

Schedule 40 Pipe, Galvanized

ASTM 1083, ASTM F1043 Group IA

Federal Specification RR-F-191/3E & RR-F-191/4E

AASHTO M-181 Grade 1



PRODUCT NAME

Hot-Dipped Galvanized Schedule 40 pipe

Basic Use:

Schedule 40 pipe for use as end, corner or line posts, and rails, for commercial, industrial and institutional installations of chain link fencing. Schedule 40 pipe is the historically used material for this purpose. The requirements for this material are contained in various government specifications for use in prison, road, dock, airport, housing, forestry, and military installations.

Schedule 40 pipe is typically used in installations which incorporate zinc-coated or aluminum-coated steel chain link fence fabric, although it may be specified for use with other types of fabric, i.e. PVC coated.

COMPOSITION AND MATERIALS

Hot-Dipped Galvanized Steel Framework

The information contained herein for hot-dipped galvanized welded steel pipe covers two options of ASTM F1083 hot-dipped galvanized schedule 40 welded steel pipe for fence assemblies, Regular Grade and Intermediate Grade. The accompanying tables show the different options have the same dimensions, wall thickness, weight per linear foot, galvanized coating and tolerances. The Grade signifies the yield strength of the schedule 40 pipe.

TECHNICAL DATA

General:

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

Grade Yield Strength:

Regular Strength Grade - Yield Strength, min. 30,000 psi.

High Strength Grade - Yield Strength, min. 50,000 psi.

Coating Requirements:

The Pipe shall be coated inside and out by the hot-dip process. The average weight of zinc coating shall be not less than 1.8 oz/ft² of the outside surface and 1.8 oz/ft² of the inside surface. A 2.0 oz/ft² zinc coating weight is available upon request. A conversion coating is also applied to the interior and exterior surfaces to protect against corrosion and white rust.

STANDARD SPECIFICATIONS

ASTM F1083 Pipe, Steel, Hot-Dipped Zinc-Coated (Galvanized) Welded, for Fence Structures

ASTM F1043 Strength and Protective Coatings on Steel Industrial Chain Link Fence Framework. Group IA

AASHTO M 181 – Grade 1 Association of State Highway and Transportation Officials RR-F-191/2E and RR-F-191/3E

Federal Specifications
UFGS-32 31 13 Army Corps of Engineers

Federal Aeronautics Administration AC 150/5370-10E ITEM F-162

Department of the Navy
U.S. Department of Justice – Federal Bureau of Prisons

AVAILABILITY

Galvanized Schedule 40 pipe is available for shipment throughout the United States. Mill lengths may range from 18 ft. to 24 ft. or posts are available cut-to-length

INSTALLATION

Install fence posts in accordance with:
ASTM 567 Practice for Installations of Chain Link Fence

Chain Link Manufactures Institute Product Manual CLF-PM0610

Windload Guide for Selection of Line Post Spacing and Size
WLG2445

MAINTENANCE

Periodic inspection is recommended but no routine maintenance is required.

LEEDS CREDITS

Steel fence products are a net contributor to the LEED recycled content points.

SUPPLEMENTAL COLOR COATING

Galvanized Schedule 40 pipe, when requested, is available with a supplemental color coating per ASTM F1043, para. 7.3 (Optional Color Coating).

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Federal specification RR-F-191/3E & RR-F-191/3E

AASHTO M-181 Grade 1

Dimension and Strength Characteristics - ASTM F1083 Regular Strength Grade 30,000 psi yield Schedule 40

Pipe Fence Industry	Decimal O.D. Equivalent		Pipe Wall Thickness		Weight		Section Modulus		X	Min. Yield Strength		=	Max Bending Moment	Calculated Load (lbs.)				
	O.D.	in.	mm	in.	mm	lb./ft.	kg/m	in. ³		mm ³	psi			MPa	lb./in.	10 ft. Free	Cantilever	
																Supported	4 ft.	6 ft.
1 3/8 in.	1.315	33.40	0.133	3.38	1.68	2.50	0.1328	3.37	X	30,000	205	=	3,985	133	83	55		
1 1/2 in.	1.660	42.16	0.140	3.56	2.27	3.38	0.2346	5.96	X	30,000	205	=	7,038	235	147	98		
1 7/8 in.	1.900	48.26	0.145	3.68	2.72	4.05	0.3262	8.29	X	30,000	205	=	9,786	326	204	136		
2 3/8 in.	2.375	60.33	0.154	3.91	3.65	5.43	0.5606	14.24	X	30,000	205	=	16,819	561	350	234		
2 7/8 in.	2.875	70.03	0.203	5.16	5.80	8.62	1.0640	27.03	X	30,000	205	=	31,921	1,064	665	443		
3 1/2 in.	3.500	88.90	0.216	5.49	7.58	11.28	1.7241	43.79	X	30,000	205	=	51,723	1,724	1,078	718		
4 in.	4.000	101.60	0.226	5.74	9.12	13.56	2.3939	60.80	X	30,000	205	=	71,816	2,394	1,496	997		
4 1/2 in.	4.500	114.30	0.237	6.02	10.80	16.07	3.2145	81.65	X	30,000	205	=	96,435	3,214	2,009	1399		
*5 5/8 in.	5.563	141.30	0.258	6.55	14.63	21.77	5.4511	138.46	X	35,000	240	=	190,789	6,359	3,975	2,650		
*6 5/8 in.	6.625	168.28	0.280	7.11	18.99	28.23	8.4958	215.79	X	35,000	240	=	297,353	9,912	6,195	4,130		
*8 5/8 in.	8.625	219.08	0.322	8.18	28.58	42.49	16.8091	426.95	X	35,000	240	=	588,319	19,610	12,257	8,171		

* Manufactured to ASTM A53, exceeds F1083 requirements.

Dimension and Strength Characteristics - ASTM F1083 High Strength Grade 50,000 psi yield Schedule 40 Pipe

Fence Industry	Decimal O.D. Equivalent		Pipe Wall Thickness		Weight		Section Modulus		X	Min. Yield Strength		=	Max Bending Moment	Calculated Load (lbs.)				
	O.D.	in.	mm	in.	mm	lb./ft.	kg/m	in. ³		mm ³	psi			MPa	lb./in.	10 ft. Free	Cantilever	
																Supported	4 ft.	6 ft.
1 1/2 in.	1.660	42.16	0.140	3.56	2.27	3.38	0.2346	5.96	X	50,000	345	=	11,730	392	163	65		
1 7/8 in.	1.900	48.26	0.145	3.68	2.72	4.05	0.3262	8.29	X	50,000	345	=	16,310	543	227	91		
2 3/8 in.	2.375	60.33	0.154	3.91	3.65	5.43	0.5606	14.24	X	50,000	345	=	28,030	935	389	156		
2 7/8 in.	2.875	73.03	0.203	5.16	5.80	8.62	1.0640	27.03	X	50,000	345	=	53,200	1,773	739	296		
3 1/2 in.	3.500	88.90	0.216	5.49	7.58	11.28	1.7241	43.79	X	50,000	345	=	86,205	2,873	1,197	479		
4 in.	4.000	101.60	0.226	5.74	9.12	13.56	2.3939	60.80	X	50,000	345	=	119,695	3,990	1,662	665		
4 1/2 in.	4.500	114.30	0.237	6.02	10.80	16.07	3.2145	81.65	X	50,000	345	=	160,725	5,357	2,232	893		
5 5/8 in.	5.563	141.30	0.258	6.55	14.63	21.77	5.4511	138.46	X	50,000	345	=	272,555	9,085	3,785	1,514		
6 5/8 in.	6.625	168.28	0.280	7.11	18.99	28.23	8.4958	215.79	X	50,000	345	=	424,790	14,160	5,900	2,360		
8 5/8 in.	8.625	219.08	0.322	8.18	28.58	42.49	16.8091	426.95	X	50,000	345	=	840,455	28,015	11,673	4,669		



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