

Polyvinyl Chloride (PVC)

Coated Steel Chain Link Fence Fabric / Class 2a - Extruded and Adhered ASTM F668, Federal Specification RR-F-191/1F Type IV, AASHTO M-181 Type IV, Class A

1. PRODUCT NAME

Extruded and Adhered Polyvinyl Chloride (PVC) Coated Steel Chain Link Fence Fabric

2. MANUFACTURER

Merchants Metals

Manufacturing Locations:

Statesville, NC 28677

165 Fanjoy Road

Phone: (800) 438-7016

Fax: (704) 873-1313

Houston, TX 77093

4901 Langley Road

Phone: (800) 723-3623

Fax: (713) 697-5806

Mexicali, CP

Circuito Las Misiones Este #137

Mexicali, CP 211394

Phone: 011-52-686-906-8900

Fax: 011-52-686-592-1193

3. PRODUCT DESCRIPTION

Basic Use:

Extruded and adhered fabric is a bonded vinyl; high strength galvanized steel chain link fence fabric for industrial, commercial, and institutional applications. Extruded and adhered fabric is contained in local, state and federal government specifications for use in prison, road, dock, airport, housing, forestry, and military use

Composition and Materials:

The galvanized steel core wire for producing extruded and adhered PVC coated steel chain link fence fabric is produced by cold-drawing good commercial grade steel rod into wire of the appropriate diameter. The steel rod from which the wire is drawn is pro-diced by the open hearth, electric furnace or basic oxygen process. The galvanized coating is produced by passing the cleaned wire through a bath of molten zinc which conforms to ASTM B6.

The extruded and adhered PVC coating is produced by first applying a molecular bonding agent to the galvanized core wire to eliminate slippage of the PVC. A coating of PVC up to 0.025 in. (0.64 mm) is then pressure bonded to the wire.

Standards:

ASTM B6 Slab Zinc

ASTM F567 Installation of Chain Link Fence

ASTM F668 Polyvinyl Chloride (PVC) and Other Organic Polymer- Coated Steel Chain Link Fence Fabric, Class 2a

Federal specification RR-F-191/1F Chain Link Fabric, Type IV

American Association of State

Highway Transportation Officials

(AASHTO) M-181 Chain Link Fence, Type IV, Class A

4. TECHNICAL DATA

General:

The manufacturer, if requested, will supply samples and certification that all materials comply with the appropriate specifications.

Chain Link Fence Fabric:

The base metal of the chain link fence fabric is composed of commercial quality, medium-carbon galvanized (zinc coated) steel wire. The vinyl coating is continuously bonded over the galvanized wire by the extrusion-bonding process. A bonding pressure to 5 ksi (34 MPa) ensures a dense and impervious coating free of voids, as well as a smooth and lustrous surface appearance. Vinyl coating thickness, galvanized coating weight, and wire tensile strength conform to ASTM F668, Class 2a, Federal specification RR-F-191 Type IV, and AASHTO M-181 Type IV, Class A, as shown in **Table 1**. The wire is PVC coated before weaving and is free and flexible at all joints. Unless otherwise specified, fabric woven in 2 in. (50 mm) mesh, under 72 in. (1,830 mm) in height, is knuckled at both selvages; fabric 72 in. (1,830 mm) high and over is knuckled at one selvage and twisted at the other. All fabrics woven into meshes under 2 in. (50 mm) have both selvages knuckled. See **Table 2**.

Wire Coating:

Only plasticized polyvinyl chloride (PVC) with a low temperature (-20°C; -4°F) plasticizer and no extenders or extraneous matter other than the necessary stabilizers and pigments, is used. The PVC coating resists attack from prolonged exposure to dilute solutions of most common mineral

acids, seawater, and dilute solutions of most salts and alkali. Properties of PVC used for coating are in **Table 3**.

ASTM Color System:

Standard colors conform to ASTM F934 and include:

	Dark Green	Black
L	28.61	22.30
A	-12.59	-0.09
B	1.95	-0.85

Other colors are available by special order.

Coating Adhesion:

The PVC coated wire shall pass the test for adhesion contained in ASTM F668 for Class 2a chain link fabric.

5. INSTALLATION

Install fence in accordance with ASTM Practice F567. Handle all PVC coated material with care. If PVC coating is damaged during installation, contractor must replace or repair the material at own expense.

6. AVAILABILITY AND COST

Availability:

PVC-coated steel chain link fence fabric is available for shipment throughout the United States and worldwide.

Cost:

Material costs may vary depending on specific requirements. Costs may be obtained through all Merchants Metals Service Centers.

7. WARRANTY

Extruded and adhered PVC coated steel chain link fence fabric is warranted for 15 years against failure due to rust or corrosion.

8. MAINTENANCE

Periodic inspection is recommended but no routine maintenance is required.

9. TECHNICAL SERVICES

Specifications, drawings and other technical services are available through the Merchants Metals Technical Sales Department or your local Merchants Metals Service Center

Technical Sales Department:

Email: Tech-Info@merchantsmetals.com

Website: www.merchantsmetals.com

Polyvinyl Chloride (PVC)

Coated Steel Chain Link Fence Fabric / Class 2a - Extruded and Adhered
ASTM F668, Federal Specification RR-F-191/1F Type IV,
AASHTO M-181 Type IV, Class A

Table 1 – PVC-Coated Steel Wire Characteristics

Zinc Coated Core Wire Size			PVC "FINISHED" Wire Size	PVC Coated Wire Allowable Variance			Core Wire Zinc Coating Weight, min.		PVC Coating Thickness		Breaking Strength, min.		Tensile Strength, min.	
gauge	inch	mm	gauge	inch	mm	oz/ft ²	g/m ²	inch	mm	lbf	N	ksi	MPa	
9	0.148	3.76	6	±0.005	±0.13	0.30	92	0.015 to 0.025	0.038 to 0.64	1,290	5,740	75	515	
11	0.120	3.05	8	±0.005	±0.13	0.30	92			850	3,780	75	515	
14	0.080	2.03	11	±0.005	±0.13	0.25	76			380	1,690	75	515	

Note: Core wire sizes less than 0.120 inch (3.05 mm) are not contained in Federal specification RR-F-191 or AASHTO M-181.

When specifying projects, "Core" wire size is used to specify the PVC wire product. "Finished" wire size is a fence industry term and is not used when specifying PVC wire; however, it is provided herein as a reference. PVC chain link fabric specifications, ASTM F668, Federal Specification RR-F-191/1E, and AASHTO M181 specify the steel core as the wire gauge. The polymer coating applied to the steel core wire increases the outer diameter of the wire, thus increasing the area of closure and in turn increasing the wind load resistance. It is necessary to adjust from the steel core wire gauge to the coated outer diameter "finished" gauge for structural wind load calculations.

Table 2 – PVC Coated Chain Link Fabric Sizes

Mesh Size		Fabric Wire Height Inch (mm)	Selvage K-Knuckled, T-Twisted/Barbed	Roll Size	
inch	mm			ft	m
2 in.	50	36 – 240 (910 – 6,100)	KK, KT, TT	50	15.24
1 ¾ in.	44	36 – 240 (910 – 6,100)	KK Only	25	7.62
1 in.	25	36 – 144 (910 – 3,660)	KK Only	25	7.62

Maximum Security Mesh

⅝ in.	16	36 – 72 (910 – 1,830)	KK Only	25	7.62
½ in.	13	36 – 72 (910 – 1,830)	KK Only	25	7.62
⅜ in.	10	36 – 72 (910 – 1,830)	KK Only	25	7.62

Fabrics with other characteristics may be available. Contact the Merchants Metals Technical Sales Department or a Merchants Metals Service Center with specific requests.

Table 3 – Typical Vinyl (PVC) Properties

Test	Test Method	Value
Specific Gravity	ASTM D 792	1.30 ± 0.03
Hardness, Durometer	ASTM D 2240	A90 ± 5
Tensile Strength	ASTM D 412	2,600 ± 5%
Ultimate Elongation	ASTM D 412	275% ± 5%
Mandrel Bend Test, 10X mandrel	ASTM F 668	-20° F (-29° C)
Dielectric Strength, volt/mil	ASTM D 149	750
Compression cut-through, lbs	Bell Labs	1,500
Accelerated Aging Test	ASTM D 1499	1500 hrs. @145° F