



Versai Residential 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 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 VERSAI 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 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 3/16" x 1"(Leg x Web), 16 ga. formed U-Channel ASTM 500 galvanized steel.
- B. Pickets: 3/8" square 18 ga. ASTM A500 galvanized welded and formed steel tubing.
- C. Posts: 2" square 16 ga. 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 VERSAI RESIDENTIAL 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), and Pressed Spear Flat Bottom (SP/FB).
- B. 3 7/8" air space between pickets.
- C. VERSAI ASSURANCE RESIDENTIAL panel, 3" 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", 40", 46", 48", 54", 58", and 70". 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 rackable to a 48" 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 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 24" deep (environmental conditions or local codes may require a greater depth). Fence post shall be spaced according to on-center chart to accommodate installation of brackets on 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 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 Versai Residential

<u>Line of Fence Posts</u>	<u>Panel Heights</u>
2" x 16 Ga.	Up to & Including 6' height

Table 2

Versai Residential Post Spacing by Bracket Type

Style	Flat Top Flat Bottom, Flat Top, Pressed Spear, Extended Picket				
Post Size	2"	2"	2"	2"	2"
Bracket Type	Omni-104	One Direction Flat Mount (EX-104)	Two Direction Line (EXW-104)	Three Direction Universal (EXW-304)	Swivel Flat Mount (EXS-104)
Post Setting	93.5" ± ½"	93.5" ± ½"	93.25" ± ½"	93.25" ± ½"	94.75" ± ½"

Style	Flat Top Flat Bottom, Flat Top, Pressed Spear, Extended Picket		
Post Size	2"	2"	2"
Bracket Type	One Direction Flat Mount (EX-104 96" OC)	Two Direction Line (EXW-104 96" OC)	Three Direction Universal (EXW-304 96" OC)
Post Setting	95.25" ± ½"	95.25" ± ½"	95.25" ± ½"

Table 3

Versai Residential Gate Posts Sizes

<u>Gate Leaf</u>	<u>Gate Height</u>
	Up to & Including 6'
Up to 5'	2" x 16 Ga.
6' to 8'	2.5" x 16 Ga.