

# HEAVY MIL VINYL BONDED COATINGS

## OVER GALVANIZED STEEL FENCE POSTS AND RAILS



## FENCE SPEC DATA SHEET

### BASIC USE

This Submittal Data Sheet covers Heavy Mil Bonded Vinyl coated fence framework such as end, corner and line posts and rails. This product is commonly used for commercial, industrial and institutional installations in both the private and public sectors such as airports, prisons, highway right-of ways, military bases, parks, schools and commercial sites.

### COMPOSITION AND MATERIALS

Our vinyl coated framework is manufactured in a unique process which results in a thermally fused Heavy Mil PVC coating, resulting in a durable bonded maintenance free product. The vinyl bonding process features a four-stage washing and rinsing cycle, drying cycle and curing/cooling cycle.

### FOUR-STAGE WASHING/RINSING

First Stage: Spray washing with a mild acid and ambient temperature water solution to assure a clean service.

Second Stage: Ambient temperature water spray rinse after acid wash.

Third Stage: Heated washing with a solution of iron phosphate and a proprietary cleaning formula which acts as an adhesion enhancer.

Fourth Stage: Final rinsing with water at ambient temperature.

### DRYING CYCLE

The material is immersed in a special water-based epoxy primer, then dried with forced air.

### PVC COATING APPLICATIONS

The material is heated in a natural gas fired oven to approximately 500°F (260°C). The product temperature is adjusted primarily by line speed to ensure the smooth flowout of the PVC coating and to maintain the primer coat integrity. The material is then dipped in a fluidized bed of PVC powder. The time in the fluidized bed is adjusted to the thickness of the material coated.

### CURING/COOLING

After PVC dipping, the material is hung on a conveyor to allow proper curing (uniform melt). For final cooling, the material is immersed in cold water until fully cool. After final inspection, the vinyl coated product is packaged and shipped.

### TECHNICAL DATA

Chain Link Framework: The base metal of the posts and rail are commercial steel conforming to ASTM F 1043 Group 1A or 1C, Heavy Industrial Fence. The thickness of the PVC coating is 0.010 – 0.015 in. per section 7.3.

Pipe Coating: Only plasticized Polyvinyl Chloride (PVC) with low temperature (-200°C; -40°F) plasticizer and no extenders or other extraneous matter, other than the necessary stabilizers and pigments. The PVC coating resists attack from prolonged exposure to most common mineral acids, sea water, and dilute solutions of salts and alkali.

ASTM Color System: All components conform to the color requirements of ASTM F 934.

Installation: Install fence posts in accordance with ASTM Practice 567.

### STANDARDS

ASTM F 1043 – Strength and Protective Coatings on Metal Industrial Chain Link Fence Framework, Group 1A and Group 1C Heavy Industrial.

ASTM F 567 – Installation of Chain Link Fence

ASTM F 934 – Standard Colors for Polymer-Coated Chain Link Fence Materials.

Federal Specification RR-F-191/3E – Fencing, Wire and Post Metal, Class 1, Grade A or B.

AASHTO M-181 Chain Link Fence, Grades 1 and 2.

### TECHNICAL SERVICES



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INDUSTRIAL WEIGHT HEAVY MIL VINYL COATED FRAMEWORK - ASTM F1043 GROUP I-A AND I-C  
FEDERAL SPECIFICATION RR-F-191/3E TYPE 1, GRADES A AND B, AASHTO M-181 GRADES 1 AND 2

TABLE 1 - PHYSICAL CHARACTERISTICS ALL DIMENSIONS AND WEIGHTS NOMINAL

SIZE DESIGNATOR			O.D.			ASTM F1043 I-A, RR-F-191/3E GRADE A, AASHTO GRADE 1				ASTM F1043 I-C, RR-F-191/3E GRADE A, AASHTO GRADE 2				
FENCE INDUSTRY	NPS	METRIC	INCH	MM	INCH	MM	WALL THICKNESS		WEIGHT		YIELD STRENGTH		PVC THICKNESS	
							INCH	MM	LB/FT	KG/M	INCH	MM	LB/FT	KG/M
1-5/8	1-1/4	32	1.660	42.2	0.140	3.56	0.140	3.56	2.27	3.4	0.111	2.82	1.84	2.7
2	1-1/2	40	1.900	48.3	0.145	3.68	0.145	3.68	2.72	4.0	0.120	3.05	2.28	3.4
2-1/2	2	50	2.375	60.3	0.154	3.91	0.154	3.91	3.65	5.4	0.130	3.30	3.12	4.6
3	2-1/2	65	2.875	73.0	0.203	5.16	0.203	5.16	5.79	8.6	0.160	4.06	4.64	6.9
4	3-1/2	90	4.000	101.6	0.226	5.74	0.226	5.74	9.11	13.6	0.160	4.06	6.56	9.8
6-5/8	6	150	6.625	168.3	0.280	7.11	0.280	7.11	18.97	26.3	NA	NA	NA	NA

TABLE 2 - STRENGTH CHARACTERISTICS - INCH/POUND UNITS (BASED ON MINIMUM YIELD STRENGTHS ABOVE)

SIZE DESIGNATOR			O.D. NOM			ASTM F1043 I-A, RR-F-191/3E TYPE 1, GRADE A, AASHTO GRADE 1, TYPE 2				ASTM F1043 I-C, RR-F-191/3E TYPE 1 GRADE B, AASHTO M181 GRADE 2				
FENCE INDUSTRY	NPS	INCH	WALL	I.D.	SECTION MODULES	CALCULATED LOADS, LBF		WALL		SECTION MODULES		CALCULATED LOADS, LBF		
			INCH	INCH		10 FT MIDPOINT*	4 FT** CANTILEVER	6 FT**	INCH	INCH		10 FT MIDPOINT*	4 FT** CANTILEVER	6 FT**
1-5/8	1-1/4	1.660	0.140	1.380	0.235	235	147	98	0.111	1.438	0.196	327	204	136
2	1-1/2	1.900	0.145	1.610	0.326	size above 1.660 in.	204	136	0.120	1.660	0.281	size above 1.660 in.	293	195
2-1/2	2	2.375	0.154	2.067	0.561	size above 1.660 in.	350	234	0.130	2.115	0.488	1,660 in. are not normally used for top rail	508	339
3	2-1/2	2.875	0.203	2.469	1.064	665	665	443	0.160	2.555	0.878	are not normally used for top rail	914	610
4	3-1/2	4.000	0.226	3.548	2.394	1,496	1,496	997	0.160	3.680	1.782	are not normally used for top rail	1,856	1,237
6-5/8	6	6.625	0.280	6.065	8.496	5,310	5,310	3,540	NA	NA	NA	top rail	NA	NA

\* 10 ft Calculated Load is representative of top rail for typical chain link fence installation  
\*\* 4 ft and 6 ft Cantilever Loads calculated for loads applied at the top post with the bottom fixed

TABLE 3 - PERFORMANCE CRITERIA

TEST	TEST METHOD	RESULTS
WEATHER-OMETER	ASTM E42	4,000 hour exposure without cracking, blistering or loss of adhesion
Salt Spray (Unscored samples)	ASTM B117	5,000 hours without deterioration of coating or metal condition
Salt Spray (Scored samples)	ASTM B117	Maximum 1/8 in. undercut after 2,000 hours exposure

Note: Weather-ometer testing is a recognized plastics industry method for evaluating long-term sunlight exposure