# POLY (VINYL CHLORIDE) (PVC) COATED STEEL CHAIN LINK FENCE FABRIC

## Class 2a - Extruded and Bonded
## ASTM F668, Federal Specification RR-F-191/1E Type IV, AASHTO M-181 Type IV, Class A

**Product Name:** Extruded and Bonded Poly(Vinyl Chloride) PVC Coated Steel Chain Link Fence Fabric.

**Basic Use:** Extruded and bonded PVC coated fabric is a bonded vinyl, high strength galvanized steel chain link fence fabric for industrial, commercial and institutional applications. Extruded and bonded 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 bonded 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 and bonded coating is produced by first applying a molecular bonding agent to the galvanized core wire to eliminate the slippage of the PVC. A coating of PVC 0.015" (0.38mm) - 0.025" (0.64mm) is then pressure 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 2a
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 A

## 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 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-191/1E 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" (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 coatings 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 2a 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.

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EXTRUDED AND BONDED
ASTM F668 Class 2a, Federal Specification RR-F-191/1E Type IV, AASHTO M-181 Type IV, Class A

**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/ft² | g/m² | Inch | mm | lbf | Newtons | ksi | MPa |
| 9 | 0.148 | 3.76 | 6 | ±0.005 | ±0.13 | 0.30 | 92 | 0.015 to 0.025 | 0.38 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" (3.05 mm) are not contained in Federal specification RR-F-191 or AASHTO M-181

**Table 2 - PVC Coated Chain Link Fabric Recommended Usage**

| Mesh Sizes Available | Nominal Core Wire Size | Nominal Finish Wire Size | Selvage** | Recomended Use | Standard Heights of Fence Fabric |
|---|---|---|---|---|---|
| inch | gauge | gauge | | | inch |
| 2" | 11 | 8 | KK, KT, TT | Residential/Light Commercial | 36" - 144" |
| 2" | 9 | 6 | KK, KT, TT | Residential, Commercial,Industrial | 36" - 144" |
| 1-3/4" | 11 | 8 | KK | Tennis Court | 120" - 144" |
| 1-3/4" | 9 | 6 | KK | Heavy Commercial, Industrial | 120" - 144" |
| 1-1/4" | 11 | 8 | KK | Residential, Swimming Pool | 36" - 144" |
| 1-1/4" | 9 | 6 | KK | Industrial | 36" - 144" |
| 1" | 11 | 8 | KK | Heavy Industrial, Security | 36" - 144" |
| 1" | 9 | 6 | KK | Security | 36" - 144" |
| 3/4" | 11 | 8 | KK | Heavy Security, Anti-Climb | 36" - 144" |
| 5/8" | 11 | 8 | KK | | 36" - 144" |

**Selvage KK - Knuckle top and bottom
TT - Twist top and bottom
KT - Twist top and Knuckle bottom

**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 |