



MATERIAL SPECIFICATION FOR CHAIN-LINK FENCE COMPONENTS

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1541.01 SCOPE

This specification covers the requirements for chain-link fence components and hardware.

1541.02 REFERENCES

This specification refers to the following standards, specifications, or publications:

Ontario Provincial Standard Specifications, Construction

OPSS 772 Chain-Link Fence

Canadian General Standards Board (CGSB)

138.1-96 Fabric for Chain Link Fence
138.2-96 Steel Framework for Chain Link Fence
138.4-96 Gates for Chain Link Fence

ASTM International

A 27M-10 Steel Casting, Carbon, for General Application
A 153/A 153M-09 Zinc Coating (Hot-Dip) on Iron and Steel Hardware
A 824-01 (R2007) Metallic-Coated Steel Marcellled Tension Wire for Use With Chain-Link Fence

1541.03 DEFINITIONS

For the purpose of this specification, the definitions in OPSS 772 apply.

1541.05 MATERIALS

1541.05.01 Fence Fabric

The fence fabric shall be 1,200 or 1,800 mm wide according to the Contract Documents, with a uniform 50 mm diamond pattern chain-link mesh closed at one edge by knuckling and at the other edge by twisting.

The steel wire for chain-link fence fabric shall be according to CAN/CGSB 138.1. The fence fabric shall be one of the types listed in Table 1.

The vinyl coating for wire fabric shall be black in colour.

1541.05.02 Posts and Rails

All posts, post sleeves, and rails shall be galvanized steel pipe or roll-formed steel shapes. Galvanized steel pipe and shall be according to CAN/CGSB 138.2. Roll-formed steel shapes shall be according to ASTM F 1043.

When vinyl-coated fence fabric is used, all posts, post sleeves, and rails shall be vinyl-coated to match the class and colour of the vinyl-coated fence fabric and shall be according to CAN/CGSB 138.1.

1541.05.03 Diagonal Wire Braces, Top and Bottom Wires for use with Galvanized Steel Fence Fabric

Top wire, bottom wire, and diagonal wire braces shall be 4.50 mm diameter marcelled tension wire Type II according to ASTM A 824 with a minimum Class 5 galvanized coating.

1541.05.04 Diagonal Wire Braces, Top and Bottom Wires for use with Vinyl-Coated Fence Fabric

Top wire, bottom wire, and diagonal wire braces shall be 4.50 mm diameter marcelled tension wire Type II according to ASTM A 824 with a minimum Class 3 galvanized coating. The wire shall be vinyl-coated to match the class and colour of the vinyl-coated fence fabric and shall be according to CAN/CGSB 138.1

1541.05.05 Gates

Gates shall be constructed from galvanized steel pipe frames and braces according to CAN/CGSB 138.4. All joints shall be electrically welded and coated with a zinc rich paint after welding.

When vinyl-coated fence fabric is used, gate frames and braces shall be vinyl-coated to match the class and colour of the vinyl-coated fence fabric and shall be according to CAN/CGSB 138.1.

1541.05.06 Fittings

Tension bars, tension bands, brace bands, top rail sleeves, and rail ends shall be according to ASTM F 626.

Barbed wire arms shall be fabricated from galvanized pressed steel or cast iron according to CAN/CGSB 138.2 or ASTM F 626.

Terminal and line post caps shall be according to ASTM F 626.

When vinyl-coated fence fabric is used, the fittings shall be vinyl-coated to match the class and colour of the vinyl-coated fence fabric and shall be according to CAN/CGSB 138.1

1541.05.07 Hardware

All required hardware including, but not limited to carriage bolts and nuts, shall be hot dip galvanized according to ASTM A 153.

1541.05.08 Fasteners

Wire ties for attaching fence fabric to line posts, bottom wires, top rails, and top wires shall be according to ASTM F 626.

1541.05.08.01 Fasteners for Galvanized Steel Fence Fabric

Wire ties for attaching fence fabric to line posts and top rails shall be manually fastened round wire ties, 3.76 mm diameter steel wire, with a minimum 488 g/m² galvanized coating or power fastened round wire ties, 3.76 mm diameter steel wire, with a minimum of 488 g/m² galvanized coating.

Wire ties for attaching fence fabric to bottom or top wires shall be round wire hog rings, 2.69 mm diameter steel wire, with a minimum 488 g/m² galvanized coating.

1541.05.08.02 Fasteners for Vinyl Coated Fence Fabric

Wire ties for attaching fence fabric to line posts and top rails shall be manually fastened round wire ties, 3.76 mm diameter zinc or aluminum coated steel core wire, with a vinyl coating or power fastened round wire ties, 3.76 mm diameter zinc or aluminum coated steel core wire, with a vinyl coating.

Wire ties for attaching fence fabric to bottom or top wires shall be round wire hog rings, 2.69 mm diameter zinc or aluminum coated steel core wire, with a vinyl coating.

Fasteners shall be vinyl-coated to match the class and colour of the vinyl-coated fence fabric and shall be according to CAN/CGSB 138.1.

1541.05.09 Turnbuckles

Turnbuckles shall be drop forged steel according to ASTM A 27 and shall be galvanized according to ASTM A 153.

The average overall length shall be approximately 300 mm with ends in the closed position. Bolt diameter shall be approximately 10 mm and capable of taking up a minimum of 150 mm slack.

1541.05.10 Barbed Wires

Barbed wires shall be according to CAN/CGSB 138.2.

1541.07 PRODUCTION

1541.07.01 Gates

All gates shall be supplied with galvanized malleable iron or pressed steel hinges, latch, and latch catch and shall be capable of opening approximately 180 degrees. Gate latches shall be suitable for use with padlocks that can be attached and operated from either side of the gate.

Gates shall be supplied completely assembled, including the fabric. The gate fabric and wire ties used on the gate shall match the adjacent fence fabric and be subjected to the same quality requirements.

**TABLE 1
Fence Fabric**

Type	Nominal Diameter of Zinc-Coated Wire mm	Minimum Weight of Galvanized Coating g/m²	Nominal Diameter of Vinyl-Coated Wire mm	Minimum Wire Breaking Strength N	Standard
Class B - Zinc-Coated Galvanized Before Weaving (WGW) Steel Fabric	3.5	488	n/a	5000	CAN/CGSB 138.1
Class D - Vinyl-Coated Steel Fabric	3.5	90	4.26	5000	CAN/CGSB 138.1