

Polyvinyl Chloride (PVC)

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

1. PRODUCT NAME

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

2. MANUFACTURER

Merchants Metals

Manufacturing Locations:

New Paris, IN 46553

71347 County Road 23

Phone: (800) 831-4060

Fax: (219) 831-3515

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

3. PRODUCT DESCRIPTION

Basic Use:

Extruded PVC coated fabric is a PVC-coated, high strength galvanized steel chain link fence fabric for industrial, commercial, and institutional applications. Extruded 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 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 produced 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 PVC coating is produced by extruding PVC at a coating thickness up to 0.025 in. (0.64 mm) over a galvanized core wire.

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Standards:

ASTM B 6 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 1

Federal specification RR-F-191 Fencing, Wire and Post Metal (Chain Link Fence 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 applied over the galvanized wire by the extrusion process. The extrusion process 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 1, 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. **See Table 3.**

ASTM Color System:

Standard colors conform to ASTM F934 and include:

	Dark			
	Green	Brown	Black	
L	28.61	27.76	22.30	
A	-12.59	3.37	-0.09	
B	1.95	4.28	-0.85	

Other colors are available by special order.

5. INSTALLATION

Install fence in accordance with ASTM Practice 567. 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 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 Service Department:

Phone: (888) 260-1600 (toll free)

Fax: (888) 261-3600 (toll free)

E-mail: Tech-Info@merchantsmetals.com

Website: www.merchantsmetals.com

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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		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 F 668, 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

Technical Sales Department:
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E-mail: Tech-Info@merchantsmetals.com
Website: www.merchantsmetals.com

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