

FENCETRAC CSI SPECIFICATION
FENCETRAC™ - Customizable Privacy Metal Fence System
Construction Specification - SECTION 32 31 00

PART 1 - GENERAL

1.01 WORK INCLUDED

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

1.02 RELATED WORK

Section _ _ _ - Earthwork

Section _ _ _ - Concrete

1.03 SYSTEM DESCRIPTION

The manufacturer shall supply a steel framework Trac system design manufactured by FenceTrac™. The system shall include all components (i.e., all necessary Trac components, posts, gates and hardware) required. Privacy filler materials will be supplied by (specify manufacturer or distributor of specific filler option).

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

- ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy Coated (Galvannealed) by the Hot-Dip Process.
- ASTM B117 - Practice for Operating Salt-Spray (Fog) Apparatus.
- ASTM D523 - Test Method for Specular Gloss.
- ASTM D714 - Test Method for Evaluating Degree of Blistering in Paint.
- ASTM D822 - Practice for Conducting Tests on Paint and Related Coatings and Materials using Filtered Open-Flame Carbon-Arc Light and Water Exposure Apparatus.
- ASTM D1654 - Test Method for Evaluation of Painted or Coated Specimens Subjected to Corrosive Environments.
- ASTM D2244 - Test Method for Calculation of Color Differences from Instrumentally Measured Color Coordinates.
- ASTM D2794 - Test Method for Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact).
- ASTM D3359 - Test Method for Measuring Adhesion by Tape Test.

1.06 SUBMITTAL

The manufacturer's submittal package shall be provided 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 commercial ornamental steel fence system shall conform to FenceTrac standard system with (specify infill materials – ie, Wood, Composite Board, PVC, welded wire, etc.) style infill material supplied by (specify manufacturer or distributor of specific infill options). FenceTrac is manufactured in Tulsa, OK. Contact: 918-794-8722; info@fencetrac.com

2.02 MATERIAL

A. Steel material for fence framework, when galvanized prior to forming, shall conform to the requirements of ASTM A924/A924M, with a minimum yield strength of 45,000 psi (310 MPa). The steel shall be hot-dip galvanized to meet the requirements of ASTM A653/A653M with a minimum zinc coating weight of 0.90 oz/ft² (275 g/m²), Coating Designation G-90.

B. Steel material for posts, when galvanized prior to forming, shall conform to the requirements of ASTM A924/A924M, with a minimum yield strength of 45,000 psi (310 MPa). The steel shall be hot-dip galvanized to meet the requirements of ASTM A653/A653M with a minimum zinc coating weight of 0.60 oz/ft² (183 g/m²), Coating Designation G-60.

C. Material for the Top and Bottom Tracs shall be 18 Ga. steel. Material for the Post Mount and Vertical-H Tracs shall be 18 Ga. steel. The cross-sectional shape of the rails shall conform to the manufacturer's roll-formed U-channel design. Fence posts and gate posts shall meet the minimum size requirements of Table 1.

2.03 FABRICATION

- A.** All fence framework shall be pre-cut to specified lengths. The Post Mount Tracs shall be pre-drilled for attachment to the posts.
- B.** The manufactured steel framework and posts shall be subjected to a multi-stage pretreatment cleaning and coating process. Starting with the pre-rinse and wash process for good adhesion, followed by oven drying in preparation for powder coat application, then adding an electrostatic spray application of a thermosetting Polyester-TGIC powder coat finish. The total coating shall be a minimum thickness of 3 mils (0.0762mm). The color shall be (specify Black, Bronze, White or Silver). The coated framework shall be capable of meeting the performance requirements for each quality characteristic shown in Table 2.
- C.** Completed sections shall be capable of supporting appropriate wind speeds according to ASCE 7-05 for Commercial/Industrial designed systems only. Residential applications will vary and wind speed testing can be calculated for an additional cost if necessary. Panels without special ornamentation or custom additions on top shall be biasable up to a 45% change in grade.

PART 3 - EXECUTION

3.01 PREPARATION

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

3.02 FENCE INSTALLATION

Fence post shall be spaced according to FenceTrac installation instructions or Submittal drawings. For installations that must be raked to follow sloping grades, the post spacing dimension must be measured along the grade. Fence sections shall be attached to posts with self-tapping screws supplied by the manufacturer. Posts shall be set in concrete footers having a minimum depth of 36" (Note: In some cases, local restrictions of freezing weather conditions may require a greater depth). The "Earthwork" and "Concrete" sections of this specification shall govern material requirements for the concrete footer. Posts setting by other methods such as plated posts or grouted core-drilled footers are permissible only if shown by engineering analysis to be sufficient in strength for the intended application. Alternative materials on posts are also possible with the FenceTrac system, additional contact may be necessary to complete special post installations.

3.03 FENCE INSTALLATION MAINTENANCE

When cutting/drilling rails or posts adhere to the following steps to seal the exposed steel surfaces; 1) remove all metal shavings from cut area. 2) Apply zinc-rich primer to thoroughly cover cut edge and/or drilled hole; let dry. 3) Apply 2 coats of custom finish paint matching fence color. Failure to seal exposed surfaces per steps 1-3 above will negate warranty. FenceTrac spray cans or paint pens shall be used to prime and finish exposed surfaces; it is recommended that paint pens be used to prevent overspray. Use of non-FenceTrac parts or components will negate the manufactures' warranty.

3.04 GATE INSTALLATION

Gate posts shall be spaced according to the manufacturers' gate drawings, dependent on standard out-to-out gate leaf dimensions and gate hardware selected. Type and quantity of gate hinges shall be based on the application; weight, height, and number of gate cycles. The manufacturers' gate drawings shall identify the necessary gate hardware required for the application. Gate hardware shall be provided by the manufacture of the gate and shall be installed per manufacturer's recommendations.

3.05 CLEANING

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

Table 1 – Minimum Sizes for FenceTrac Posts

<u>Fence Posts (Steel)</u>	<u>Panel Height</u>		
2-1/2" x 16 Ga.	Up to & Including 6' Height for Residential Applications		
2-1/2" x 14 Ga.	Up to & Including 6' Height for Residential Applications		
2-1/2" x 12 Ga.	Up to & Including 8' Height for Residential Applications		
3" x 12 Ga.	Up to & Including 8' Height for Commercial Applications		
4" x 11 Ga.	Up to & Including 8' Height for Commercial Applications		
<u>Gate Leaf</u>	<u>Gate Height</u>		
	<u>Up to & Including 6'</u>	<u>Over 6' Up to & Including 8'</u>	
Up to 4'	2-1/2" x 14Ga.	3" x 12 Ga.	
4'1" to 6'	3" x 12Ga.	3" x 12 Ga.	
6'1" to 8'	4" x 11 Ga.	4" x 11 Ga.	

Table 2 – Coating Performance Requirements

<u>Quality Characteristics</u>	<u>ASTM Test Method</u>	<u>Performance Requirements</u>
Adhesion	D3359 – Method B	Adhesion (Retention of Coating) over 90% of test area (Tape and knife test).
Corrosion Resistance	B117, D714 & D1654	Corrosion Resistance minimum 1,000 hours (Scribed per D1654; failure mode is accumulation of 1/8" coating loss from scribe or medium #8 blisters).
Impact Resistance	D2794	Impact Resistance over 60 inch lb. (Forward impact using 0.625" ball).
Weathering Resistance	D822 D2244, D523 (60° Method)	Weathering Resistance over 1,000 hours (Failure mode is 60% loss of gloss or color variance of more than 3 delta-E color units).