Cable Tray

Flange In, Flange Out, Solid Bottom, Ventilated Bottom, Channel, Center Rail, Wire Mesh, EMI and Husky Way

mphusky.com
# Table of Contents

Company History / info  
Quality Program  
Cable Tray Introduction  
Ladder & Trough Tray  
Channel & Centray  
Cable Way & EMI  
Techray (Wire Mesh), Fiberglass & I-Beam  
Tray Selection Charts  
Specifications
  - Ladder Tray  
  - Trough Tray  
  - Cable Way  
  - Wire Mesh  
  - Centray  
  - Fiberglass

Specifications  
Page 13  
Ladder Tray  
Page 14  
Trough Tray  
Page 15  
Cable Way  
Page 16  
Wire Mesh  
Page 17  
Centray  
Page 18  
Fiberglasse  
Page 19
Company History

MPHusky was founded in 1955 and originally began operations as Husky Products. Over the following 50+ years of leadership and service, MPHusky has gone through several transformations and mergers, including Husky/Burndy and Metal Products, thus leading to what is today MPHusky—America’s leading manufacturer of Cable Tray and Cable Bus Power Distribution Systems.

Throughout these changes one thing has remained constant—the “Husky” drive to be the most reliable, highest quality, cost effective and innovative manufacturer of Cable Support Systems and Cable Bus Power Distribution Systems. We have an unsurpassed commitment to customer satisfaction and service, and we are eager to earn your loyalty and trust. As we continue to build and strengthen our partnerships with our customers, we look forward to the next 50 years of service and support.

Associations, Certifications and Standards:

MPHusky is a charter member of NEMA, the Cable Tray Institute, and a corporate member of BICSI. Those and other certifications / associations are below:

MPHusky is also audited in conformance with 10 CFR50 Appendix B—Nuclear Standards (U.S. Nuclear Regulatory Commission).

Our high quality systems are proven to meet and exceed the stringent requirements of 10 CFR50 Appendix B—Nuclear Standards of the U.S. Nuclear Regulatory Commission, and our systems are utilized in many installations at Nuclear Power facilities throughout the United States.
# Quality Assurance

## Our Quality Policy

At MPHusky, we are committed to producing only the highest quality products that meet or exceed our customers' expectations and requirements. Our goal is to achieve 100% customer satisfaction, by delivering the best products and services, on-time and free of defect. We will achieve this individually and corporately through tested and proven processes and controls in our Quality System, with a constant focus and effort on continuous improvement.

<table>
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<th>Item</th>
<th>Standards</th>
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| MPHusky Quality Systems | • ANSI/ASQC Q9001-2000 (ISO 9001 Compliant)  
• ASME NQA-1-2004  
• ANSI N45.2 |
| Cable Manufacturers: General Cable, Okonite, Kerite, Pirelli, etc.  
- Quality Assurance  
- Manufacturing Standards | ISO 9001 Certified  
Includes ICEA, CSA, ANSI, IEEE |
| Load Test Standards | NEMA VE-1/CSA Tray Standards |
| Heat Rise Test Standards | ANSI C37.20, C37.24, actual test results available upon request |
| Cable Ampacity Standards | • IPCEA P-46-426; ICEA S-66-524; IEEE S-135  
• CSA CEC Part 1 & C22.2; Canadian NEC Table 1 & Table 5A  
• United States NEC 310-17 |
| Fault Bracing Standards | NEC Article 370 |
| Short Circuit Certification | Westinghouse High Power Test Labs, copy of test report available upon request |
| Grounding | UL, CSA |
| Welding | • AWS D1.1 (American Welding Society Structural Welding Code: Steel)  
• AWS D1.3/D1.2: (American Welding Society Structural Welding Code: Aluminum)  
• AWS C1.1/ANSI American Welding Society Recommended Practices for Resistance Welding  
• ASME QW 100.1 American Society of Mechanical Engineers  
• Welding Procedure Specifications (Procedure Qualifications Record)  
• Certified Welding Inspector—QC1-96 |
| Nuclear | Audited in conformance with 10 CFR50 Appendix B—Nuclear Standards (U.S. Nuclear Regulatory Commission) |
Husky Trough
A cable tray consisting of a ventilated or solid bottom contained within longitudinal side members.

- Typically used by all industries to carry power, instrumentation, data communications, computer, telephone, control and fiber optic cables
- Ventilated or solid bottom designs, many with 22 gauge corrugation that is 3 times stronger and 21 times stiffer than 14 gauge flat steel bottoms
- Corrugated seams between jointing sections eliminate need for bottom seam splices
- Meets NEMA 8A to 20C+

Husky Ladder
(Flange In or Flange Out)
A cable tray consisting of two longitudinal side members connected by individual transverse members, designed to support power cable, control cable, instrumentation, and telecom/data.

- Meets NEMA 8A to 20C+
- Typically used for heavier duty power applications by power plants, pulp and paper mills, petrochemical plants and industrial construction requiring strength and reliability
- Our flange out design utilizes exclusive technology which completely weds entire cross section of rungs to the outside of the rails for optimum structural integrity and reduced side rail rotation
- Best for supporting various diameter power cables, instrumentation, and control
- Capable of long support spans of 12 to 24 feet
- Available in FLANGE IN or FLANGE OUT design
- Significant cost savings over conduit & wire

See for yourself why more Engineers, Owners, Contractors and Distributors prefer the reliability, strength and personal service that only MPHusky can provide!
Husky Channel

A cable tray consisting of one piece, ventilated or solid bottom channel section, designed for use with a single power cable or multiple control or single circuit cables.

- Typically used by all industries as a low cost way to connect equipment to main cable tray systems
- Ventilated or solid bottom designs
- Furnished 1-3/4” deep and 4” or 6” wide
- Compact size makes it easier to position around and connect to equipment
- Available in aluminum, mill-galvanized steel, steel HDGAF, stainless steel and PVC-coated aluminum or steel

Husky Centray (Center Rail)

A center rail cable tray for an integrated wire management system. Centray simplifies the support and routing of power and telecom/teledata cabling. A single hanger rod is used at each support point, which makes installation easier by reducing support requirements and eliminating the need to pull cable through the “trapeze” supports. Very few fittings and variations, as well as single bolt connections, add to the simplicity and lowest cost installation of this system.

- Cables can be laid on both sides
- Rungs come already attached transversely through either the top or bottom of the center tubular rail
- 50% less labor

- Each rung is securely staked to the center rail in four places with 4 rung types—Top Rung, Bottom Rung, Dual-Width Rung, and Wall Rack
- Rung tips are chamfered to provide a smooth end and limit the opportunity for cable damage (optional end caps available)
- Meets NEMA 12B and 12C

Flange in Ladder  Husky Trough  Flange Out Ladder  Centray Center Rail
Techtray (Wire Mesh)

Techtray, developed and manufactured by MPHusky, is the industry leading Wire Mesh cable management system. We utilize high strength steel wire, which provides a strong yet lightweight support system that is perfect for today’s high tech cabling needs. Unique 2” x 2” grid is modular in any direction, allowing for lower installation cost and more support for sensitive cables.

- **Smart Tab System**—the fastest and simplest way to support, splice and connect Wire Mesh Cable Tray. No fumbling with hardware and multiple tools to install splice connections or supports. All you need is an open end wrench or a straight blade screwdriver.
- **“T-Weld” Design**—eliminates sharp edges, prevents fraying and damage to cables, and protects the installers from sharp wire ends.
- **Smart 90 Degree Corner Splice**—the only fitting that is needed to create 90˚s, tees and crosses.

Fiberglass

Our Fiberglass Cable Tray gives you the load capacity of steel, plus the inherent characteristics afforded by Pultrusion Technology: non-conductive, non-magnetic, and corrosion-resistant. From Paper Mills to Refineries to Oil Rigs, Fiberglass Cable Tray provides a sound electrical design in an adaptable cable support system that is reliable.

- Available in polyester and resin
- Light in weight (1/3 the weight of steel)
- Meet ASTM E-84, Class 1 Flame Rating and self-extinguishing requirements of ASTM D-635.

I-Beam

MPHusky offers I-Beam style trays for customers that prefer the I-Beam style or for those that want to add to an existing I-Beam tray installation.

- **Ladder Style**—Available in aluminum only. Rated to NEMA 30C+. Sizes: 6”, 9”, 12” and 18”.
- **Trough Style**—Aluminum ventilated trough style tray. Bolted splice plates. Depth: 4-1/2”, 6” and 8”.
Husky Way

Husky Way is a one piece formed pan that provides a flat bottom and a fill depth that is almost the same as the outside height of the tray. Husky Way is available in 3-3/8”, 4” and 6” deep styles and can be manufactured from Aluminum, Mill-Galvanized, Galvannealed, 304 or 316 Stainless Steel Material.

- **Aluminum**—light weight, maintenance free and non-magnetic. Electrical losses are kept to a minimum with this material, but it does not provide shielding for cables from magnetic fields.
- **Mill Galvanized Steel**—economical, offering good corrosion resistance, and providing shielding from magnetic fields in an enclosed solid bottom system with cover.
- **Galvannealed Steel**—offers the features shown above, plus it is well suited to painting. Galvannealed trays can be painted to match the building color scheme so that it blends in with its surroundings. This system also provides electromagnetic shielding.
- **Stainless Steel**—this material is ideal for corrosive areas, however, because of its non-magnetic feature, it will not provide shielding for sensitive instrument and control or data cables.

Husky EMI Enclosed Tray

With the wide use of computerized processing equipment in industrial facilities, the minimization of interference induced in the communication link between in-plant transducers or primary elements and controllers is critical. Depending on the installation, this link, in most cases a pair of electrical conductors, may be very short, or run for several hundred feet.

The longer the control signal cable, the more susceptible it is to induced electrical noise. Shielding these cables with a copper braid or metallic tape will protect them from each other, but for long runs a better method of shielding is necessary for protection against external interferences. To shield these cables individually is impractical, due to the large number used in a complex industrial control system. Numerous control signal cables can be protected from interference by using a properly designed and shielded enclosed—Husky EMI Enclosed Tray is the perfect solution.
<table>
<thead>
<tr>
<th>NEMA Class</th>
<th>NEMA Load Span</th>
<th>Side Rail Height</th>
<th>Load Depth</th>
<th>Tray Type Prefix</th>
<th>Side Rail Height</th>
<th>Load Depth</th>
<th>Tray Type Prefix</th>
<th>Side Rail Height</th>
<th>Load Depth</th>
<th>Tray Type Prefix</th>
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### MPHusky Cable Tray Selections

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<th>Load Depth</th>
<th>Tray Type Prefix</th>
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<td>16C</td>
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### Specifications

- **STEEL VENTRAY LADDER**
- **STEEL VENTRIB TRough**
- **ALUMINUM VENTRIB TRough**
- **FIBERGLASS VENTRAY LADDER**
Specifications
Typical Specifications for MPHusky Ladder Tray

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 12’ - 0” or 24’-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” or 6” deep extruded aluminum channels of 6063-T6 aluminum alloy. Steel Ladder type cable tray shall be mill galvanized (ASTM A-525), 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 or contaminant materials. Steel Ladder type cable tray longitudinal members shall be 3-3/8”, 4-1/2” or 6” deep and the transverse members (rungs) shall be designed to prevent collection pockets for moisture or containment materials.
3.3 Flange Out Electray—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 outside of the longitudinal member. Transverse members shall be located on 6”, 9” and 12” (Steel) and 9”, 12” and 18” (Aluminum) spacing. Flanges on straights and fittings shall point outward.
3.4 Flange In Ventray—Transverse members (rungs) shall be joined to the longitudinal members by means of a minimum of two resistance welds or two high strength clinches 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 Splicer 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 six bolts per connector.

5.0 Loading
5.1 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 ladder type cable tray shall meet or exceed the following NEMA load classification:

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<tr>
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<tbody>
<tr>
<td>8A (50lbs. per ft./8ft. Span)</td>
<td>16A (50lbs. per ft./16ft. Span)</td>
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<td>20C (100lbs. per ft./20ft. Span)</td>
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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.
**Typical Specifications for MPHusky Trough Tray**

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 Trough type tray straight sections shall be 12'-0” or 24'-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” or 6” deep extruded aluminum channels of 6063-T6 aluminum alloy. **Steel Tray** shall be steel mill galvanized (ASTM A-525) or hot dip galvanized after fabrication steel (ASTM A-123). Note: For trays over 24” wide or trough style trays manufactured from 304 or 316 stainless steel, use ladder type construction (Ventray) with close rung spacing.

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” per linear foot of tray height. The corrugated bottom shall be attached to the bottom flange of the channel shaped longitudinal member by means of resistance welding or high strength clinches at a minimum of 3” intervals. Note: For trays over 24” wide, use ladder type construction (Ventray) with close rung spacing.

3.3 **Ventrib w/Solid Bottom**—The solid bottom trough style tray shall be constructed of continuous solid corrugation. Flanges on straights and fittings shall point inward.

3.4 **Ventrib 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. 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 six bolts per connector.

5.0 **Loading**

5.1 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 trough type cable tray shall meet or exceed the following NEMA load classification:

<table>
<thead>
<tr>
<th>8A (50lbs. per ft./8ft. Span)</th>
<th>16A (50lbs. per ft./16ft. Span)</th>
</tr>
</thead>
<tbody>
<tr>
<td>8B (75lbs. per ft./8ft. Span)</td>
<td>16B (75lbs. per ft./16ft. Span)</td>
</tr>
<tr>
<td>8C (100lbs. per ft./8ft. Span)</td>
<td>16C (100lbs. per ft./16ft. Span)</td>
</tr>
<tr>
<td>12A (50lbs. per ft./12ft. Span)</td>
<td>20A (50lbs. per ft./20ft. Span)</td>
</tr>
<tr>
<td>12B (75lbs. per ft./12ft. Span)</td>
<td>20B (75lbs. per ft./20ft. Span)</td>
</tr>
<tr>
<td>12C (100lbs. per ft./12ft. Span)</td>
<td>20C (100lbs. per ft./20ft. Span)</td>
</tr>
</tbody>
</table>

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.
Typical Specifications for Cable Way

1.0 Specification for Cable 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 galvannealed sides shall be 3-3/8”, 4”, or 6” deep.
3.2 Tray shall be steel mill galvanized (ASTM A-525) or hot dip galvanized after fabrication (ASTM A-123) 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 All manufacturing practices will be in accordance with NEMA VE-1.
**Typical Specifications for Techtray (Wire Mesh)**

1.0 Specification for Techtray / Wire Mesh Cable Support System

2.0 Manufacturer: MPHusky, 204 Old Piedmont Hwy, Greenville, SC 29605, 800-277-4810 or www.mphusky.com.

3.0 Product Description: 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 channels 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 Zinc, Hot Dipped Galvanized after fabrication, Yellow Zinc Dichromate, 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 in accordance with NEMA VE-1 and shall be installed in accordance with NEMA VE-2.
Typical Specifications for Centray (Center Rail)

1.0 Cable Tray Material
1.1 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 0.093” minimum thickness and vertical web portions of the spine shall have a minimum thickness of 0.15”. The rung shall be a minimum of 0.50 wide by 0.60 thick. The ends of the rungs shall be rounded to prevent damage.

2.0 Cable Tray Design
2.1 Straight section structural elements: side rails, rungs and splice plates shall be pultruded from glass fiber reinforced polyester or vinylster resin.
2.2 Pultruded shapes shall be constructed with a surface veil to insure a resin-rich surface and ultraviolet resin.
2.3 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.
Typical Specifications for Fiberglass Tray

1.0 Cable Tray Design
1.1 Cable Tray System shall be made of straight sections, fitting and accessories as defined in the latest NEMA FG-1.

2.0 Cable Tray Design
2.1 Straight section structural elements: side rails, rungs and splice plates shall be pultruded from glass fiber reinforced polyester or vinylester resin.
2.2 Pultruded shapes shall be constructed with a surface veil to insure a resin-rich surface and ultraviolet resin.
2.3 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.