

# Construction Specification

## SECTION 02825 - ORNAMENTAL METAL FENCING SYSTEM AEGIS II - CLASSIC 2-RAIL STYLE

### PART 1 - GENERAL

#### 1.01 WORK INCLUDED

The contractor shall provide all labor, materials and appurtenances necessary for installation of the ornamental metal fencing system defined herein at (specify project site).

#### 1.02 RELATED WORK

Section \_\_\_\_ - Earthwork  
Section \_\_\_\_ - Concrete

#### 1.03 SYSTEM DESCRIPTION

The manufacturer shall supply a total ornamental metal fencing system of the design, style, strength and picket interspace defined herein. The system shall include all components (i.e., pickets, rails, posts, gates and hardware) required.

#### 1.04 QUALITY ASSURANCE

The contractor shall provide laborers and supervisors who are thoroughly familiar with the type of construction involved and materials and techniques specified.

#### 1.05 REFERENCES

**A653/A653M** - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.  
**A924/A924M** - Standard Specification for General Requirements for Steel Sheet, Metallic-Coated by the Hot-Dip Process.  
**A1011/A1011M** - Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability.  
**B117** - Practice for Operating Salt-Spray (Fog) Apparatus.

#### 1.06 SUBMITTAL

The manufacturer's literature shall be submitted prior to installation.

#### 1.07 PRODUCT HANDLING AND STORAGE

Upon receipt at the job site, all materials shall be checked to ensure that no damages occurred during shipping or handling. Materials shall be stored in such a manner to ensure proper ventilation and drainage and to protect against damage, weather, vandalism and theft.

### PART 2 - MATERIALS

#### 2.01 MANUFACTURER

The ornamental metal fencing system shall conform to Ameristar AEGIS II™, (specify style from options in manufacturer's current literature).

#### 2.02 MATERIAL

**A.** Steel material for fence framework (i.e. tubular pickets, rails and posts), when galvanized after forming, shall conform to the requirements of ASTM A1011/A1011M, with a minimum yield strength of 50,000 psi (344 MPa). The exterior shall be hot-dip galvanized with a 0.45 oz/ft<sup>2</sup> (138 g/m<sup>2</sup>) minimum zinc weight. The interior surface shall be coated with a minimum of 81% nominal zinc pigmented coating, 0.3 mils (0.0076 mm) minimum thickness.

**B.** Steel material for fence framework (i.e. tubular pickets, rails and posts), when galvanized prior to forming, shall conform to the requirements of ASTM A924, with a minimum yield strength of 50,000 psi (344 MPa). The steel shall be hot-dip galvanized to meet the requirements of ASTM A653 with a minimum zinc coating weight of 0.90 oz/ft<sup>2</sup> (276 g/m<sup>2</sup>), Coating Designation G-90.

**C.** Galvanized framework shall be subject to six-stage pretreatment/wash (with zinc phosphate) followed by an electrostatic spray application of a two-coat powder system. The base coat is a thermosetting epoxy powder coating (gray in color) with a minimum thickness of 2-4 mils. The top coat is a "no-mar" TGIC polyester powder coat finish with a minimum thickness of 2-4 mils. The color shall be (specify black, bronze, white or desert sand). Coated galvanized framework shall be a salt spray resistance of 3,500 hours using Test Method B117 without loss of adhesion.

**D.** Material for fence pickets shall be 1" square x 14 Ga. tubing. The cross-sectional shape of the rails shall conform to the manufacturer's Forerunner™ design, with outside cross-section dimensions of 1.75" square and a minimum thickness of 14 Ga. Post spacing shall be in accordance with Table 1.

Table 1

POST SIZE	2-1/2" POSTS		3" POSTS	
	STRAIGHT PICKET	CURVED PICKET	STRAIGHT PICKET	CURVED PICKET
POST SPACING ± 1/2" O.C.	71-1/2"	96"	72"	96-1/2" 75-1/2"

Picket holes in the Forerunner™ rail shall be spaced 4.98" o.c. Picket retaining rods shall be 0.125" diameter galvanized steel. Posts shall be a minimum of 2-1/2" square x 12 Ga. High quality PVC grommets shall be *supplied* to seal all picket-to-rail intersections.

#### 2.03 FABRICATION

**A.** Pickets, rails and posts shall be pre-cut to specified lengths. Forerunner™ rails shall be pre-punched to accept pickets.

**B.** Grommets shall be inserted into the pre-punched holes in the rails and pickets shall be inserted through the grommets so that pre-drilled picket holes align with the internal upper raceway of the Forerunner™ rails. (Note: This can best be accomplished by making an alignment jig). Retaining rods shall be inserted into each Forerunner™ rail so that they pass through the pre-drilled holes in each picket.

**C.** Completed sections (i.e., panels) shall be capable of supporting a 600 lb. load applied at midspan without permanent deformation. Panels shall be biasable to a 25% change in grade.

**D.** Gates shall be fabricated using AEGIS II™ panel material and gate ends having the same outside cross-section dimensions as the Forerunner™ rail. Each upright and rail intersection shall be joined by welding. Each picket and rail intersection shall also be joined by welding.

### PART 3 - EXECUTION

#### 3.01 PREPARATION

All new installation shall be laid out by the contractor in accordance with the construction plans.

#### 3.02 INSTALLATION

Fence posts shall be set at spacings of either 71-1/4" or 8' o.c. plus or minus 1/2", depending on the span specified. Gate posts shall be spaced according to the gate openings specified in the construction plans. The "Earthwork" and "Concrete" sections of this specification shall govern post base placement and material requirements. AEGIS II™ panels shall be attached to posts using mechanically fastened panel brackets supplied by the manufacturer.

#### 3.03 CLEANING

The contractor shall clean the jobsite of excess materials. Post hole excavations shall be scattered uniformly away from posts.