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Version: 04/04

MERCHANTS METALS

The First Name In Fence



ARMORLINK[®]

Aluminized Steel Chain Link Fence Fabric

- Meets ASTM A491 Aluminum Coated Steel Chain Link Fence Fabric
- Meets AASHTO M-181, Type II
- Meets Federal specification RR-F-191/1, Type II
- Carries a 25-Year Warranty Against Failure Due to Rust or Corrosion

MERCHANTS METALS



Merchants Metals is the largest producer of hot dipped galvanized, aluminum coated and vinyl coated chain link fence systems in the U.S. For over 50 years, we have been providing quality fence products to fencing professionals and architects.

In addition to chain link, Merchants Metals also manufactures a complete line of ornamental steel fencing which is available in both component and fully welded fence systems. Merchants Metals ornamental steel fence systems are manufactured to be one of the highest quality fence systems available today.

Merchants Metals also distributes a complete line of wood, ornamental aluminum and PVC fence systems from the finest manufacturers in the industry.

As an American owned and operated company Merchants Metals products are proudly manufactured and distributed through our 6 manufacturing plants and 47 Service Centers nationwide.

All Merchants Metals products are available through our exclusive Authorized Dealer network and other professional fence contractors. When you deal with a Merchants Metals Authorized Dealer, you can be assured you are dealing with a qualified fence professional, using only quality products backed by manufacturers' warranties.

So, whether your needs call for recreational, commercial or heavy industrial fencing, Merchants Metals has the perfect fence system to satisfy your perimeter security requirements.

Merchants Metals ArmorLink® Aluminum Coated Chain Link Fence Fabric

Merchants Metals ArmorLink® fence fabric begins with 100% American made carbon steel rod. The rod is drawn into wire, preheated, cleaned and fluxed. Commercially pure recyclable aluminum is then applied to the wire using a patented vertical hot-dip process. This state-of-the-art aluminizing process produces an exceptionally smooth coating that is bonded to the steel wire. The aluminized wire, which is sealed and protected against corrosive elements and pollution, is then woven into high-grade chain link fence fabric.



Industrial/Commercial Specification Projects

Hi-tensile strength coupled with a patented aluminizing process creates a strong, smooth and safe chain link. ArmorLink® industrial systems are specified for industrial and commercial specification projects such as power plants, high security, state and federal agencies, highways, bridges and severe marine installations.

Industrial/Commercial systems meet the strict specification requirements of the U.S. Federal Government, ASTM and AASHTO specifications.

Commercial/Recreational Projects

Lighter, more economical fabric gages with the same long-lasting, maintenance-free qualities. ArmorLink® commercial/recreational systems are specified for perimeter security fencing around industrial and office complexes, hospitals, airports, truck terminals and warehouses.

This system is also ideal for tennis court, golf course, playground, baseball and pool installations.



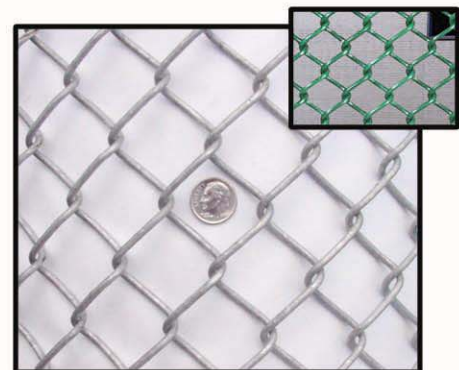
Light Commercial/Residential Projects

The perfect solution for lighter installations, ArmorLink® light commercial/residential systems enhance the overall look and feel of landscapes around home and light commercial projects.

Secure-Guard®

ArmorLink® is also available in Secure-Guard® high security fence fabric. Made in $\frac{3}{8}$ ", $\frac{1}{2}$ ", $\frac{5}{8}$ " and 1" mesh sizes, Secure-Guard® minimizes the possibility climbing or cutting and is designed for special security areas such as prisons, military facilities, industrial storage yards and pedestrian overpasses.

Aluminized strand can also be coated with PVC in accordance with ASTM F668, Class 2b (fused and adhered) to produce the finest color coated fabric in the fence industry. This product is available in most gages and mesh sizes.



Merchants Metals also offers a complete line of fittings to match all ArmorLink® systems.



Aluminum coated steel chain link fence fabric is covered by the following specifications.

Not all of the gages and mesh sizes listed in the tables below are contained in these specifications:

- ASTM A 491 – Aluminum-Coated Steel Chain Link Fence Fabric
- AASHTO M-181 Chain Link Fence – Type II
- Federal specification RR-F-191K/1D – Type II
- FAA Item F-162

Table 1. Aluminum-Coated Wire Characteristics

Nominal Coated Wire Diameter			Allowable Variance		Aluminum Coating Weight, minimum		Breaking Strength, minimum	
Gage	inch	mm	inch	mm	oz/ft ²	g/m ²	lbf	Newtons
6	0.192	4.88	+0.005	+0.13	0.40	122	2,170	9,650
9	0.148	3.76	+ 0.005	+0.13	0.40	122	1,290	5,740
10	0.135	3.43	+ 0.005	+0.13	0.40	122	1,290	5,740
11	0.120	3.05	+ 0.005	+0.13	0.35	107	850	3,780

Table 2. Aluminum-Coated Chain Link Fabric Characteristics – Suggested Uses

Recommended Use	Mesh Sizes Available		Nominal Coated Wire Size, gage	Height of Fence Fabric inch (mm)
	inch	mm		
Industrial/ Commercial	2"	50	6	36 (910), 42 (1,070), 48 (1,220), 60 (1,520), 72 (1,830), 84 (2,130), 96 (2,440), 108 (2,740), 120 (3,050), 144 (3,660)
			9	36 (910), 42 (1,070), 48 (1,220), 60 (1,520), 72 (1,830), 84 (2,130), 96 (2,440), 108 (2,740), 120 (3,050), 144 (3,660)
			10	36 (910), 42 (1,070), 48 (1,220), 60 (1,520), 72 (1,830), 84 (2,130), 96 (2,440), 108 (2,740), 120 (3,050), 144 (3,660)
			11	36 (910), 42 (1,070), 48 (1,220), 60 (1,520), 72 (1,830), 84 (2,130), 96 (2,440), 108 (2,740), 120 (3,050), 144 (3,660)
Industrial/ Security	1"	25	6	36 (910), 42 (1,070), 48 (1,220), 60 (1,520), 72 (1,830), 84 (2,130), 96 (2,440), 108 (2,740), 120 (3,050), 144 (3,660)
			9	36 (910), 42 (1,070), 48 (1,220), 60 (1,520), 72 (1,830), 84 (2,130), 96 (2,440), 108 (2,740), 120 (3,050), 144 (3,660)
Security	1"	25	9	36 (910), 42 (1,070), 48 (1,220), 60 (1,520), 72 (1,830), 84 (2,130), 96 (2,440), 108 (2,740), 120 (3,050), 144 (3,660)
	1"	25	11	36 (910), 42 (1,070), 48 (1,220), 60 (1,520), 72 (1,830), 84 (2,130), 96 (2,440), 108 (2,740), 120 (3,050), 144 (3,660)
	3/4"	19	9	36 (910), 42 (1,070), 48 (1,220), 60 (1,520), 72 (1,830), 84 (2,130), 96 (2,440), 108 (2,740), 120 (3,050), 144 (3,660)
	3/4"	19	11	36 (910), 42 (1,070), 48 (1,220), 60 (1,520), 72 (1,830), 84 (2,130), 96 (2,440), 108 (2,740), 120 (3,050), 144 (3,660)
	5/8"	16	9	36 (910), 42 (1,070), 48 (1,220), 60 (1,520), 72 (1,830), 84 (2,130), 96 (2,440), 108 (2,740), 120 (3,050), 144 (3,660)
	5/8"	16	11	36 (910), 42 (1,070), 48 (1,220), 60 (1,520), 72 (1,830), 84 (2,130), 96 (2,440), 108 (2,740), 120 (3,050), 144 (3,660)
	1/2"	13	9	36 (910), 42 (1,070), 48 (1,220), 60 (1,520), 72 (1,830), 84 (2,130), 96 (2,440), 108 (2,740), 120 (3,050), 144 (3,660)
	1/2"	13	11	36 (910), 42 (1,070), 48 (1,220), 60 (1,520), 72 (1,830), 84 (2,130), 96 (2,440), 108 (2,740), 120 (3,050), 144 (3,660)
	3/8"	10	10	36 (910), 42 (1,070), 48 (1,220), 60 (1,520), 72 (1,830), 84 (2,130), 96 (2,440), 108 (2,740), 120 (3,050), 144 (3,660)
	3/8"	10	11	36 (910), 42 (1,070), 48 (1,220), 60 (1,520), 72 (1,830), 84 (2,130), 96 (2,440), 108 (2,740), 120 (3,050), 144 (3,660)
Tennis Court	1-3/4"	44	9	36 (910), 42 (1,070), 48 (1,220), 60 (1,520), 72 (1,830), 84 (2,130), 96 (2,440), 108 (2,740), 120 (3,050), 144 (3,660)
			11	36 (910), 42 (1,070), 48 (1,220), 60 (1,520), 72 (1,830), 84 (2,130), 96 (2,440), 108 (2,740), 120 (3,050), 144 (3,660)

Notes to tables: Red text indicates conformance with ASTM A-491.

Industrial/Security/Commercial/Recreational Uses

(for Light Commercial Use see ASTM F1043 Figure 3)

- Type I – Sch 40 pipe: ASTM F1043-Group I-A, ASTM F1083, Federal specification RR-F-191/3D Class 1 Grade A, AASHTO M-181 Grade 1 and FAA Item F-162
- Type II – High strength pipe conforming to ASTM F1043-Group I-C, Federal specification RR-F-191/3D, AASHTO M181 Grade 2 and FAA Item F-162

Table 3. Selection of Fence Posts and Braces for Aluminum Coated Fabric

Fence Height	Pipe Outside Diameter		Pipe Nominal Weight			
			Type I		Type II	
6 ft. (1.8 m) or less:	inches	mm	lb/ft	kg/m	lb/ft	kg/m
End, corner and terminal posts	2.375	60.3	3.65	5.4	3.12	4.6
Line (intermediate) posts	1.900	48.3	2.72	4.1	2.28	3.3
Over 6 ft. (1.8 m) to 12 ft (3.7 m):						
End, corner and terminal posts	2.875	73.0	5.79	8.6	4.64	6.9
Line posts over 6 ft. (1.8 m) to 8 ft (2.4 m)	2.375	60.3	3.65	5.4	3.12	4.6
Line posts over 8 ft. (2.4 m)	2.875	73.0	5.79	8.6	4.64	6.9
Over 12 ft. (3.7 m)						
End, corner and terminal posts	4.000	101.6	9.10	13.5	6.56	9.8
Line (intermediate) posts	2.875	73.0	5.79	8.6	4.64	6.9
Rails & Braces, all heights	1.660	42.2	2.27	3.4	1.83	2.7

Specification for Aluminized Steel Chain Link Fence Fabric and Galvanized Framework Industrial / Security / Commercial / Recreational

SECTION 02825 (ALZD) Specification for Aluminized Steel Chain Link Fence Fabric and Galvanized Framework Industrial/Security/Commercial/Recreational

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Aluminum coated steel chain link fencing and galvanized steel accessories.
- B. References
 - ASTM
 - A121 Metallic-Coated Carbon Steel Barbed Wire
 - A491 Aluminum-Coated Steel Chain Link Fence Fabric
 - A817 Metallic Coated Steel Wire for Chain Link Fence Fabric and Marcellled Tension Wire
 - A824 Metallic-Coated Steel Marcellled Tension Wire for Use With Chain Link Fence
 - F576 Installation of Chain Link Fence
 - F626 Fence Fittings
 - F900 Industrial and Commercial Swing Gates
 - F1043 Strength and Protective Coatings on Metal Industrial Chain Link Fence Framework
 - F1083 Pipe, Hot-Dipped Zinc-Coated Galvanized Welded, for Fence Structures
 - F1184 Industrial and Commercial Horizontal Slide Gates
 - Other: Federal specification RR-F-191/1, Type II, AASHTO M181 Type II, FAA Item F-162

1.02 SUBMITTALS

- A. Changes in specifications may not be made after the published date of bid. All submittals of substitutions must be approved before bid date.
- B. Shop drawings of fences and gates with all dimensions, details, and finishes. Drawings must include post foundations.
- C. Product data: Manufacturer's catalog indicating materials and certification that all conditions of the specifications have been met.

PART 2 PRODUCTS

2.01 MANUFACTURER

- A. Chain link fences and gates must be obtained from a single source.
- B. Approved Manufacturer: Merchants Metals, 866-888-5611
 Main Office: 3838 N. Sam Houston Parkway E., Suite # 600, Houston, Tx. 77032

2.02 CHAIN LINK FENCE FABRIC (See Table 1 for wire selections and Table 2 for fabric selections)

- A. The steel wire of the gage selected to be used to manufacture the fabric shall be aluminum coated in accordance with the requirements of ASTM A817 as referenced in ASTM A491: [Select one] [6 ga] [9 ga] [10 ga] [11 ga] [14 ga] wire.
- B. Chain link fence fabric shall conform to ASTM A491 and shall be made of steel wire helically wound and interwoven in such manner as to provide a continuous mesh without knots or ties except in the form of knuckling or twisting the ends of the wire to form the desired selvage of the fabric.

Height: _____ feet (_____ mm)
 Mesh size: _____" (_____ mm)
 Coated wire diameter: _____" (_____ mm)
 Wire breaking strength: _____ lbf (_____ N)
 Selvage of fabric _____ top; _____ bottom

2.02 STEEL FENCE FRAME MEMBERS (See Table 3 for post selections.)

Select either Type I or Type II. Unless otherwise specified, all posts shall be of the same Type.

- A. Type I steel pipe (Schedule 40) shall conform to the requirements ASTM F1083 (ASTM F1043 Group IA). Zinc coating minimum average 1.8 oz/ft² (550 g/m²) of surface.
- B. Type II steel pipe produced in accordance with commercial standards. Minimum yield strength of 50,000 psi (344 MPa). Cold formed and welded per ASTM F1043 Group IC, Type B external and Type D internal coating.
- C. End, Corner or Pull Post _____ od (_____ mm) _____ lbs/ft (_____ kg/m) Line (intermediate) Post _____ od (_____ mm) _____ lbs/ft (_____ kg/m) Rail and Braces _____ od (_____ mm) _____ lbs/ft (_____ kg/m)

2.04 GATES

- A. Swing gates shall be in accordance with ASTM F900 and the project plans.
- B. Cantilever slide gates shall be in accordance with ASTM F1184 and the project plans.

2.05 FITTINGS

- A. Chain link fence fittings per ASTM F 626. All ferrous metal fittings to be galvanized.
- B. Barbed wire shall conform to ASTM A121.
- C. Tension wire shall conform to ASTM A824.

2.06 SETTING MATERIALS

- A. Concrete: Minimum 28 day compressive strength of 3,000 psi (20MPa).

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify areas to receive fencing are completed to final grades and elevations.
- B. Property lines and legal boundaries of work to be clearly established by the general contractor or property owner.

3.02 CHAIN LINK FENCE INSTALLATION

Install all components in accordance with ASTM F567.

3.05 CLEANING

Clean up debris associated with installation and remove from the site for proper disposal.



For Complete Specifications and Drawings, Contact: Technical Sales (888) 260-1600 Fax (888) 261-3600

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