



# PHOENIX FENCE

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## Specification #2 – HEAVY CAN/CGSB-138-96 compliant Galvanized Wire

## CHAIN LINK FENCE

April 2002

### 1. GENERAL

#### 1.1 SCOPE

Supply only or supply and installation of chain link fence.

### 2. PRODUCTS

#### 2.1 CHAIN LINK FABRIC: conforming to CAN/CGSB-138.1-96

2.1.1 Manufactured from the highest quality zinc coated wire in accordance with CAN/CGSB-138.1-96, Type 1, Class B, medium style, Grade 1 or Grade 2.

2.1.2 Nominal wire diameter: 3.5 mm (9-gauge)  
Mesh size: 50 mm (2 inch)  
Fabric height: 0.9 m – 3.65 m (3' – 12')  
Coating: Zinc – Grade 1 366 g/m<sup>2</sup> (1.2 oz/ft<sup>2</sup>)  
Zinc – Grade 2 490 g/m<sup>2</sup> (1.6 oz/ft<sup>2</sup>)

2.1.3 Selvage: twisted or knuckled top and knuckled bottom.

#### 2.2 FENCE FRAMEWORK: conforming to CAN/CGSB-138.2-96

2.2.1 Posts and Rails: hot-dip galvanized cold rolled welded steel pipe (ASTM A53, Grade A, Schedule 40), zinc-coated at minimum 550 g/m<sup>2</sup>, and with the following minimum dimensions:

Top Rail:	
Outside diameter (OD)	42.2 mm (1 5/8") - 3.56 mm (.140") wall

Line post:	
Outside diameter (OD)	
- Fabric height under 1.8 m (6')	48.3 mm (1 7/8") – 3.68 mm (.145") wall
- Fabric height between 1.8 m (6') and 2.4 m (8')	60.3 mm (2 3/8") – 3.91 mm (.154") wall
- Fabric height over 2.4 m (8')	73.0 mm (2 7/8") – 5.16 mm (.203") wall
Length	762 mm (30") longer than height of fabric

Terminal post – end and corners:	
Outside diameter (OD)	
- Fabric height under 1.8 m (6')	73.0 mm (2 7/8") – 3.68 mm (.145") wall
- Fabric height between 1.8 m (6') and 2.4 m (8')	88.9 mm (3 1/2") – 5.49 mm (.216") wall
- Fabric height over 2.4 m (8')	114.3 mm (4 1/2") – 6.02 mm (.237") wall
Length	
- Fence without barbed wire and corner posts for fence with barbed wire	1.066 m (42") longer than height of fabric
- Fence with barbed wire	1.372 m (54") longer than height of fabric



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Terminal post - gates:	
Outside diameter (OD)	
-Gate with panel length* under 3.0 m (10')	88.9 mm (3 1/2") – 5.49 mm (.216") wall
-Gate with panel length* between 3.0 m (10') and 4.5 m (15')	114.3 mm (4 1/2") – 6.02 mm (.237") wall
-Gate with panel length* between 4.5 m (15') and 7.5 m (25')	168.3 mm (6 5/8") – 7.11 mm (.280") wall
Length	
- Fence without barbed wire	1.066 m (42") longer than height of fabric
- Fence with barbed wire	1.372 m (54") longer than height of fabric

\* Panel length is opening size for single swinging gates and one half of opening size for double swinging gates.

2.2.2 Bottom Tension Wire: 3.5 mm (9-gauge) galvanized steel wire, zinc-coated to match chain link fabric, attached at 600 mm (2') intervals.

**2.3 BARBED WIRE OVERHANG:** may be specified in the work item only for fences 1.8m (6') or higher.

2.3.1 End, Corner and Gate Posts: End and gate posts to be 1.372 m (54") longer than fabric height when barbed wire overhang is specified. Corner posts to be 1.066 m (42") longer than fabric height with corner barber wire arms when barbed wire overhang is specified.

2.3.2 Barb Arms: with eyes to hold top rail; to hold 3 strands of barbed wire, top strand to be 300 mm (12") above fabric; vertical or at 45° overhang, as specified.

2.3.3 Barbed Wire: conforming to ASTM A121, with 3 strands, 2 wires each strand; each wire 2.5 mm diameter (12.5-gauge), zinc-coated at minimum 245 g/m<sup>2</sup> (Class 3). Barbs to have 4 points at 150 mm (6") maximum spacing.

**2.4 GATE:**

2.4.1 Gate Fabric: to match fence fabric in 2.1.1

2.4.2 Gate Frame: 42.2 mm (1 5/8") OD for panels up to 3.0 m (10') in length, 48.3 mm (1 7/8") OD for panels over 3.0 m (10') in length; electrically welded at all joints.

2.4.3 Gate Fittings: galvanized steel industrial hinges allowing an opening of at least 90°, drop pin latch with provision for padlock. Both latch and padlock accessible from both sides.

2.4.4 Double Gate: complete with one foot bolt.

2.4.5 Gate Barbed Wire: if required, to match fence barbed wire.



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**2.5 FITTINGS:** conforming to ASTM F626 as follows:

	Minimum Dimensions (mm)	Minimum Zinc Coating	Material
Post cap and rail end	N/A	366 g/m <sup>2</sup> (1.2 oz/ft <sup>2</sup> )	Pressed steel, cast iron or die cast aluminum
Top rail sleeve	150 long	366 g/m <sup>2</sup> (1.2 oz/ft <sup>2</sup> )	Round steel tubing
Tie wire	3.5 dia. (9-gauge)	N/A	Aluminum
Tension & brace bands	2.0 thick x 19.0 wide	366 g/m <sup>2</sup> (1.2 oz/ft <sup>2</sup> )	Pressed steel
Tension bar	4.75 x 19.0	366 g/m <sup>2</sup> (1.2 oz/ft <sup>2</sup> )	Steel strip
Barb arm	2.0 thick (14-gauge)	366 g/m <sup>2</sup> (1.2 oz/ft <sup>2</sup> )	Pressed steel

**2.6 CONCRETE FOR POST FOOTING:** 20.0 mpa at 28 days

### 3. EXECUTION

#### 3.1 SITE PREPARATION

3.1.1 Necessary site clearing and grading will be done by others unless specified.

#### 3.2 POST LOCATION

3.2.1 Line Posts: set not more than 3.05 m (10') apart, measured parallel to the ground surface.

3.2.2 Corner Posts: set where change in alignment is greater than 10°.

3.2.3 Gate Posts: set on both sides of gate opening.

3.2.4 End Posts: set at end of fence.

#### 3.3 POST SETTING

3.3.1 Post Hole: Drilled to the following minimum diameters and depths.

Pipe diameter	Hole diameter	Depth of Hole
60.3 mm (2 3/8")	250 mm (10")	914 mm (36")
73.0 mm (2 7/8")	300 mm (12")	1143 mm (45")
88.9 mm (3 1/2")	350 mm (14")	1371 mm (54")
114.3 mm (4 1/2")	450 mm (18")	1524 mm (60")

3.3.2 Concrete footing: Concrete is placed in post hole and post is embedded.



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### 3.4 TOP RAIL

3.4.1 Top rail is supported at each line post with a line post cap so that a continuous brace is formed between terminal posts. Rails are joined with sleeves to allow for expansion and contraction.

3.4.2 Top rail is securely fastened to terminal posts using rail ends and brace bands.

### 3.5 TERMINAL POST BRACING

3.5.1 Bracing installed from end and gate posts to nearest line post at midpanel and parallel to top rail. Note: Bracing not required for fences 1.83 m (6') or under.

3.5.2 Braces installed on both sides of corner posts in a similar manner.

3.6 **BOTTOM TENSION WIRE:** installed within the bottom 150 mm (6") of fabric. Wire is stretched taut and free of sag, fastened securely to end, corner, gate and straining posts. Hog rings are used to fasten wire to the fabric at 600 mm (24") spacing.

### 3.7 CHAIN LINK FABRIC

3.7.1 Fabric is placed outside of area to be enclosed.

3.7.2 Fabric is stretched to recommended tension and fastened to end, corner and gate posts using a tension bar and tension bands at 300 mm (12") spacing.

3.7.3 Fabric is secured with tie wire to line posts at 300 mm (12") spacing and top rail at 450 mm (18") spacing.

3.7.4 Installed fabric shall have a smooth, uniform appearance free of sag, dent and bulge.

### 3.8 BARBED WIRE OVERHANG

3.8.1 If barbed wire is specified, barb arms are installed in lieu of caps on top of line posts. Overhang is positioned towards area enclosed, unless otherwise directed.

3.8.2 Each barbed wire strand is stretched taut and free of sag, firmly attached into slots of barb arms and secure to end and gate posts

3.9 **WORKMANSHIP:** the installed chain link fence shall be free of any defect or imperfection that can affect its serviceability and appearance. The fence shall follow the ground contours smoothly without sharp changes in grade.

**END OF SECTION**