**MERCHANTS METALS**®

SECTION 323119.30

TUF-GUARD® DECORATIVE ORNAMENTAL PRE-HUNG 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. Tuf-Guard**®** Decorative Ornamental Pre-Hung Gates with galvanized metal tubular square pickets, Chain link fabric, Tuf-Grid**®** Welded wire, or other – factory assembled – ready to install.

B. Related Sections:

1. Division 03 Concrete
2. Division 31 Earthwork

1.3 REFERENCES

 A. American Society for Testing Materials:

1. A239 Practice for Locating the Thinnest Spot in a Zinc (Galvanized) Coating on Iron or Steel Articles
2. A653/A653M Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy- Coated (Galvannealed) by the Hot-Dip Process
3. A1008/A1008M Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy, High- Strength Low-Alloy with Improved Formability, Solution Hardened, and Bake Hardenable
4. A1011/A1011M Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low- Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength
5. B117 Practice for Operating Salt Spray (Fog) Apparatus
6. D523 Test Method for Specular Gloss
7. D714 Test Method for Evaluating Degree of Blistering of Paints
8. D1654 Test Method for Evaluation of Painted or Coated Specimens Subjected to Corrosive Environments
9. D2244 Practice for Calculation of Color Tolerances and Color Differences from Instrumentally Measured Color Coordinates
10. D2794 Test Method for Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact)
11. D3359 Test Methods for Measuring Adhesion by Tape Test
12. E4 Practices for Force Verification of Testing Machines
13. F2814 Guide for Design and Construction of Ornamental Steel Picket Fence Systems for Security Purposes
14. F2408 Standard Specification for Ornamental Fences Employing Galvanized Steel Tubular Pickets.

1.4 SUBMITTALS

A. Product Data: Manufactures information for each type of product indicated.

B. Shop Drawings: Product elevations, sections, and details as necessary.

* 1. QUALITY ASSURANCE
	2. The contractor shall provide laborers and supervisors who are thoroughly familiar with the type of construction involved and the materials and techniques specified.
	3. Provide complete fence system and gates, with all components provided by a single manufacturer, including all panels, posts, gates, fittings, and hardware.
	4. Manufacturer Qualifications: Company specializing in manufacturing of steel ornamental picket 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.

1. Materials shall be handled and stored properly to protect against damage, weather, vandalism, and theft.

**PART 2 – PRODUCTS**

* 1. GUARDSMAN® COMMERCIAL DECORATIVE ORNAMENTAL SWING GATES

A. Approved manufacture: Merchants Metals® [www.merchantsmetals.com](http://www.merchantsmetals.com)

Phone: (888) 260-1600 Fax: (888) 261-3600 tech-info@merchantsmetals.com

1. Products from other qualified manufacturers: Shall 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, gauge of metal parts, and fabrication. Picket fences and gates must be obtained from a single source.
2. Gate frame: 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.
3. Clear opening: Minimum gate height 7’-0” or Custom

Choose one width: 3’-0”, 3’- 6”, 4’-0”, 5’-0”, or Custom.

1. Choose one: (A) Ornamental Pickets, (B) Chain Link, (C) Expanded Metal, (D) Tuf-Grid**®** Welded wire, or Custom – as indicated on drawing.
2. Ornamental Pickets: Galvanized steel tubular members manufactured per ASTM F2408, with a minimum yield strength of 45,000 psi.
3. Choose one:
	1. Minimum Commercial picket size: 3/4” square, 16 gauge with pickets spaced 4-5/8” on-center and 3-7/8” face to face of picket.
	2. Minimum Industrial picket size: 1” square, 16 gauge with pickets spaced 4-7/8” on-center and 3-7/8” face to face of picket.
4. Attach pickets to "U" channel with 1/4" industrial drive rivets.
	1. Rails: 1-3/8” x 1-1/2”, 11 gauge galvanized steel “U” channel, shall conform to the requirements F2408 Sect 5.1.2 galvanized prior to forming, with a minimum yield strength of 50,000 psi., the steel shall be hot-dip galvanized to meet A653/A653M with a minimum zinc coating weight of 0.9 oz./ft2, Coating Designation G-90. Punched rails to receive pickets.
	2. Monroe style -choose one: Two, Three, Three or Four Rails with rings, Four Rails, or Custom.
5. Chain Link:
6. Fabric 2” mesh 9 gauge - choose one: GBW, GAW, Aluminized, PVC 2B, or other – contact Merchants Metals.
7. Expanded Metal:
8. 16 gauge galvanized Expanded Metal 1/2” or 3/4" diamond mesh.

1. Welded wire:
2. Tuf-Grid**®** Welded wire: 6 gauge wire fabric with 2” verticals x 6” horizontals.
3. Posts: Galvanized square steel tubular members manufactured per ASTM F2408, having minimum yield strength of 45,000 psi; with minimum post size per ASTM F900.
4. Gate Panel up to 8’-6” Height:
	1. Gate Panel Width up to 5’- 0” post shall be 3” square; 12 gauge.
5. Gate Panel 8’- 7” to 12’-0” Height:
	1. Gate Panel Width up to 5’- 0” post shall be 4” square; 12 gauge
6. Hardware:
7. Pressed steel hinges shall be securely attached to post to prevent slippage and allow gate leaf to swing 180°.
8. Finish: Manufactured in compliance with ASTM F2408 - 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.

1. Color for all components – Choose color: Black, Green, Gray, or Custom.

2.2 ACCESSORIES

1. Industrial drive rivets hold pickets to rails and rails are securely welded to gate frame. Rivets must have a sheer strength of 1,500 lbs. and a holding power of 1,100 lbs.
2. Options:
3. Electric lock supplied and installed by Merchants Metals. May be used with key pad, card reader, Intercom, and CCTV all supplied by others. Not for use with panic bar.
4. Lock box supplied by Merchants Metals to accept mortise lock. Mortise locks supplied by other. Not for use with Panic Bar.
5. Panic Bar Exiting Device (Stainless Steel Latch Mechanism DAC-DETEX V40) (Weather Resistant). (STANDARD)
6. Standard #6010 DAC key cylinder lock with standard panic bar. Allows access from outside with key.
7. Hydraulic gate closer Sentinel / Dorma 7305 (STANDARD)
8. Panic Bar Exiting Device With #6100 outside Key Release Trim supplied and installed by Merchants Metals. (May be used for free entrance option).
9. Post Caps: Cast malleable iron or formed steel welded to uprights.
10. Choose Cap style: Ball or flat tops – on all uprights.
	1. GATES
	2. Ornamental swing gate (see section 32 31 19.20)
	3. Ornamental picket cantilever slide gates (see section 32 31 19.40)
	4. SETTING MATERIALS
11. Concrete: Minimum 28 day compressive strength of 3,000 psi.

**PART 3 EXECUTION**

3.1 EXAMINATION

1. Verify areas to receive gate are completed to final grades and elevations.
2. Property lines and legal boundaries of work to be clearly established by the general contractor or property owner.

3.2 GATE INSTALLATION

1. Install Pre-hung Gate manufactured with a welded brace below grade to help prevent shipping damages.
2. Attach all hardware to gate in such a way that it cannot be removed by unauthorized persons.
3. 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

1. Clean up debris and remove from the site.

END OF SECTION