



ARES High Security Fence Construction Specification – SECTION 32 31 19

PART 1 GENERAL

1.01 SECTION INCLUDES:

Rackable, steel pale security fence system defined herein at ARES.

1.02 Related Sections:

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

1.03 REFERENCES:

ASTM A653/A653M Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy Coated (Galvannealed) by the Hot-Dip Process.
ASTM B117-16 Standard Practice for Operating Salt Spray (Fog) Apparatus.
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 ARES 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.FortressBP.com
Email: Specifications@FortressBP.com

2.02 MATERIALS:

Rails and Pickets are Grade A cold rolled 50,000 psi steel. Rails are formed C-Channel and Pales are rolled formed. Both conforming to ASTM A500 with G-90 zinc coating (0.90 oz/ft²) total inside and outside surfaces in accordance with the ASTM A123 hot dipped electroplating process.

2.03 COMPONENTS:

- A. C-Channel Rails: 71mm X 71mm, 11 gauge formed U-Channel ASTM 500 galvanized steel.
- B. Pale: 69mm X 25mm ,12-gauge ASTM A500 galvanized welded and formed steel tubing.
- C. I-Beam: 68mm X 100mm **12 gauge or 3" square 12-gauge** ASTM A500 galvanized formed and welded steel tubing with powder coated factory finish.
- D. Swing Gate:
 - (a) gate upright is 75mm X 75mm square tube, 12-gauge.
 - (b) Pale is 69mm X 25mm 12 gauge
- E. Available Colors: Black Sand, Gloss Black, Green Sand and Gloss Green.

2.04 STYLE:

- A. Fortress Fence Product's ARES HIGH SECURITY Fence is manufactured in Citadel (Curve Top), Scorpio and Spartan styles in 2 and 3 rail versions.
- B. 75mm air space between pales.

2.05 FABRICATION:

- A. Fence panels are fully assembled and fabricated with rail length of 2298mm and picket heights of 1778mm, 2082mm, 2387mm, 2692mm, 2297mm, 3302mm and 3606mm. All panels comply with requirements indicated for materials, thickness, design and details of construction.
- B. Pale's are mechanically attached to the rail thru the Slide Lock Technology.
- 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 304mm 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 ensure smooth operation and verify proper latch operation.
- F.

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 I-Beam Size for ARES High Security

Line of I-Beam	Panel Heights
68mm X 100mm I-Beam	Up to & Including 3606mm height

Table 2

ARES High Security I-Beam 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

ARES High Security 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"