provide J-Hooks, not Cable Fasteners, and not Bridle Rings. Provide open-top hooks, so cables can be laid into the J-

Hooks rather than threaded through. Provide tool-less cable retainer clips (do not use cable ties). Provide hooks sized for maximum 40% fill (in cross section) based on outside diameter of cables. Accordingly, provide multiple sets of J-Hooks along any given pathway as applicable.

2. Provide necessary factory hooks, cable retainers, fasteners, attachment kits, etc. as required for complete installations, including and equal to the following:

<u>Part</u>	<u>Cooper B-Line, Inc.#</u>
1-5/16" Hooks	BCH21 (30 4-pair UTP)
2" Hooks	BCH32. (70 4-pair UTP)
4" Hooks	BCH64 (280 4-pair UTP)
1-5/16" Cable Retainers	BCHR21
2" Cable Retainers	BCHR32
4" Cable Retainers	BCHR64
J-Hook to Beam Fasteners (spring-clip)	BCH__-U (select hook size, flange thickness)
J-Hook to Beam Fasteners (spring-clip)	BCH__-E (select hook size, flange thickness)
J-Hook to Beam Fasteners (set-screw)	BCH__-C (select hook size, flange thickness)
J-Hook to Flange Fasteners (spring-clip)	BCH__-F (select hook size, flange thickness)
J-Hook to Strut Fasteners	BCH__-SM series
J-Hook to ATR (all-thread rod) Fasteners	BCH__-AB series
J-Hook Angle Bracket Fasteners	BCH__-RB series
J-Hook to Floor Support Fasteners	BCH__-L1410 series (select for hook size)
Multi-Tier Attachment Kits	BCHK series
Double-Sided Multi-Tier Fasteners	BCH__-1D or BCH__-2D series as required
Single-Sided Multi-Tier Fasteners	BCH__-2S3S/4S/5S/6S series as required

2.2 MATERIALS AND FINISHES

1. Provide steel units with rolled hook edges to prevent damage to cable jackets and insulation
2. Cable hooks for non-corrosive areas shall be pre-galvanized steel, ASTM A653. Where additional strength is required, cable hooks shall be spring steel with a zinc-plated finish, ASTM B633, SC3.
3. Cable hooks for corrosive areas shall be stainless steel, AISI Type 304.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Provide J-Hook support along "free-air" cable pathway routes. Provide J-Hooks at four-foot intervals and at offsets. Route J-Hooks above ceilings through corridors and similar open areas wherever possible to minimize above-ceiling wall penetrations.
- B. Layout and install all electrical work in strict compliance with Chapter 1, Part B, Section 110.26 of the latest adopted edition of NFPA 70. Locations and routing that may be shown on plans are schematic and diagrammatic in nature. Layout all proposed pathway routing, elevations, installation methods, etc. on coordination drawings and coordinate all proposed routing with all affected trades prior to commencing with work. In addition, review the information with Owner and Design Professionals for all areas

where pathways will be visible after completion of construction, to ensure a neatly organized installation occurs. Where exposed in finished areas, install in a manner that minimizes detrimental effects on room aesthetics. Install as out of site as reasonably possible.

- C. Keep pathways at least 24 inches away from parallel runs of flues and steam or hot-water pipes. Install horizontal runs above liquid and steam piping. Level and square runs, and install at proper elevations and heights. Do not begin installation of cables until J-Hook pathway installations are complete and until installation locations (end to end) are in a weatherproof environment. Install pathways so that they are accessible for cable installation after construction is complete. Install pathways with enough workspace to permit access for installing cables. Strictly adhere to factory load capacities and fill capacity. Provide factory cable retainers, fasteners, attachment kits, and other accessories as required for a complete installation.
- D. Securely anchor (mechanical, not adhesive) J-Hooks directly to structural components of the building. Do not anchor J-Hooks to ductwork, conduit, piping, fixtures, equipment, ceiling supports (rods, wires, t-bars), etc. Comply with requirements in Section 260529 and related sections for hangers and supports. Support using factory-approved methods. Fasten cables on horizontal runs with factory cable clamps, retainers, fasteners, attachment kits or flexible Velcro-secured wraps compliant with to NEMA VE 2. Tighten clamps/wraps only enough to secure the cable, without indenting the cable jacket. Use of synthetic or plastic “tie-wraps”, “zip ties”, “wire ties” and similar products are not permitted as a permanent means of anchoring, securing, supporting or otherwise installing any cables, conductors, conduits, raceways, devices, equipment or other electrical work. Do not use perforated strap.
- E. Coordinate work prior to rough-in with respective equipment and cable installers, and with Owner’s Representative. Carefully coordinate proposed routing, including elevations, with affected installers and entities prior to rough-in. Neatly route paths parallel and perpendicular to building architectural lines, plumb on walls, and at a consistent elevation wherever possible. Install paths in a uniform plane/elevation wherever possible. Keep horizontal and vertical offsets to an absolute minimum. Route paths so that a minimum of 24 inches exists between cables and potential EMI sources such as lighting ballasts, motors, power wiring, dimmer circuits, etc.
- F. Provide a minimum of two (2) 4-inch bushed conduit sleeves where pathway is routed above inaccessible ceilings, and at penetrations of floors, masonry walls, fire rated walls, smoke-tight partitions, smoke-rated partitions, and similar elements. Provide smoke and fire stopping at such penetrations as applicable in (see Section 260502). Provide EMT conduit for “drops” from paths to outlets and equipment, with sweep bends, insulated throat fittings and 200-pound pull string.

END OF SECTION 260537