

## SPECIFICATION MONO-TRAY

### PART 1 - GENERAL

#### 1.10 REFERENCE STANDARDS:

- A. Underwriter's Laboratories, Inc. certified No. E80034; National Electrical Code 318; NEMA class 12C (100#/ft./12 ft.) for Mono-Tray. L-Series NEMA 12A - 50#/ft./12ft..
- B. Canadian Standards Association No. LR 082927, Mono-Tray 3 meter sections are CSA classified "C1" and "D1" (179kg/m/3m). L-Series Mono-Tray CSA classified "A" (37kg/m/3m).
- C. The cable tray system components shall be certified by one of the following UL, C-UL, CSA and/or a recognized testing laboratory.

#### 1.20 DESCRIPTION:

- A. Complete center hung and/or wall mounted steel or aluminum (*select one*) cable tray system and necessary accessories shall be provided as shown on plans. Install entire cable tray system in accordance with all local governing codes.

#### 1.30 SUBMITTALS:

- A. Submittal drawings, in the form of 8 1/2" x 11" catalog cut sheets, shall be provided for the following items: cable trays, fittings, accessories and load data.

### PART 2 - PRODUCTS

#### 2.10 MATERIALS - Steel or Aluminum (*SELECT "A or B"*)

- A. Steel cable trays shall be ventilated ladder type construction with widths and depths as indicated on the drawings. The ladder tray shall be supported from one (1) steel splice connector, installed in a telescoping manner, around the outer portion of the main spine members.
- B. Aluminum cable trays shall be ventilated ladder type construction with widths and depths as indicated on the drawings. The ladder tray shall be supported from one (1) aluminum splice connector, installed inside the inner portion of the main spine members.

#### 2.20 CENTER HUNG Mono-Tray - Steel or Aluminum (*SELECT "A or B"*)

- A. Steel Mono-Tray shall be constructed of one (1) 1"x3" rectangular seam welded steel tube to which .625" square seam welded tube steel rungs are attached on \_\_\_\_\_ inch (mm) centers. The cross rungs shall be bent up at their ends to a height of \_\_\_\_\_ inches (mm) to form a center supported, open sided, ladder type assembly. The tray shall be \_\_\_\_\_ inches (mm) wide and must not have continuous side rails. As noted on drawings, rungs shall emanate at right angles from the top of the spine or bottom of the spine (*select one*).
- B. Aluminum Mono-Tray Ladder Tray shall be constructed of one (1) 1.5"x2.75" rectangular extruded aluminum tube to which 1/2" square box beam (type C standard) or 3/4" x 1/2" box beam (type D) (*select one*) rungs are attached on \_\_\_\_\_ inch (mm) centers. The cross rungs shall be bent up at their ends to a height of \_\_\_\_\_ inches (mm) to form a dual supported, open sided, ladder type assembly. The tray must not have continuous side rails. As noted on drawings, rungs shall emanate at right angles from the top of the spine or bottom of the spine (*select one*). L-Series Mono-Tray shall have 1/2" solid aluminum triangular (type B) rungs.

#### 2.30 WALL RACK LADDER TRAY - Steel or Aluminum (*SELECT "A or B"*)

- A. Steel Wall Rack tray shall be constructed of one (1) 1"x3" rectangular seam welded steel tubes to which .625" square seam welded tube steel rungs are attached on \_\_\_\_\_ inch (mm) centers. The cross rungs shall emanate from one side of the spine and shall be bent up at their ends to a height of \_\_\_\_\_ inches (mm) to form an open sided, ladder type assembly. The tray shall be \_\_\_\_\_ inches (mm) wide and must not have continuous side rails. As noted on drawings, rungs shall emanate at right angles from the top of the spine or bottom of the spine (*select one*).
- B. Aluminum Wall Rack tray shall be constructed of one (1) 1.5"x2.75" rectangular extruded aluminum tube to which 1/2" square box beam (type C standard) or 3/4" x 1/2" box beam (type D) rungs are attached on \_\_\_\_\_ inch (mm) centers. The cross rungs shall be bent up at their ends to a height of \_\_\_\_\_ inches (mm) to form an open sided, ladder type assembly. The tray must not have continuous side rails. As noted on drawings, rungs shall emanate at right angles from the top of the spine or bottom of the spine (*select one*). L-Series Wall Rack shall have 1/2" solid aluminum triangular (type B) rungs.

#### 2.40 DOUBLE TIER WALL RACK LADDER TRAY - Aluminum Only

- A. Aluminum Wall Rack Double Tier tray shall be constructed of one (1) 1.5"x2.75" rectangular extruded aluminum tube to which 1/2" square box beam (type C standard) rungs are attached on \_\_\_\_\_ inch (mm) centers. These cross rungs shall emanate from one side (top of the spine only) and also vertically from the bottom of the spine to form two tiers of cable tray, one above the other and shall be bent up at their ends to a height of \_\_\_\_\_ inches (mm) to an open sided, ladder type assembly. The tray must not have continuous side rails. Tray shall be mounted by fastening the spine directly to the wall in accordance with manufacture's specifications.

#### 2.50 FITTINGS

- A. Splice Connectors - Steel or Aluminum (*select one*). Sections of Mono-Tray, Wall Rack and/or Double Tier Wall Rack and all other fittings shall be joined by using one (1), two bolt, 4 inch (102mm) long, rectangular splice connector which telescope about the spine of the tray. Splice connectors shall allow for thermal expansion/contraction of the tray system. The splice connectors shall be provided with a vertical hole to accept a 1/2 inch (12mm) threaded rod (furnished by others) which is used to support the tray in an overhead application. In addition, steel splice connectors shall be installed with the seam up and shall have holes to accommodate mounting configurations associated with horizontal and vertical pivot connectors.
- B. Quick Tee and Quick Cross Connectors. Horizontal and Vertical quick connect items shall be used for all 90 degree elbows. Quick Tees and Crosses shall have factory installed splice connector(s) welded to the component assembly.
- C. Horizontal and Vertical Pivot Connectors - Angle tray connections to be field installed with Horizontal and Vertical pivot connectors. Fittings and shall telescope about the spine in a similar manner as the above splice connectors with top or side mounted pivot plates.
- D. Tray Inserts / Tray Covers - Steel or Aluminum (*select one*), as well as other accessories shall be constructed of compatible material and design. Inserts and covers shall be field installed and rigidly secured by means of self tapping screws.

#### 2.60 CONSTRUCTION

- A. The Mono-Tray, Wall Rack and/or Double Tier Wall Rack rungs must pass through sections of spine and be staked in place, not screwed or welded. Each tray length shall consist of one tubular rectangular shaped spine member. All fittings and accessories to be constructed of steel or aluminum (*select one*) and to be manufactured for use with cable tray system.

#### 2.70 SUPPORTS

- A. Each Mono-Tray, Wall Rack and/or Double Tier Wall Rack ladder tray section shall be supported on maximum 12 foot centers (3.6 meters) in Canada 10 foot centers (3 meters) by one .50 inch (12mm) piece of threaded rod which pass through the vertical hole in each of the splice connectors and fasten directly to each piece of spine by one .50 inch (12mm) nut and washer on both the top and bottom sides of each piece spine. When shorter spans are required, then a 5/8 inch (16 mm) diameter hole should be drilled through the top and bottom walls of each piece of spine at support points only, and a single .50 inch (12mm) threaded rod should be inserted, through each spine member, also using a .50 inch (12mm) nut and washer on both the top and bottom sides of the spine.
- B. Wall Mounted Mono-Tray Steel or Aluminum (*select one*) Ladder Tray - shall utilize wall bracket of adequate widths to accommodate Mono-Tray configuration. Brackets to be Mono-Systems, Inc. Series 0100-047\_. All mounting material shall be furnished and installed by others.

#### 2.80 OPTIONAL PAINTED FINISHES

- A. Optional powder coated painted finish to be applied to the outer surfaces of the cable tray and associated components. Prior to the application of the powder coat all surfaces shall be cleaned and have an iron phosphate film applied. The color shall be \_\_\_\_\_.

### PART 3 - MANUFACTURER

**3.10 MANUFACTURER**

- A. Company specializing in manufacturing products specified in this section must have a minimum of ten years documented experience. Unless written approval is obtained from the engineer 14 days prior to bid, the cable tray and fittings shall be manufactured by: **Mono-Systems, Inc.**, 4 International Drive, Rye Brook New York 10573. (TEL) 914-934-2075 (FAX) 914-934-2190.