



V3 Industrial Rackable Welded 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 F1908 Residential Outdoor Swimming Pools
ASTM F2049 Standard Safety Performance for Fence
ASTM F2408 Standard Specification for Ornamental Fences

1.04 WARRANTY

Fortress Fence Products V3 materials 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 and Pickets are Grade A cold rolled 45,000 psi steel. Rails are formed U-Channel and Pickets are rolled formed and welded tubing. 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" x 1 3/4" (Leg x Web), 12 gauge formed U-Channel ASTM 500 galvanized steel.
- B. Pickets: 1" square 14 gauge ASTM A500 galvanized welded and formed steel tubing.
- C. Posts: 2 1/2" square 12 gauge or 3" square 12 gauge ASTM A500 galvanized formed and welded steel tubing with powder coated factory finish.
- D. Available Colors: Black Sand, Gloss Black, Bronze, Green Sand, Green.
- E. Other colors available upon request.

2.04 STYLE:

- A. Fortress Fence Product's VERSAI INDUSTRIAL (V3) Fence is made in: Flat Top (FT), Flat Top Flat Bottom (FT/FB) Pool (PL), Extended Picket (EXT), Extended Picket Flat Bottom (EXT/FB), Pressed Spear (SP), Pressed Spear Flat Bottom (SPFB), and Curved Top (CT).
- B. 3 7/8" air space between pickets.

2.05 FABRICATION:

- A. Fence panels are fully assembled and fabricated with rail length of 90 1/2" and picket heights of 34", 40", 46", 58", 70", 82", and 94". All panels comply with requirements indicated for materials, thickness, design and details of construction.
- B. Pickets are welded to the rails with a patented pin hinge system which allows the panel to rake without metal fatigue or damage to the finish.
- C. All welded connections comply with AWS standards for recommended practice in shop welding.
- D. All components are accurately cut and drilled to receive hardware, fasteners and accessories.
- E. Panels shall be capable of meeting the vertical load, horizontal load, and infill performance requirements for Industrial weight fence under ASTM F2408. Panels shall be rackable to a 26" or 16.8-degree change in grade.

2.06 FINISH:

- A. Materials are coated with the FortressShield process including galvanization, nano ceramic coating, 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 nano ceramic coating.
- D. Immediately after sealing, a two-step finishing process consisting of:

1. An electrostatic dipping process in a lead free high corrosion resistant epoxy resin leaving a coating of approximately 20 microns.
2. 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

3.01 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" ± 1/4" on-center to accommodate installation of brackets on 2 1/2" 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 ensure that fence sections are parallel to grade within 1/4" 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. Clean up debris and unused material and remove from site.

Table 1

Minimum Post Sizes for V3 Industrial

Line of Fence Posts	Panel Heights
2.5" x 12ga	Up to & Including 6' height
3" x 12ga	7' & 8'

Table 2

V3 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"	
Post Size	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.	94.25"	94.75"	94.25"	94.75"	94.25"	94.75"	94.25"	94.75"

Table 3

V3 Industrial Gate Posts Sizes

Gate Leaf	Gate Height		
	Up to & Including 4'	Over 4' Up to & Including 6'	7' & 8'
Up to 4'	2.5" x 12ga	3" x 12ga	3" x 12ga
4'1" to 6'	3" x 12ga	3" x 12ga	4" x 11ga
6'1" to 8'	3" x 12ga	4" x 11ga	6" x 3/16"