

MERCHANTS METALS®

SECTION 323116

TUF-GRID® WELDED WIRE FENCE & GATES

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
1. Welded Wire Fence System.
- B. Related Sections:
1. Division 03 Concrete
 2. Division 31 Earthwork

1.3 REFERENCES

- A. American Society for Testing Materials:
1. A90/A90M Test Method for Weight [Mass] of Coating on Iron and Steel Articles with Zinc or Zinc-Alloy Coatings
 2. A123/A123M Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
 3. A641/A641M Specification for Zinc-Coated (Galvanized) Carbon Steel Wire
 4. F668 Standard specification for polyvinyl chloride (PVC) and other organic polymer-coated steel fence fabric
 5. A853 Specification for Steel Wire, Carbon, for General Use
 6. B117 Practice for Operating Salt Spray (Fog) Apparatus
 7. F934 Specification for Colors for Polymer-Coated Chain Link Fence Materials
 8. F2408 Standard Specification for Ornamental Fences Employing Galvanized Steel Tubing
 9. F2453 Standard specification for welded wire mesh fence fabric metallic coated or polymer coated
 10. F2919 Standard Specification for Welded Wire Mesh Fence Fabric (Metallic-Coated or Polymer Coated) with Variable Mesh Patterns or Meshes Greater than 6 in.² [3871 mm²] in Panels

1.4 SUBMITTALS

- A. Product Data: Manufactures information for each type of product indicated.
- B. Shop Drawings: Product elevations, sections, and details as necessary.
- C. Product Warranty: Standard limited warranty that the fence system is free from defects in material and workmanship including cracking, peeling, and blistering for a period of 15 years from the date of purchase.

5. QUALITY ASSURANCE

- A. The contractor shall provide laborers and supervisors who are thoroughly familiar with the type of construction involved and the materials and techniques specified.
- B. Provide complete fence system and gates, with all components provided by a single manufacturer, including all panels, posts, gates, fittings and hardware.
- C. Manufacturer Qualifications: Company specializing in manufacturing of steel fence systems with a minimum of 5 years documented experience.

1.6 PRODUCT HANDLING AND STORAGE

- A. Panels, gates, posts, and accessories to be delivered to the project site assembled and coated. Upon receipt at the job site, all materials shall be checked to ensure that no damages occurred during shipping.
- B. Materials shall be handled and stored properly to protect against damage, weather, vandalism and theft.

PART 2 – PRODUCTS

2.1 TUF-GRID® WELDED WIRE FENCE PANEL

- A. A. Approved manufacture: Merchants Metals® www.merchantsmetals.com
Phone: (888) 260-1600 Fax: (888) 261-3600 tech-info@merchantsmetals.com
- B. Products from other qualified manufacturers who have ten years or more experience manufacturing steel ornamental picket fencing will be considered by the architect as equal if approved in writing 10 days prior to biddings, and they meet all specifications for design, size, and gauge of metal parts and fabrication. Fence system must be obtained from a single source.
- C. Panels: 6 gauge welded steel wire, zinc coated (galvanized) per ASTM A641-Class 1 (0.30 oz. /ft²), 2”wide x 6” height mesh, reinforced with horizontal V-shaped folds or beams, connected at every intersection by electric resistance welding into a solid one piece mesh sheet in accordance with requirements in ASTM A-185. Wire Breaking Load: Minimum 75, 000 PSI. Weld-shear strength minimum 1,051 lbs. Each wire independently having a minimum-breaking load of 2,170 lbs. [9665N]. Panels shall have two folds for panels shorter than 5 ft. [1525 mm], three folds if shorter than 6 ft. 6 in. [1980 mm] and four folds for taller panels up to 8 ft. [2430 mm].
Choose nominal height: 4’, 5’, 6’, 8’, or Custom. Width = actual 95” center line end of panel vertical wire.
- D. Posts: Galvanized square steel tubular members manufactured per ASTM F2408, having minimum yield strength of 45,000 psi.
- E. Finish: Shall conform to ASTM F2919 - Corrosion Resistance Salt Spray Test per ASTM B117, Impact Resistance per ASTM D2794, and Adhesion per ASTM D3359 Method B.
All primary components shall receive a thorough cleaning and pre-treatment with a 10-step process: Hot alkaline cleaner, clear water rinse, hot iron phosphate application, clear water rinse, reverse Osmosis rinse, dry off oven heat, zinc enriched powder primer coat at 2-4 mils., gel oven heat, Ultra polyester finish T.G.I.C. powder coat at 2-4 mils., and final curing oven.
Choose color: Black, Brown, White, Green, Almond, or Custom.

2. GATES

- A. TUF-GRID® swing gates as shown on the drawings.
- B. Infill panels: TUF-GRID® as described above.
- C. Framing: Galvanized steel tubular members manufactured per ASTM F2408, with a minimum yield strength of 45,000 psi; with minimum 2” square 14 gauge per ASTM F900 with securely welded intersections.
- D. Hardware: Galvanized steel and or malleable steel to suit gate application. Hinges shall grip post and frame firmly to prevent slippage. Hinges shall have a load capacity of 1,000 lbs. Hinges shall allow gate leaf to swing 180° (3.14 rad).
- E. Gate Truss Cable: Diagonal adjustable 1/4" (6 mm) stainless steel truss cables provided for any leaf wider than 8'-1.
- F. Gate keepers provided for any leaf wider than 5'-0" (1500 mm) to hold gate in open position.
- G. Latch shall have provision for padlocking
- H. Optional hardware as indicated on Drawings.

2.3 ACCESSORIES

- A. Bracket: Welded wire panels attached to posts using one of the following, choose one:
A. **Snap-on Brackets** for complete security NO SUBSTITUTION. Ultraviolet-protected plastic, sized to post dimensions, with two stainless steel Allen-head screws per bracket.

- B. Economy Bracket allows the panels to be installed on the “face” of the post, reducing the number of brackets needed for installation. The wrap around design securely joins two panels to the post for a quick and easy installation. Economy brackets are available for 2 in., 2-1/4 in. and 3 in. post applications only.
- B. Post Caps: Cast aluminum, malleable iron, or formed steel manufactured to form a weather resistant closure. Choose Cap style: Ball or flat tops - on all posts.

4. SETTING MATERIALS

- A. Concrete: Minimum 28 day compressive strength of 3,000 psi.
- B. Flanged Post: Provide flanged base plates with 4 holes for surface mounting where indicated. (For wall mount or pad mount situations.)

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify areas to receive fencing are completed to final grades and elevations.
- B. Property lines and legal boundaries of work to be clearly established by the general contractor or property owner.

3.2 FENCE AND GATE INSTALLATION

- A. Space posts uniformly at manufactures standard dimension unless instructed otherwise – mount to face of post spacing is 8’ on center or between posts spacing is 8’ face of post to face of post – see drawings.
- B. Set posts in concrete. Dig holes having a diameter 4 times the diameter of the post, and 6" deeper than the bottom of the post. Crown concrete at top to shed water.

3.3 CLEANING

- A. Clean up debris and remove from the site.

END OF SECTION