

# Fence Fittings

ASTM F626, Federal specification RR-F-191/4F, AASHTO M-181

## 1. PRODUCT NAME

Fence Fittings, Chain Link

## 2. MANUFACTURER

**Merchants Metals**

**Corporate Headquarters:**

211 Perimeter Center Parkway  
Suite 250

**Atlanta, GA 30346**

Phone: (866) 888-5611

Merchants Metals Service Centers are located throughout the United States.

**Harrison, AR 72601**

300 N. Industrial Park Road

Phone: (877) 258-9576

Fax: (870) 741-6163

## 3. PRODUCT DESCRIPTION

### **Basic Use:**

Fence fittings include those items that are routinely used in conjunction with metallic coated chain link fabric and framework to complete a chain link fence installation.

### **Composition and Materials:**

Fence fittings for chain link fence may be manufactured from steel or aluminum alloy. Steel items are galvanized after fabrication.

### **Standards:**

ASTM A641/A641M Specification for Zinc-Coated (Galvanized) Carbon Steel Wire

ASTM A809 Specification for Aluminum-Coated (Aluminized) Carbon Steel Wire

ASTM A817 Specification for Metallic-Coated Steel Wire for Chain-Link Fence Fabric and Marcellled Tension Wire

ASTM B26/B26M Specification for Aluminum-Alloy Sand Castings

ASTM B85/B85M Specification for Aluminum-Alloy Die Castings

ASTM B108/B108M Specification for Aluminum-Alloy Permanent Mold Castings

ASTM B117 Practice for Operating Salt Spray (Fog) Apparatus

ASTM B209/B209M Specification for Aluminum and Aluminum-Alloy Sheet and Plate

ASTM B211/B211B Specification for Aluminum and Aluminum-Alloy Rolled or Cold Finished Bar, Rod, and Wire

ASTM B221/B221M Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes

ASTM F552 Terminology Relating to Chain Link Fencing

ASTM F626 Standard Specification for Fence Fittings

ASTM F668 Specification for Polyvinyl Chloride (PVC), Polyolefin and Other Polymer-Coated Steel Chain Link Fence Fabric

ASTM F934 Specification for Colors for Polymer-Coated Chain Link Fence Materials

Federal specification RR-F-191/4F Chain Link Fence Accessories

American Association of State Highway Transportation Officials (AASHTO) M-181 Chain Link Fence

## 4. TECHNICAL DATA

### **General:**

The manufacturer, if requested, will supply samples and certification that all materials comply with the appropriate specifications.

### **Post and Line Caps:**

Post and line caps are fabricated from pressed steel or cast iron and hot-dip galvanized with a minimum of 1.2oz/ft<sup>2</sup> (366 g/m<sup>2</sup>) of zinc coating of surface area, or from aluminum alloy 380.0 conforming to die cast Specification ASTM B85/B85M, or sand cast or permanent mold alloy 356.0 or 713.0 conforming to Specification ASTM B26/B26M or ASTM B108.

### **Rail and Brace Ends:**

Rail and brace ends are fabricated from pressed steel or cast iron and galvanized with a minimum of 1.2 oz/ft<sup>2</sup> (366 g/m<sup>2</sup>) of zinc, or aluminum alloy 6063-T6 (ASTM B221 or B429). The thickness is 0.051 in. (1.3 mm) of steel or 0.062 in. (1.8 mm), of aluminum alloy, minimum length is 6 in. (152 mm).

### **Top Rail Sleeves:**

Top rail sleeves shall be fabricated from pressed steel or round steel tubing and hot-dip galvanized with a minimum of 1.2oz /ft<sup>2</sup> (366 g/m<sup>2</sup>) of zinc coating surface area, or from aluminum alloy 6063-T6 (see Specification B221/B221M or Specification B429/B429M). Rail sleeve material shall be a minimum of 0.051 in. (1.3 mm) in thickness if steel, or a minimum of 0.062 in. (1.8mm) in thickness if aluminum alloy, and a minimum of 6 in. (152.4 mm) in length.

### **Tie Wires and Hog Rings:**

Tie Wire used to tie fabric to frame work and Hog rings for attaching fabric to tension. Fabricated from steel wire galvanized minimum zinc coating 1.2oz/ft<sup>2</sup> (366 g/m<sup>2</sup>) 9 gauge (0.148) (3.76 mm) steel wire - lighter gauge steel wire may be used on lighter gauge mesh, see ASTM F626.

### **Tension and Brace Bands:**

Tension and brace bands are fabricated from pressed steel or cast iron and galvanized with a minimum of 1.2 oz/ft<sup>2</sup> (366 g/m<sup>2</sup>) of zinc, or aluminum alloy 6063-T5, 6063-T6, or 8176-H19 (ASTM B211/B211M or B221/B221M). Tension bands have a minimum material thickness of 14 ga. (0.074 in. (1.88 mm) and a minimum width of ¾ in. (19 mm). Brace bands have

a minimum material thickness of 12 ga. (0.105 in. 2.66 mm) and a minimum width of ¾ in. (19 mm).

### **Tension bars:**

Steel tension bars are fabricated from merchant quality steel and galvanized, minimum zinc coating weight 1.2oz/ft<sup>2</sup> (366 g/m<sup>2</sup>). Steel tension bars used to connect 1-3/4 in. (44 mm) and 2 in. (50 mm) mesh fabric to end, gate and corner posts are a minimum 3/16 in. (4.8 mm) by 5/8 in. (16 mm) for fabric heights to 5 ft. (1,520 mm) and 3/16 in. (16 mm) by 3/4 in. (19 mm) for fabric heights over 5 ft. (1,520 mm). Tension bars used to connect 1 in. mesh fabric to end; gate and corner posts are a minimum 1/4 in. (6 mm) by 3/8 in. (10 mm). The minimum length of a tension bar is 2 in. (50 mm) less than the full height of the chain link fabric.

### **Truss Rod and Tightener:**

Steel truss rods shall be fabricated from 3/8 in. (9.5mm) merchant quality rod and it and all related devices shall be hot-dip galvanized after threading with a minimum of 1.2oz/ft<sup>2</sup> (366 g/m<sup>2</sup>) of zinc coating and shall withstand 2000lb (900 kg) of tension.

### **Barbed Wire Arms:**

Barbed wire arms shall be fabricated from pressed steel or cast iron, and hot-dip galvanized with a minimum 1.2 oz/ft<sup>2</sup> (366 g/m<sup>2</sup>) of zinc coating. Barbed wire arms are available as various types.

### **Tension Wire:**

Tension wire per ASTM A817 Specification for Metallic-Coated Steel Wire for Chain-Link Fence Fabric and Marcellled Tension Wire, shall be 7 gauge (0.177 + 0.005 in. (4.50 + 0.13 mm) is either zinc or aluminum coated:

Type I - Aluminum-coated (aluminized), minimum average coating weight 0.40oz/ft<sup>2</sup> (122 g/m<sup>2</sup>).

Type II - Zinc-coated (galvanized), Class 4, minimum average coating weight 1.2oz/ft<sup>2</sup> (366 g/m<sup>2</sup>).

Minimum breaking strength is 1,950 lbf [8,670 N].

### **COLOR COATING OF FITTINGS:**

Fittings may be color coated with a polymer to match the fabric, when so specified. Standard colors are as contained in ASTM F934. Painted fittings are not acceptable. The exterior surface of the fittings shall be polymer coated with a minimum 0.006-in (0.152-mm), maximum 0.015-in (0.381-mm) thickness when so specified. Ferrous fittings shall be hot-dip galvanized prior to application of color coating.



Merchants Metals®

*the first name in fence solutions*

*Revised: April 2021*

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## 5. AVAILABILITY AND COST

### Availability:

Chain link fittings are available for shipment throughout the United States and worldwide.

### Cost:

Costs may vary with specific project requirements. Costs may be obtained through all Merchants Metals Service Centers.

## 6. MAINTENANCE

Periodic inspection is recommended but no routine maintenance is required.

## 7. TECHNICAL SERVICES


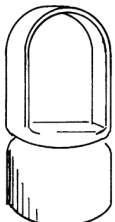


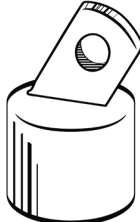


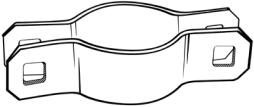
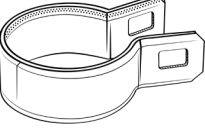
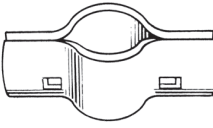
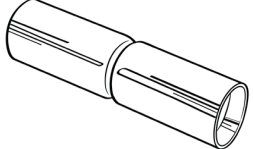
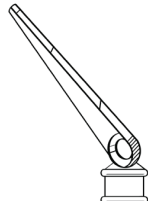
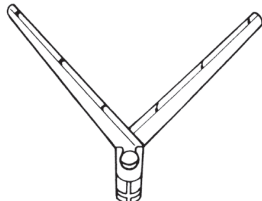
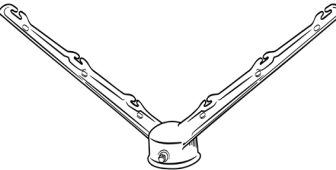
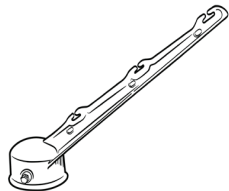
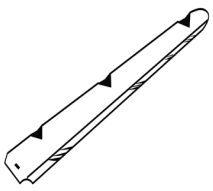
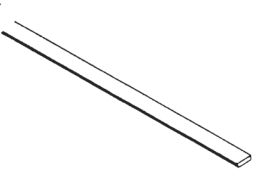
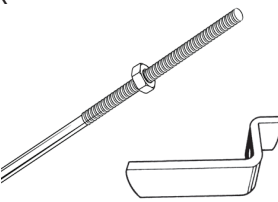
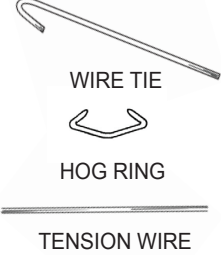
Specifications, drawings, and other technical services are available through the Merchants Metals Technical Sales Department or your local Merchants Metals Service Center.

Technical Sales:

Email: [Tech-Info@merchantsmetals.com](mailto:Tech-Info@merchantsmetals.com)

Website: [www.merchantsmetals.com](http://www.merchantsmetals.com)

Representative Illustrations of Common Chain Link Fence Fittings (not to scale)

<p>A</p>  <p>DOME POST CAP</p>	<p>B</p>  <p>LOOP CAP PRESSED STEEL</p>	<p>C</p>  <p>BARB ARM BASE CAST STEEL</p>	<p>D</p>  <p>RAIL END - OFFSET ALUMINUM</p>	<p>E</p>  <p>RAIL END - OFFSET PRESSED STEEL</p>	<p>F</p>  <p>END RAIL - COMBINATION MALLEABLE</p>
<p>G</p>  <p>TENSION BAND PLAIN</p>	<p>H</p>  <p>180° BRACE BAND</p>	<p>I</p>  <p>BRACE BAND PLAIN</p>	<p>J</p>  <p>LINE CLAMP PRESSED STEEL</p>	<p>K</p>  <p>RAIL SLEEVE</p>	
<p>L</p>  <p>BARB ARM (3 WIRE) PRESSED STEEL</p>	<p>M</p>  <p>BARB ARM (6 WIRE) PRESSED STEEL</p>	<p>N</p>  <p>CORNER ARM - CAST (6 WIRE)</p>	<p>O</p>  <p>CORNER ARM - MALLEABLE (3 WIRE)</p>		
<p>P</p>  <p>BARB ARM EXTENSION (3 WIRE)</p>	<p>Q</p>  <p>TENSION BAR</p>	<p>R</p>  <p>TRUSS ROD AND TIGHTENER</p>	<p>T</p>  <p>WIRE TIE HOG RING TENSION WIRE</p>		

Technical Sales Department:  
Email: [Tech-Info@merchantsmetals.com](mailto:Tech-Info@merchantsmetals.com)  
Website: [www.merchantsmetals.com](http://www.merchantsmetals.com)

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