



**MP HUSKY**  
CABLE TRAY & CABLE BUS

# SPECIFICATIONS





### 1.0 Specification for Aluminum and Steel Ladder

#### 2.0 General

- 2.1 Cable tray systems shall be of the design of one manufacturer and shall be designed so that there are no burrs, projections, or sharp edges to damage cable insulation.
- 2.2 Fittings shall have the same load carrying capacity as straight sections. Fittings shall be of the continuous arc type with a 12, 24, 36, or 48 inch radius, unless otherwise shown on the drawings.
- 2.3 Ladder type tray straight sections shall be 10'-0", 12'-0", 20'-0", 24'-0", or 30'-0" long and shall be of the width indicated on the drawings to provide the planned cable capacity.

#### 3.0 Material and Construction

- 3.1 **Aluminum Ladder** type cable tray longitudinal members shall be 4-1/2", 6", 7", 8", or 10" deep extruded aluminum channels or I-Beams of 6063-T6 aluminum alloy.  
**Steel Ladder** type cable tray shall be 3-3/8", 4", 4-1/2", 6", or 7" deep channels mill galvanized (ASTM A-653 G90), hot dip galvanized after fabrication steel (ASTM A-123), 304 stainless steel, or 316 stainless steel.
- 3.2 **Aluminum Ladder** transverse members (rungs) shall be of extruded aluminum alloy 6063-T6 and shall be designed to prevent collection pockets for moisture of contaminant materials.  
**Steel Ladder** transverse members (rungs) shall be designed to prevent collection pockets for moisture or containment materials.
- 3.3 **Husky Ladder (Flange-Out)**—Transverse members (rungs) shall be inserted into a slot punched in the longitudinal members conforming to the contour of the transverse member and heliarc welded on the out side of the longitudinal member. Transverse members shall be located on 9", 12" and 18" spacing.  
Flanges on straights and fittings shall point outward.  
**Husky Ladder (Flange-In)**—Transverse members (rungs) shall be joined to the longitudinal members by means of a minimum of two resistance welds or two high strength clinches or heliarc welded at each end of the transverse member. Transverse members shall be located on 6", 9", and 12" spacing. Flanges on straights and fittings shall point inward.

#### 4.0 Splice Joints

- 4.1 Resistance across any splice connection shall not exceed 330 microhms.
- 4.2 Splice connector design shall be universal for use on straight sections and fittings.
- 4.3 Splice connectors shall be of the high pressure bolted type with a minimum of four bolts per connector.

#### 5.0 Loading

- 5.1 Husky Ladder type cable tray shall have a load safety factor of 1.5 based on the destruction load capacity as defined within NEMA Standard VE1.
- 5.2 The Husky Ladder type cable tray shall meet or exceed the following NEMA load classification:

8A (50lbs. per ft./8ft. Span)	16A (50lbs. per ft./16ft. Span)
8B (75lbs. per ft./8ft. Span)	16B (75lbs. per ft./16ft. Span)
8C (100lbs. per ft./8ft. Span)	16C (100lbs. per ft./16ft. Span)
12A (50lbs. per ft./12ft. Span)	20A (50lbs. per ft./20ft. Span)
12B (75lbs. per ft./12ft. Span)	20B (75lbs. per ft./20ft. Span)
12C (100lbs. per ft./12ft. Span)	20C (100lbs. per ft./20ft. Span)

#### 6.0 UL

- 6.1 The cable tray system shall be classified for use as an equipment ground and requires that the minimum cross sectional area be shown on the tray labels. The industry standard is to mark each straight section and fitting with its own cross sectional area. It is the responsibility of the installer and or user to assure that the capacity of the overall system is adequate to meet the anticipated ground fault of the system.

#### 7.0 Manufacture and Data

- 7.1 The following data shall be provided with the quotation:  
(a) Simple beam load and deflection tables (b) Drawings illustrating tray quoted and splice connection
- 7.2 Tray shall be manufactured in accordance with and by a member of NEMA VE1.

**1.0 Specification for Aluminum and Steel Trough**

**2.0 General**

- 2.1 Cable tray systems shall be of the design of one manufacturer and shall be designed so that there are no burrs, projections, or sharp edges to damage cable insulation.
- 2.2 Fittings shall have the same load carrying capacity as straight sections. Fittings shall be of the continuous arc type with a 12, 24, 36, or 48 inch radius, unless otherwise shown on the drawings.
- 2.3 Husky Trough type tray straight sections shall be 10'-0", 12'-0", 20'-0", 24'-0", or 30'-0" long and shall be of the width indicated on the drawings to provide the planned cable capacity.

**3.0 Material and Construction**

- 3.1 **Aluminum Trough** type cable tray longitudinal members shall be 4-1/2", 6", 7", 8", or 10" deep extruded aluminum channels or I-Beams of 6063-T6 aluminum alloy.  
**Steel Trough** type cable tray longitudinal members shall be 3-3/8", 4", 4-1/2", 6", or 7" and shall be steel mill galvanized (ASTM A-653 G90), or hot dip galvanized after fabrication steel (ASTM A-123).
- 3.2 **Aluminum Trough** bottom shall be of corrugated sheet type construction. Corrugation shall be approximately 3/8" deep on 1-1/2" pitch to provide a minimum cable support surface of 5.5" per linear foot of tray length. The corrugated bottom shall be attached to the bottom flange of the channel or I-Beam shaped longitudinal member by means of resistance welding or high strength clinches at a minimum of 3" intervals. Note: For ventilated trays over 24" wide, use ladder type construction (Ventray) with 4" spacing.
- 3.3 **Husky Trough w/ Solid Bottom**—The solid bottom trough style tray shall be constructed of continuous solid corrugation. Flanges on straights and fittings shall point inward.  
**Husky Trough w/ Ventilated Bottom**—The ventilated bottom trough style tray shall be constructed of continuous ventilated corrugation. The corrugation shall have a minimum of 40% open area to provide adequate ventilation for cables. For ventilated trays over 24" wide, use ladder type construction (Ventray) with 4" rung spacing. Flanges on straights and fittings shall point inward.

**4.0 Splice Joints**

- 4.1 Resistance across any splice connection shall not exceed 330 microhms.
- 4.2 Splice connector design shall be universal for use on straight sections and fittings.
- 4.3 Splice connectors shall be of the high pressure bolted type with a minimum of four bolts per connector.

**5.0 Loading**

- 5.1 Husky Trough type cable tray shall have a load safety factor of 1.5 based on the destruction load capacity as defined within NEMA Standard VE1.
- 5.2 The Husky Trough type cable tray shall meet or exceed the following NEMA load classification:

8A (50lbs. per ft./8ft. Span)	16A (50lbs. per ft./16ft. Span)
8B (75lbs. per ft./8ft. Span)	16B (75lbs. per ft./16ft. Span)
8C (100lbs. per ft./8ft. Span)	16C (100lbs. per ft./16ft. Span)
12A (50lbs. per ft./12ft. Span)	20A (50lbs. per ft./20ft. Span)
12B (75lbs. per ft./12ft. Span)	20B (75lbs. per ft./20ft. Span)
12C (100lbs. per ft./12ft. Span)	20C (100lbs. per ft./20ft. Span)

**6.0 UL**

- 6.1 The cable tray system shall be classified for use as an equipment ground and requires that the minimum cross sectional area be shown on the tray labels. The industry standard is to mark each straight section and fitting with its own cross sectional area. It is the responsibility of the installer and or user to assure that the capacity of the overall system is adequate to meet the anticipated ground fault of the system.

**7.0 Manufacture and Data**

- 7.1 The following data shall be provided with the quotation:  
(a) Simple beam load and deflection tables (b) Drawings illustrating tray quoted and splice connection
- 7.2 Tray shall be manufactured in accordance with and by a member of NEMA VE1.

SPECIFICATIONS

**1.0 Specification for Husky Techtray / Wire Mesh Cable Support System**

**2.0** Manufacturer: MPHusky

**3.0** Product Description: Husky Techtray is a wire mesh cable tray system that utilizes high mechanical strength steel wire that is welded into a grid system. This grid system is then formed into channel trays which support and carry cables. The wire mesh will consist of a 2" x 2" grid system, and will utilize wires that have a minimum diameter of .16" (4mm).

**4.0** Material: Standard tray finish shall be mill galvanized. Other finish options include Electroplated Clear Zinc, Hot Dipped Galvanized after fabrication, Painted or Stainless Steel.

**5.0** Safety Edge: Wire mesh system shall have continuous top edge wire that is T-Welded on top of support wires to avoid sharp edges that may damage cable or installer.

**6.0** Fittings: Shall be fabricated in the field by cutting wires with a cutting device. Cuts shall be made in a manner reducing sharp edges and projections so they do not harm cables or installation personnel. Manufacturer shall offer corner connectors that provide a radius on the inside corner of bends for horizontal 90 degree bends, tees, and crosses.

**7.0** Straight sections shall be provided in 10' (3m) lengths.

**8.0** Wire mesh shall be welded at all intersections.

**9.0** Mesh system will permit continuous ventilation of cables and maximum disposition of heat. Tray shall be manufactured by a member of NEMA in accordance with NEMA VE-1 and shall be installed in accordance with NEMA VE-2

## 1.0 Specifications for Husky Fiberglass Cable Tray

### 2.0 Cable Tray Design

- 2.1 Cable Tray System shall be made of straight sections, fitting and accessories as defined in the latest NEMA FG-1.
- 2.2 Straight section structural elements: side rails, rungs and splice plates shall be pultruded from glass fiber reinforced polyester or vinylester resin.
- 2.3 Pultruded shapes shall be constructed with a surface veil to insure a resin-rich surface and ultraviolet light resistance.
- 2.4 Pultruded shapes shall meet ASTM E-84, Class 1 flame rating and self-extinguishing requirements of ASTM D-635.

### 3.0 Construction

- 3.1 Straight section lengths will be 120 inches (10ft.) or 240 inches (20ft.) standard.
- 3.2 Side rails will be inward "C" configuration and be pre-drilled to accept splice plates.
- 3.3 Loading depths for cable tray systems shall be 5", 3" or 2" as per NEMA FG-1 tolerances. Overall heights shall be 6", 4" and 3" respectively.
- 3.4 Loading classifications and test specimens shall be per NEMA FG-1.

### 4.0 Fitting

- 4.1 Molded fittings shall be formed with a minimum 3" tangent following the radius.
- 4.2 3" or 5" loading depth systems shall have 90° and 45° molded fittings in 12" or 24" radius.
- 4.3 All fittings not included in 3.5.2 should be of mitered construction.
- 4.4 Width—usable inside tray width shall be 6"-9"-12"-18"-24"-30"-36". Outside widths shall not exceed inside by more than 2".
- 4.5 Straight and expansion splice plates will be of stainless steel or fiberglass design with an eight bolt pattern in 5" fill systems and four bolt pattern in 3" and 2" fill systems.
- 4.6 Dimension tolerances will be per NEMA FG-1.
- 4.7 Cable tray must have integral connection between side rails and rungs consisting of non-metallic mechanical fasteners and adhesive bonding.

### 5.0 Manufacture

- 5.1 All manufacturing practices will be in accordance with NEMA FG-1.

**1.0 Specifications for Husky Centray Center Rail Cable Tray****2.0 Material**

The tray shall be manufactured from 6063-T6 high strength aluminum. The spine shall be a minimum of 3" high and 1-1/2" wide. The top and bottom portions of the spine shall have a 0.145" minimum thickness and the vertical web portions of the spine shall have a minimum thickness of 0.098". The rung shall be a minimum of 0.50" wide by 0.50" high. The rung shall be a minimum of 0.060" thick. The ends of the rungs shall be rounded to prevent damage to cables and injury to personnel.

**3.0 Construction**

The spine shall be punched so as to minimize distortion from punching of rung holes for insertion of rungs. The rungs shall be inserted through the holes in the spine and fastened by high pressure staking in four locations to assure that the rungs are secure and prevent loose rungs. The splice connector shall also be usable as a hanger with a 1/2" diameter hanger rod. The splice connector shall use two bolts per connection that pass through the spine in the horizontal direction.

**4.0 Wall Mount Trays**

Wall mount trays shall be constructed in the same manner as above, except rungs shall protrude 1/2" from the spine on the back side. Wall mount tray shall be mounted to the wall in three locations per 10' or 12' straight section. The tray shall be mounted using 3/4" spacers supplied with the section for rung clearance and to compensate for irregularities in the walls.

**5.0 Loading**

Top mount trays shall meet NEMA 12C (100lbs./ft.—12ft. span) loading requirements. Top mount trays shall meet CSA Class D (179kg/m—3m span) loading requirements. Bottom mount trays shall meet NEMA 12B (75lbs./ft.—12ft. span) loading requirements. Bottom mount trays shall meet CSA Class C (97kg/m—3m span) loading requirements.

**6.0 Widths**

All widths are measured to the inside of the rungs, except for bottom rung mount 6", 9", and 12" wide trays. These widths include an additional 1-1/2" for the spine width. (Example: a 6" wide bottom mount width is 7-1/2").

**7.0 Manufacturer**

Tray shall be manufactured by a member of NEMA and tray shall be manufactured in accordance with the latest NEMA or CSA requirements.

**1.0 Specifications for Husky Way Tray****2.0 General**

- 2.1 Cable tray systems shall be of the design of one manufacturer and shall be designed so that there are no burrs, projections, or sharp edges to damage cable insulation.
- 2.2 Fittings shall have the same load carrying capacity as straight sections. Fittings shall be of the continuous arc type with a 12, 24 or 36 inch radius unless otherwise shown on the drawings.
- 2.3 Trough type tray straight sections shall be 10' or 12' long and shall be of the width indicated on the drawings to provide the planned cable capacity.

**3.0 Material and Construction**

- 3.1 Trough type cable tray sides shall be 3-3/8", 4", or 6" deep.
- 3.2 Tray shall be Aluminum, Galvannealed, Steel Mill-Galvanized (ASTM A-653), or 304 or 316 stainless steel.
- 3.3 Trough bottom shall be of solid flat sheet type construction. Flanges on straights and fittings shall point inward.

**4.0 Splice Joints**

- 4.1 Resistance across any splice connection shall not exceed 330 microhms.
- 4.2 Splice connector design shall be universal for use on straight sections and fittings.
- 4.3 Splice connectors shall be of the high pressure bolted type with a minimum of four bolts per connector.

**5.0 Manufacture**

- 5.1 Tray shall be manufactured by a member of NEMA in accordance with NEMA VE-1 and shall be installed in accordance with NEMA VE-2



- 1.0 General
  - 1.1 A complete metal enclosed bus system shall be provided; including all necessary fittings, tap boxes, enclosure, connectors, entrance fittings, insulated conductors, electrical connectors, terminating kits, and other accessories as required.
  - 1.2 The bus system shall be suitable for indoor or outdoor use with conductor spacing and ventilation maintained throughout the system.
  - 1.3 All elements of the bus enclosure shall be so designed as to eliminate any sharp edges or projections that may injure personnel or conductor insulations.
  - 1.4 The bus system shall be CABL-BUS, as manufactured by MPHusky.
- 2.0 Construction
  - 2.1 All load carrying members of the bus system shall be fabricated from extrusions of aluminum alloy 6063-T6. The maximum allowable stress used in designed shall be 10,000 PSI.
  - 2.2 Bus enclosure fittings shall normally have a radius of 24 inches, however we offer fittings with other bending radii as required.
  - 2.3 The top and bottom enclosure sections shall be corrugated to provide mechanical strength and slotted for ventilation. The top cover shall be fastened to the enclosure with self tapping screws spaced approximately 2 feet on centers and shall be removed for inspection. The bottom section shall be factory installed by welding.
  - 2.4 Splice joints between sections of the bus enclosure shall be the high pressure splined bolted type design which avoids any structural weakness at the connection and does not exceed the electrical resistance specified under Section 3.4 of this specification.
  - 2.5 Conductor support blocks shall be designed in segments to maintain a minimum of one conductor diameter in both the horizontal and vertical planes, as required for free air conductor rating. Horizontal runs will have blocks spaced every 36" and vertical runs every 18".
- 3.0 Electrical
  - 3.1 All current carrying conductors shall have insulation rated for 90°C operating temperature in accordance with ICEA publication #P-46-426 and interim STD #1&#2 to ICEA publication #S-66-524 for the ampacity and voltage specified.
  - 3.2 The conductors shall be phased and supported to maintain low impedance and assure the mechanical strength necessary to prevent cable movement or damage under short circuit currents up to 100,000 RMS symmetrical amps.
  - 3.3 Conductors shall be of continuous length and be pulled in after the bus enclosure is in place. Electrical connectors shall be used only at the termination of conductor runs or, if necessary, at tap points. All electrical connectors shall be provided by MPHusky.
  - 3.4 The bus enclosure shall have a continuous current rating of not less than 1,000 amperes (50°C Rise) and the resistance across the enclosure section splice shall not exceed 50 microhms.
  - 3.5 The bus enclosure shall be grounded at sufficient intervals for the purpose of preventing a potential above ground on the bus enclosure in the event of a fault.
  - 3.6 The conductors shall be arranged in a phasing pattern which exhibits minimal inter-phase and intra-phase imbalance.
  - 3.7 Conductor temperature rise calculations and current balance calculations can be provided in support of Section 3.6 of this specification.
  - 3.8 All transposing of cables must occur at termination points. Transposing of cables will not be done in the bus housing.