

SECTION 028320
CHAIN LINK FENCE

1. DESCRIPTION

This specification governs for the design, construction, and the requirements of the component parts and accessories for chain link fence.

2. MATERIALS

All materials shall meet the requirements as indicated below or as otherwise specified on the plans.

1. Fabric - The fabric width shall be as shown on the plans. The fabric shall be 9 gage wire woven into 2-inch mesh hot-dip galvanized after fabrication. Fabric 48 inches and under shall be furnished with knuckling at one selvage and twisting and barbing at the other. Fabric 60 inches high and over shall have twisting and barbing on both selvages. Except as herein provided, chain link fence fabric shall conform to the specifications of ASTM Designation: A392, Class I.
2. Barbed Wire - Barbed wire shall conform to ASTM A121, unless specified otherwise. Barbed wire shall consist of three strands of 12½ gage wire with 14 gage point barbs spaced approximately 5 inches apart. Galvanizing for barbed wire shall conform to ASTM Designation: A121, Class 2.
3. Posts, Braces and Gates - Steel pipe used for posts, braces and gate frames shall conform to the specifications of ASTM Designation: A120. Steel sections shall be of good commercial quality weldable steel. Posts, frames and braces shall be as specified below or as otherwise specified.

(a) Line Posts

1. 2-inch nominal diameter steel pipe.
2. 1⅞-inch 2¼-inch "H" section of high carbon steel; minimum weight 4.1 pounds per linear foot.

(b) End and Corner Posts

1. 2½" nominal diameter steel pipe.
2. 2½" square tubular steel; minimum weight 5.79 pounds per linear foot.

(c) Swing Gate Posts

Swing and gate posts shall conform to ASTM Designation: A120 and shall be in the following sizes:

<u>Pipe Size (O.D. Nominal)</u>	<u>Square (Tubular)</u>	<u>Gate Length</u>
2.875 in.	2.5 in.	Up to 6 feet
4.0 in.	3.0 in.	7 feet to 12 feet
6.625 in.	-	13 feet and above

(d) Gate Frames

Gate frames shall be standard heavy type, welded, watertight, rigid frame with adequate internal bracing and tension members to prevent sagging. Furnish hinges, latches, stops, keepers and similar items as approved. Gates to swing open 180 degrees with keepers to hold gates in open position. Furnish latches with provisions for padlocking. On gates of 4-foot length or less, provide latches that automatically engage when gate is swung shut. The size of gate frame members shall be as follows unless otherwise specified. Gates shall be provided with a positive means of maintaining the gate in the closed position.

<u>Use and Section</u>	<u>O. D. or Dimensions, Nominal</u>	
	<u>Round</u>	<u>Square</u>
Frame for fabric 6' and less, and leaf widths not exceeding 8'	1.66"	1.5"
Frame for fabric over 6' or gate leafs over 8' width	1.9"	2.0"
Internal braces	1.66"	1.5"
Top rails and post braces	1.66"	-

4. Top Rails - Top rails shall be 1.66 inches O.D. nominal tubular; lengths of not less than 18 feet conforming to ASTM Designation: A120 and shall be fitted with couplings for connecting the lengths into a continuous run. The couplings shall be not less than 6 inches long, with 0.070 inch minimum wall thickness, and shall allow for expansion and contraction of the rail. The top rail shall pass through the base of line post barbed wire extension arm and fasten securely to terminal posts.

5. Bracing - Bracing shall be provided for each gate, corner, pull and end post for use when top rail is omitted or with fabric over 6 feet, and shall consist of round tubular steel, 1.66 inches O.D. nominal conforming to ASTM Designation: A120. Bracing shall extend to each adjacent line post at approximately mid-height of the fabric. A truss consisting of a rod not less than 3/8 inch nominal diameter from the line post back to the gate, corner, pull or end post with a turnbuckle or other approved method of adjustment shall also be included.
6. Barbed Wire Extension Arm - Use standard 45 degree, 3 wire, barbed wire extension arms on posts, except end and gate posts on which use standard post top. Provide hole for top rail. Barbed wire extension arms shall conform to ASTM Designation: A153.
7. Tension Wire - If top rail is not specified, a top tension wire shall be provided. Spiraled or crimped tension wire shall be not less than #7 gage and shall conform to ASTM Designation: A116, Class 3. Ties or clips shall be provided for attaching each wire to the fabric at intervals not exceeding 2 feet.
8. Stretcher Bars - Stretcher bars shall not be less than 3/16 by 3/4 inch steel conforming to ASTM Designation: A153. Stretcher bars shall not be less than 2 inches shorter than the full height of the fabric with which they are used. One stretcher bar shall be provided for each gate and end post and two for each corner and pull post.
9. Ties, Bands or Clips - Ties of 9 gage steel wire shall be provided in sufficient number for attaching the fabric to all line posts at intervals not exceeding 15 inches.

Bands or clips of adequate strength shall be provided in sufficient number for attaching the fabric and stretcher bars to all terminal posts at intervals not exceeding 15 inches. Tension bands and brace bands shall be formed from flat or beveled steel and shall have a minimum thickness of 0.115 inch and a minimum width of 7/8 inch, and shall conform to ASTM Designation: A153.

3. CONSTRUCTION METHODS

Maximum post spacing shall be 10 feet unless specified otherwise. Concrete footings shall be Class "A" Concrete (see City Standard Specification Section 030020 "Portland Cement Concrete") of the following dimensions:

<u>Type of Post</u>	<u>Fabric Height</u>	<u>Hole Diameter</u>	<u>Hole Depth</u>	<u>Post Embedment</u>
Line	3'-4'	6"	24"	21"
Line	5'	8"	30"	27"
Line	6'-12'	9"	38"	36"
Terminal	3'-5'	10"	32"	30"
Terminal	6'-12'	12"	38"	36"

Erect fencing to follow natural ground surface, but adjust minor irregularities in grade as directed. Construct fence to true alignment.

4. MEASUREMENT AND PAYMENT

Unless otherwise specified on the Bid Form, chain link fence shall be measured by the linear foot of fence measured at the bottom of the fabric along the centerline of fence from center to center of terminal posts, excluding gates. Gates will be measured per each gate, complete in place.

Payment shall be by the linear foot, as measured above, for the height specified unless otherwise specified. Gates will be paid for as measured above and as described in the Bid Form unless otherwise specified. Payment shall be full compensation for furnishing and installing all materials, and for all labor, tools, equipment and incidentals required to construct the fence as required by the plans and these specifications.