

SECTION 02831  
CHAIN LINK FENCES AND GATES

PART 1 – GENERAL

1.1 SECTION INCLUDES

- A. Fence framework, fabric, and accessories.
- B. Excavation for post bases, concrete foundation for posts, and center drop for gates.
- C. Manual gates and related hardware.

1.2 REFERENCE (Latest Revision)

- A. ASTM A 90/A 90M – Weight (Mass) of Coating on Iron and Steel Articles with Zinc or Zinc–Alloy Coatings.
- B. ASTM A 116 – Metallic–Coated, Steel–Woven Wire Fence Fabric.
- C. ASTM A 121 – Metallic–Coated Carbon Steel Barbed Wire.
- D. ASTM A 123/A 123M – Zinc (Hot–Dip Galvanized) Coatings on Iron and Steel Products.
- E. ASTM A 153/A 153M – Zinc Coating (Hot–Dip) on Iron and Steel Hardware.
- F. ASTM A 392 – Zinc–Coated Steel Chain–Link Fence Fabric.
- G. ASTM A 428/A 428M – Weight (Mass) of Coating on Aluminum–Coated Iron or Steel Articles.
- H. ASTM A 491 – Aluminum–Coated Steel Chain–Link Fence Fabric.
- I. ASTM A 653/A 653M – Steel Sheet, Zinc–Coated (Galvanized) or Zinc–Iron Alloy– Coated (Galvannealed) by the Hot–Dip Process.
- J. ASTM A 1011 – Steel, Sheet and Strip, Hot–Rolled, Carbon, Structural, High Strength Low–Alloy, High–Strength Low–Alloy with Improved Formability, and Ultra–High Strength.
- K. ASTM C 94/C 94M – Ready–Mixed Concrete.
- L. ASTM F 567 – Installation of Chain–Link Fence.
- M. ASTM F 1043 – Strength and Protective Coatings on Steel Industrial Fence Framework.
- N. ASTM F 1083 – Pipe, Steel, Hot–Dipped Zinc–Coated (Galvanized) Welded, for Fence Structures.
- O. Chain Link Fence Manufacturers Institute (CLFMI) – Product Manual.

1.3 SYSTEM DESCRIPTION

- A. Fence Height: 6 feet nominal or as shown on the Drawings.
- B. Line Post Spacing: At intervals not exceeding 10 feet.
- C. Fence Post and Rail Strength: Conform to ASTM F1043 Light Industrial Fence quality.

1.4 SUBMITTALS FOR REVIEW

- A. Product Data: Provide data on fabric, posts, accessories, fittings and hardware.

- B. Shop Drawings: Indicate plan layout, spacing of components, post foundation dimensions, hardware anchorage, and schedule of components.
  - C. Manufacturer's Installation Instructions: Indicate installation requirements.
- 1.5 SUBMITTALS FOR CLOSEOUT
- A. Project Record Documents: Accurately record actual locations of property perimeter posts relative to property lines and easements.
- 1.6 QUALITY ASSURANCE
- A. Perform Work in accordance with ASTM F567 and manufacturer's instructions.
- 1.7 QUALIFICATIONS
- A. Manufacturer: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

## PART 2 – PRODUCTS

### 2.1 OMITTED

### 2.2 MATERIALS

- A. Framing (Steel): ASTM F1083 Schedule 40 galvanized steel pipe, welded construction, minimum yield strength of 25 ksi; coating conforming to ASTM F1043 Type A on pipe exterior and interior.
- B. Fabric Wire (Steel): ASTM A392 Zinc-Coated Steel Chain-Link Fence Fabric.
- C. Barbed Wire: Steel strands with galvanized steel barbs; 12 gage thick wire, 3 strands, 4 points at 5 inches on center.

### 2.3 COMPONENTS

- A. Line Posts: 2.38-inch diameter.
- B. Corner and Terminal Posts: 3.5-inch diameter.
- C. Gate Posts: 3.5-inch diameter.
- D. Top and Brace Rail: 1.66-inch diameter, plain end, sleeve coupled.
- E. Gate Frame: 1.66-inch diameter for welded fabrication.
- F. Fabric: 2-inch diamond mesh interwoven wire, 9 gage thick, top selvage twisted tight, bottom selvage twisted tight.
- G. Tension Wire: 6-gage thick steel, single strand.
- H. Tension Band: 3/8-inch-thick steel.
- I. Tension Strap: 1/2-inch-thick steel.
- J. Tie Wire: Aluminum alloy steel wire.

### 2.4 ACCESSORIES

- A. Caps: Cast steel galvanized; sized to post diameter, set screw retainer.

- B. Fittings: Sleeves, bands, clips, rail ends, tension bars, fasteners and fittings; steel.
- C. Extension Arms: Cast steel galvanized, to accommodate 3 strands of barbed wire, single arm, vertical sloped to 45 degrees.
- D. Gate Hardware: Fork latch with gravity drop 180 degree gate hinges per leaf [and hardware for padlock.

## 2.5 FINISHES

- A. Components and Fabric: Zinc-coated (galvanized )steel.
- B. Hardware: Galvanized to ASTM A153, 2.0 oz/sq ft coating.
- C. Accessories: Same finish as framing.

## PART 3 – EXECUTION

### 3.1 INSTALLATION

- A. Install framework, fabric, accessories, and gates in accordance with manufacturer's instructions.
- B. Place fabric on outside of posts and rails.
- C. Set intermediate, terminal, and gate posts plumb, in concrete footings with top of footing 2 inches above finish grade. Slope top of concrete for water runoff.
- D. Line Post Footing Depth Below Finish Grade: 3 feet.
- E. Corner, Gate and Terminal Post Footing Depth Below Finish Grade: 3 feet.
- F. Brace each gate and corner post to adjacent line post with horizontal center brace rail and diagonal truss rods. Install brace rail one bay from end and gate posts.
- G. Provide top rail through line post tops and splice with 6-inch long rail sleeves.
- H. Install center brace rail on corner gate leaves.
- I. Do not stretch fabric until concrete foundation has cured 28 days.
- J. Stretch fabric between terminal posts or at intervals of 100 feet maximum, whichever is less.
- K. Position bottom of fabric 2 inches above finished grade.
- L. Fasten fabric to top rail, line posts, braces, and bottom tension wire with tie wire at maximum 15 inches on centers.
- M. Attach fabric to end, corner, and gate posts with tension bars and tension bar clips.
- N. Install bottom tension wire stretched taut between terminal posts.
- O. Install support arms sloped outward and attach barbed wire; tension and secure.
- P. Install gate with fabric and barbed wire overhang to match fence. Install three hinges per leaf, latch, catches, drop bolt and torsion spring retainer.
- Q. Provide concrete center drop to footing depth and drop rod retainers at center of double gate openings.

3.2 ERECTION TOLERANCES

- A. Maximum Variation from Plumb: 1/4 inch.
- B. Maximum Offset from True Position: 1 inch.
- C. Components shall not infringe on adjacent property lines.

END OF SECTION