



Poly (Vinyl Chloride) (PVC) Coated Steel Chain Link Fence Fabric

Class 2b – Fused and Adhered

ASTM F668, Federal Specification RR-F-191/1E Type IV, AASHTO M-181 Type IV Class B

Product Name: Fused and Adhered Poly(Vinyl Chloride) PVC Coated Steel Chain Link Fence Fabric.

Basic Use: Fused and adhered PVC coated fabric is a bonded vinyl, high strength galvanized steel chain link fence fabric for industrial, commercial and institutional applications. Fused 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 Material: 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 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 fused and adhered PVC coating is produced by first applying a thermoset bonding agent to the galvanized core wire to which the PVC is bonded. A coating of PVC 0.006" (.15mm) - .010" (.25 mm) is then fusion bonded to the wire.

Standards:

ASTM B6 – Slab Zinc

ASTM F567 – Installation of Chain Link Fence

ASTM F668 – Poly(Vinyl Chloride) (PVC) and Other Organic Polymer-Coated Steel

Chain Link Fence Fabric, Class 2b

Federal Specification RR-F-191K/1E – Fencing, Wire, and Post Metal (Chain Link Fence Fabric), Type IV

AASHTO M-181 – Chain Link Fence, Type IV, Class B

Technical Data:

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

Chain Link Fence Fabric: The vinyl coating is thermally bonded to a thermoset bonding layer over a galvanized steel wire. This process ensures a tightly adherent 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 2b. Federal Specification RR-F-191/1E Type IV, and AASHTO M-181 Type IV, Class B, 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" (50 mm) mesh, under 72" (1,830 mm) is knuckled at both selvages; fabric 72" (1,830 mm) high and over is knuckled at one selvage and twisted at the other. All fabrics woven into meshes under 2" (50 mm) have both selvages knuckled. Properties of PVC used for coating are in Table 3.

Wire Coating: Only plasticized poly(vinyl chloride) (PVC) with a low temperature (-20 C ; -4 C) 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 most common mineral acids, seawater, and dilute solutions of most salts and alkali. See Table II. The PVC coated wire shall pass the test for adhesion contained in ASTM F668 for Class 2b chain link fabric.

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.

Maintenance : Periodic inspection is recommended but no routine maintenance is required.

Poly(Vinyl Chloride) (PVC)- Coated Steel Chain Link Fence Fabric

FUSED AND ADHERED

ASTM F668 Class 2b, Federal specification RR-F-191/1E Type IV, AASHTO M-181 Type IV, Class B

Table 1 – PVC Coated Steel Wire Characteristics

| Zinc Coated Core Wire Size | | | PVC Coated Finished Wire Size | PVC Coated Wire Allowable Variance | | Core Wire Zinc Coating Weight, min. | | PVC Coating Thickness | | Breaking Strength, minimum | | Tensile Strength, min | |
|----------------------------|-------|------|-------------------------------|------------------------------------|-------|-------------------------------------|------------------|-----------------------|--------------|----------------------------|---------|-----------------------|-----|
| Gage | Inch | mm | Gage | Inch | mm | Oz/ft ² | g/m ² | Inch | mm | lbf | Newtons | ksi | MPa |
| 6 | 0.192 | 4.88 | 5 | ±0.005 | ±0.13 | 0.40 | 122 | 0.006 to 0.010 | 0.15 to 0.25 | 2,170 | 9,650 | 75 | 515 |
| 9 | 0.148 | 3.76 | 8 | ±0.005 | ±0.13 | 0.30 | 92 | | | 1,290 | 5,740 | 75 | 515 |
| 10 | 0.135 | 3.43 | 9 | ±0.005 | ±0.13 | 0.30 | 92 | | | 1,290 | 5,740 | 90 | 620 |
| 11 | 0.120 | 3.05 | 10 | ±0.005 | ±0.13 | 0.30 | 92 | | | 850 | 3,780 | 75 | 515 |
| 12 | 0.105 | 2.67 | 11 | ±0.004 | ±0.10 | 0.30 | 76 | | | 650 | 2,890 | 75 | 515 |
| 14 | 0.080 | 2.03 | 13 | ±0.004 | ±0.10 | 0.25 | 76 | | | 380 | 1,690 | 75 | 515 |

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

Table 2 – PVC Coated Chain Link Fabric Sizes

| Mesh Size | Finished Wire Gage | Fabric Wire Height Inch | Selvage K- Knuckled, T-Twisted/Barbed | Roll Size |
|-----------|--------------------|-------------------------|---------------------------------------|-----------|
| Inch | | | | ft |
| 2" | 5 | 36" – 240" | KK only | 25' |
| 2" | 8, 9, 10 | 36" – 240" | KK, KT, TT | 50' |
| 1 3/4" | 8, 9, 10 | 36" – 240" | KK only | 25' |
| 1" | 8, 9, 10 | 36" – 144" | KK only | 25' |

Maximum Security Mesh:

| | | | | |
|------|----------|------------|---------|-----|
| 5/8" | 8, 9, 10 | 36" – 120" | KK only | 25' |
| 5/8" | 11, 13 | 36" – 72" | KK only | 25' |
| 1/2" | 9, 10 | 36" – 96" | KK only | 25' |
| 1/2" | 11, 13 | 36" – 96" | KK only | 25' |
| 3/8" | 10 | 36" – 96" | KK only | 25' |
| 3/8" | 13 | 36" – 72" | KK only | 25' |

Table 3 – Typical Vinyl 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 D 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 |