

**ITEM 607.7032 06 - ORNAMENTAL PICKET FENCE WITH TUBULAR STEEL PICKETS**

**DESCRIPTION:**

This work shall consist of furnishing and installing Ornamental Picket Fence with Tubular Steel Pickets as shown on the Contract Plans, as directed by the Engineer and in accordance with the specifications.

**MATERIALS:**

Materials shall conform to the following requirements.

*Pickets:*

25mm, 14 gauge square tubular steel shall meet the requirements of ASTM A-36M and be galvanized in accordance with Section 719 (Metal Coatings) of the Standard Specifications. Pickets shall be spaced 100mm maximum face to face.

*Rail:*

38mm X 35mm X 38mm, 11 gage (3.05mm thick) steel channel shall meet the requirements of ASTM A-653M or ASTM A-607M and shall be galvanized in accordance with Section 719 (Metal Coatings) of the Standard Specifications. Punch rails to receive pickets and attach rails to rail brackets with 2 each 6mm Industrial Drive Rivets.

*Posts:*

64mm, 14 gauge (1.90 mm thick) square steel tubular members shall meet the requirements of ASTM A-500M or A-501M and ASTM A-36M respectively and be galvanized in accordance with Section 719 (Metal Coatings) of the Standard Specifications.

*Accessories:*

*Rail Attachment Brackets:* Die cast of zinc meeting the requirements of ASTM B86. Rail and socket design shall be capable of 30-degree swivel (up/down and left/right). Bracket shall fully encapsulate rail end for complete security.

*Industrial Drive Rivets:* 6mm rivets of sufficient length to attach items in a secure non-rattling position. Rivet shall have a minimum of 4895N holding power and a shear strength of 6675N.

*Ornamental Picket Fence Accessories:* Provide indicated items required to complete fence system, as shown on Contract Plans. Galvanize each ferrous metal item in accordance with ASTM B695 and finish to match framing.

*Post Caps:* Formed steel, cast of malleable iron or aluminum alloy, weather tight closure cap. Provide one standard style (see Contract Plans) post cap for each post.

*Picket Tops:* Imperial top style. Pickets terminate inside top rail.

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*Rings:* Cast aluminum. Attach ring to top rail by inserting mounting blocks into top rail and riveting through side of rail using 6 mm industrial drive rivet. Hold bottom of ring in place by dowel that protrudes from ring through pre-drilled hole in bottom rail.

*Concrete:*

Concrete for footings shall meet the requirements of subsection 501-2. Concrete shall be Class A.

*Finish:*

All pickets, channels, posts, fittings and accessories shall be given a polyester resin based powder coating. Color shall be black and approved by the Engineer.

*Shop Drawings:*

Shop drawings shall be prepared for the Ornamental Picket Fence supplied as part of this work. The shop drawings shall be prepared in accordance with the N.Y.S. Steel Construction Manual and submitted to the Engineer for approval at least 45 working days prior to fabrication.

**CONSTRUCTION DETAILS:**

*Fabrication:*

The Ornamental Picket Fence shall be fabricated to the requirements shown on the Contract Plans and in compliance with these specifications.

*Finishing:*

All pickets, channels, posts, fittings and accessories shall be given a polyester resin based powder coating individually after drilling and layout to ensure maximum corrosion protection. (Coating of assembled sections is unacceptable) All components shall be given a 4 stage "Power Wash" pre-treatment process that cleans and prepares the galvanized surfaces to assure complete adhesion of the finish coat. After surface preparation, all metal shall be given a polyester resin based powder coating applied by the electrostatic spray process, to a thickness of 2.5 mils (0.0635mm). The finish shall then be baked in a 230 degree Celsius (metal temperature) oven for 20 minutes.

*Inspection:*

Prior to installation, the Ornamental Picket Fence shall be inspected for damage, bends or kinks in the railing not specifically called for in the Contract Documents. Any of these defects shall constitute sufficient cause for rejection. Straightening of such bends or kinks shall not be allowed. The Engineer may order some bending or curving to allow for minor adjustments.

*Installation:*

The Contractor shall install fence posts in concrete footings, uniformly spaced at 2.356m, as indicated on Contract Plans. Drill hole in firm, undisturbed or compacted soil. Holes shall have

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diameter four times greater than nominal outside dimension of post and depths approximately 150 mm deeper than post bottom. Excavate deeper as required for adequate support in soft and loose soils, and for posts with heavy lateral loads. Place concrete around each post in a continuous pour, while maintaining vertical and top alignment. Trowel finish top of footings around posts and slope to direct water away from posts. Align fence panels between posts. Firmly attach rail brackets to posts with 6 mm bolt and lock nut, ensuring panels and posts remain plumb. Install post caps and other accessories to complete fence.

*Touch-Up-Painting:*

Any damage to the paint system shall be repaired in accordance with the manufacturers recommendations and approved by the Engineer.

**METHOD OF MEASUREMENT**

The quantity to be measured for payment under this item shall be the number of meters of railing measured along the centerline of railing anchorage between the limits shown on the Contract Plans and installed in accordance with the Contract Plans and these specifications.

**BASIS OF PAYMENT**

The unit price bid per linear meter of railing shall include the cost of furnishing all labor, materials and equipment necessary to complete the work, in accordance with the plans and specifications, to the satisfaction of the Engineer.

No payment shall be made for those railing pieces which are replacements for those railing pieces that have been rejected.