Polyvinyl Chloride (PVC) – Coated Steel Chain Link Fence Fabric / Class 1 – Extruded

ASTM F 668, Federal Specification RR-F-191 Type IV, AASHTO M-181 Type IV

1. PRODUCT NAME

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

2. MANUFACTURER

Brenton Manufacturing
5886 S. Okeepa Rd.
Casper, WY 82604

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 PVC coated fabric is contained in local, state, and federal government specifications for use in prison, road, dock, airport, housing, forestry, and military use.

Composition & 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 inches (0.64 mm) over a galvanized core 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 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 material 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-F191** 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 inch (50 mm) mesh, under 72 inches (1,830 mm) high and over can be knuckled at one selvage and twisted at he other. All fabrics woven into meshes under 2 inch (50 mm) will have selvages at both ends. 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	-.085

5. INSTALLATION

Install fence in accordance with **ASTM Practice 567.** Handle all PVC coated material with care. If PVC coating is damaged during installation, it is up to the contractor to replace or repair the material at their own expense.

6. AVAILABILITY & COST

Availability:
PVC-coated steel chain link fence fabric is available for shipment throughout the United States and worldwide.
Cost:
Materials costs may vary depending on specific requirements. Costs may be obtained by calling Brenton Manufacturing or one of their stocking dealers.

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. TECHINICAL SERVICES

Brenton Manufacturing
5142 Reserve Dr.
Evansville, WY 82636
307-277-5937

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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/ft²	g/m²	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
12	0.105	2.60	9	±0.005	±0.13	0.30	76			650	1,690	75	515

Note: Core wire sizes less than 0.120 inch (3.05mm) are not contained in Federal specifications RR-F-191 or ASHTO 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 as a user reference. PVC chain link fabric specifications, ASTM F668, Federal Specification RR-F-191/1E, and AASHTO M-181 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, B-Barbed	Roll Size	
inch	mm			ft	m
2 in.	50	36-144 (910-3660)	BK, KK	50	15.24
1-3/4 in.	44	36-144 (910-3660)	KK ONLY	25	7.62
1 in.	25	36-144 (910-3660)	KK ONLY	25	7.62

Maximum Security Mesh

5/8 in.	16	36-72 (910-1830)	KK ONLY	25	7.62
1/2 in.	13	36-72 (910-1830)	KK ONLY	25	7.62
3/8 in.	10	36-72 (910-1830)	KK ONLY	25	7.62

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	1,500 HRS. @ 145° F