



Titan Architectural Industrial Ornamental Fence Section 32 31 19

PART 1 GENERAL

1.01 SECTION INCLUDES:

Ornamental rackable welded steel fence system.

1.02 Related Sections:

Section 03 30 00 Cast-in-Place Concrete
Section 31 30 00 Earthwork

1.03 REFERENCES:

ASTM A123 Hot Dip Electroplating
ASTM A500 Seamless Grade A Metal Tubing
ASTM B117-97 Salt Spray Corrosion Test
ASTM F593-02e2 Stainless Steel Fasteners
ASTM F1908 Residential Outdoor Swimming Pools
ASTM F2049 Standard Safety Performance for Fence
ASTM F2408 Standard Specification for Ornamental Fences

1.04 WARRANTY

Fortress Fence TITAN products include a 20-year limited warranty, from the date of purchase, for defects in material and workmanship, including protection against cracking, peeling, blistering and corrosion (rusting). Refer to 20 Year Warranty Sheet.

PART 2 PRODUCTS

2.01 MANUFACTURER:

Fortress Fence Products
1720 North First Street
Garland, TX 75040
Phone: (844) 909-1999 Fax: (972) 644-3720
Website: www.FortressFence.com
Email: Specifications@FortressFence.com

2.02 MATERIALS:

Rails are Grade A cold rolled steel formed U-Channel having a 50,000 psi yield strength. Pickets are Grade A cold rolled steel formed and welded tubing having a yield strength of 45,000 psi. Both conforming to ASTM A500 with G 60 zinc coating (0.60 oz/ft²) total inside and outside surfaces in accordance with the ASTM A123 hot dipped electroplating process.

2.03 COMPONENTS:

- A. Rails: 1 3/4" square, 14 ga. formed U-Channel ASTM 500 galvanized steel.
- B. Pickets: 1" square, 14 ga., 16 ga., 18 ga. ASTM A500 galvanized welded and formed steel tubing.
- C. Posts: 2 1/2" square 16 ga., 14 ga., 12 ga., or 3" square 14 ga., 12ga. ASTM A500 galvanized formed and welded steel tubing with powder coated factory finish.
- D. Fasteners: All nuts, bolts, and sheet metal screws are stainless steel conforming to ASTM F593-02e2 standard.

2.04 STYLE:

- A. Fortress Iron's TITAN ARCHITECTURAL Fence is made in: Flat Top (FT), Extended Picket (EXT), Pressed Spear (SP), and Curved Top (CT).
- B. 3 15/16" air space between pickets.

2.05 FABRICATION:

- A. Fence panels are fully assembled and fabricated in standard length of 90 1/2" and standard heights of 34", 46", 58", 70", 82", 94", 106", and 118". All panels comply with requirements indicated for materials, thickness, design and details of construction.
- B. Grommets are inserted into pre-punched rails, and then the pickets are inserted through the grommets.
- C. Pickets are attached to the rail via a patented slide lock system.
- D. All components are accurately cut and drilled to receive hardware, fasteners and accessories.
- E. Panels shall be capable of supporting a 680 lb. load (applied at mid-span) without permanent deformation. Panels shall be rackable to a 24" change in grade.

2.06 FINISH:

- A. Materials are coated with the Fortress Shield process including galvanization, zinc phosphate, electrodeposition (E-coat), and architectural grade powder coat.
- B. Metal parts are assembled and finished individually prior to shipment.
- C. Galvanized steel fence components are cleaned with a non-petroleum solvent followed by the application of a sealing zinc phosphate coating.
- D. Immediately after sealing, a two-step finishing process consisting first of an electrostatic dipping process in a lead free high corrosion resistant epoxy resin leaving a coating of approximately 20 microns followed by a thermosetting carboxyl polyester resin top coat with a minimum dry film thickness of 60 to 70 microns. The second coating will be applied by the electrostatic spray process.

PART 3 EXECUTION

PREPARATION

Stake layout showing locations of all gates and posts. Contact "CALL BEFORE YOU DIG" prior to beginning any excavation work.

3.02 INSTALLATION

- A. Install fences in accordance with written instructions and in accordance with authorities having jurisdiction.
- B. Concrete Set Posts: Drill hole in firm soil. Posts holes will be a minimum of 36" deep (environmental conditions or local codes may require a greater depth). Fence post shall be spaced 95" ± 1" on-center to accommodate installation of brackets on 2 ½" square post. For non-level installations the on-center post spacing must be measured along the grade
- C. Installation is to conform to the specifications referenced in Section 1.02 of this specification.
- D. Install Fortress brackets onto fence section and posts as indicated in printed instructions for specific fence style. Attach fence sections to brackets with approved fasteners and techniques to insure that fence sections are parallel to grade within ¼" in 12 feet.
- E. Gate Installation: Install in accordance with printed instructions. Do not mount gate from wall of a structure. Provide gate post on both sides of a gate. For double drive gate installation, provide concrete center drop to foundation depth and drop rod retainers at center. Lubricate to insure smooth operation and verify proper latch operation.

3.03 CLEANING

- A. Remove all cutting and drilling chips that are attached to the fencing, post, brackets or additions to prevent corrosion.
- B. Repair scratches and other installation-incurred damage. Using a spray paint of the appropriate color that includes a zinc additive, repaint and seal any scratches or holes drilled in the fencing, post, brackets, or additions to prevent rust from forming.
- C. Clean up debris and unused material, and remove from site.

Table 1

Minimum Post Sizes for Titan Industrial

<u>Line of Fence Posts</u>	<u>Panel Heights</u>
2.5" x 12 ga	Up to & Including 6' height
3" x 12 ga.	7' up to 10'

Table 2

Titan Industrial Post Spacing by Bracket Type

Spacing	Flat Top, Spear Top, Extended Picket and Curved Top 8' Nominal (90.5" Rail)							
	2.5"	3"	2.5"	3"	2.5"	3"	2.5"	3"
Bracket Type	One Direction Flat Mount (Ex-107)		Two direction Line (EX-207)		Three Direction Universal (EX-307)		Swivel Flat Mount (EXS-107)	
Post Settings ± 1/4" O.C.	95"	95.5"	95"	95.5"	95"	95.5"	95"	95.5"

Table 3

Titan Industrial Gate Posts Sizes

<u>Gate Leaf</u>	<u>Gate Height</u>		
	<u>Up to & Including 6'</u>	<u>Over 6' Up to & Including 8'</u>	<u>Over 8' Up to & including 10'</u>
Up to 4'	3" x 12 ga.	3" x 12 ga.	4" x 11 ga.
4'1" to 6'	3" x 12 ga.	3" x 12 ga.	4" x 11 ga.
6'1" to 8'	4" x 11 ga.	6" x 3/16" wall	6" x 3/16" wall