



MATERIALS

CARBON STEEL

Channel is formed from high quality, structural grade carbon steel and has been manufactured in accordance with ASTM A570 specification Grade 33 (hot rolled) or ASTM-366 (cold rolled).

STAINLESS STEEL

Channel is formed from chromium-nickel stainless steel manufactured in accordance with ASTM A420 specification offered in both AISI Type 304 and 316 material. Stainless steel is resistant to corrosion and is ideal for use in extreme ambient temperatures.

FINISHES

PRE-GALVANIZED

A hot dip mill galvanized coating is produced by continuously passing the steel through a bath of molten zinc in accordance with ASTM A653. This coating is applied to steel master coils prior to slitting and fabrication. Pre-galvanized steel is not recommended for outdoor, unprotected use. It is suitable for extended exposure in dry mildly corrosive environments.

HOT-DIP GALVANIZED AFTER FABRICATION

The finished channel is completely immersed in a bath of molten zinc, resulting in the complete coating of all surfaces of the product, including edges and welds. Channel that is hot dip galvanized has a total coating weight of 3.0 ounces of zinc per square foot (1.5 ounces per side) in accordance with ASTM A123 specification. This coating provides superior results for prolonged outdoor exposure applications.

GREEN POWDER COATING

Channel is coated after fabrication with a polyester powder finish. This coating provides a high quality appearance as well as surface durability. Once the channel is pre-treated and cleaned through a bonderite process, the coating is applied using an electro-static spray process. The channel then proceeds through a baking process which results in a chemical bond between the channel and the polyester powder finish.



MAXIMUM APPLIED TORQUES C-CLAMPS & TOP BEAM CLAMPS

The ultimate load-carrying capacity of a clamp is rapidly reduced when the set screw is excessively turned upon clamp installation. Proper installation technique is to set the screw finger tight, then turn the set screw a one half to three quarter turn. Extra turning will open up the clamp and cause the rod hole to be out of alignment.

Thread Size	Torque Value (lbs)
1/4	40
3/8	60
1/2	125
5/8	250
3/4	400
7/8	665

STEEL PIPE DATA - SCHEDULE 40 & 80

Pipe Sizes	Pipe O.D.	Schedule No.	Wall Thickness	Weight per Foot (lbs)	
				Pipe	Pipe Filled with Water
3/4	0.675	40	0.091	0.567	0.650
		80	0.126	0.740	0.800
1/2	0.84	40	0.109	0.850	0.980
		80	0.147	1.090	1.190
3/4	1.05	40	0.113	1.130	1.360
		80	0.154	1.470	1.660
1	1.315	40	0.133	1.680	2.050
		80	0.179	2.170	2.480
1-1/4	1.66	40	0.140	2.270	2.920
		80	0.191	3.00	3.550
1-1/2	1.9	40	0.145	2.720	3.600
		80	0.200	3.630	4.400
2	2.375	40	0.154	3.650	5.100
		80	0.218	5.020	6.300
2-1/2	2.875	40	0.230	5.790	7.860
		80	0.276	7.660	9.490
3	3.5	40	0.216	7.580	10.780
		80	0.300	10.250	13.110
3-1/2	4	40	0.226	9.110	13.400
		80	0.318	12.510	16.360
4	4.5	40	0.237	10.790	16.300
		80	0.337	14.980	19.960

Pipe Sizes	Pipe O.D.	Schedule No.	Wall Thickness	Weight per Foot (lbs)	
				Pipe	Pipe Filled with Water
5	5.563	40	0.258	14.620	23.290
		80	0.375	20.780	28.660
6	6.625	40	0.280	18.970	31.490
		80	0.432	28.570	39.860
8	8.625	40	0.322	28.550	50.150
		80	0.500	43.390	63.190
10	10.75	40	0.365	40.480	74.580
		80	0.593	64.400	95.500
12	12.75	40	0.406	53.600	102.100
		80	0.687	88.600	132.600
14	14	40	0.437	63.000	121.500
		80	0.750	107.000	158.200
16	16	40	0.500	83.000	159.500
		80	0.843	137.000	206.700
18	18	40	0.563	105.000	202.200
		80	0.937	171.000	259.500
20	20	40	0.593	123.000	243.400
		80	1.031	209.00	318.400
24	24	40	0.687	171.000	345.200
		80	1.218	297.000	455.200
30	30	20	0.500	158.000	444.000
36	36	API	0.500	190.000	607.000



THERMAL EXPANSION OF PIPE MATERIALS

Dimensions
Inches Per Foot
Millimeters Per Meter

Temperature	Carbon Steel Through 3% CCR MO	Alloy Steels Through 9% CR MO	Stainless Steels (304,316, 347)	Copper	Brass	Aluminum
0	-0.0051		-0.0078	-0.0079	-0.0081	-0.0104
-17.8	-0.4250		-0.6500	-0.6583	-0.6750	-0.8666
50	-0.0015		-0.0022	-0.0022	-0.0023	-0.0030
10.0	-0.1250		-0.1833	-0.1833	-0.1917	-0.2500
70	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
100	0.0023	0.0022	0.0034	0.0035	0.0035	0.0046
37.8	0.1917	0.1833	0.2833	0.2917	0.2917	0.3833
150	0.0061	0.0058	0.0090	0.0093	0.0093	0.0123
65.6	0.5083	0.4833	0.7500	0.7750	0.7750	1.0250
200	0.0099	0.0094	0.0146	0.0152	0.0152	0.0200
93.3	0.8250	0.7833	1.2166	1.2666	1.2666	1.6666
250	0.0141	0.0132	0.0203	0.0214	0.0214	0.0283
121	1.1750	1.1000	1.6916	1.7833	1.7833	2.3582
300	0.0182	0.0171	0.0261	0.0276	0.0276	0.0366
149	1.5166	1.4249	2.1749	2.2999	2.2999	3.0499
350	0.0266	0.0210	0.0321	0.0340	0.0340	0.0452
177	1.8833	1.7499	2.6749	2.8332	2.8332	3.7665
400	0.0270	0.0250	0.0380	0.0405	0.0405	0.0539
204	2.2499	2.0833	3.1665	3.3749	3.3749	4.4195
450	0.0316	0.0292	0.0440	0.0472	0.0472	0.0628
232	2.6332	2.4332	3.6665	3.9332	3.9332	5.2331
500	0.0362	0.0335	0.0501	0.0540	0.0540	0.0717
260	3.0165	2.7916	4.1748	4.4998	4.4998	5.9748
550	0.0411	0.0379	0.0562	0.0610	0.0610	0.0810
288	3.4249	3.1582	4.6831	5.0831	5.0831	6.7497
600	0.0460	0.0424	0.0624	0.0680	0.0680	0.0903
316	3.8332	3.5332	5.1998	5.6664	5.6664	7.5247
650	0.0512	0.0469	0.0687	0.0753	0.0753	
343	4.2665	3.9082	5.7248	6.2747	6.2747	
700	0.0563	0.0514	0.0750	0.0826	0.0826	
371	4.6915	4.2832	6.2498	6.8831	6.8831	
750	0.0617	0.0562	0.0815	0.0902	0.0902	
399	5.1415	4.6831	6.7914	7.5164	7.5164	
800	0.0670	0.0610	0.0880	0.0978	0.0978	
427	5.5831	5.0831	7.3330	8.1497	8.1497	
850	0.0726	0.0658	0.0946	0.1056	0.1056	
454	6.0498	5.4831	7.8830	8.7996	8.7996	
900	0.0781	0.0707	0.1012	0.1135	0.1135	
482	6.5081	5.8914	8.4330	9.4580	9.4580	
950	0.0835	0.0756	0.1080	0.1216	0.1216	
510	6.9581	6.2997	8.9996	10.1329	10.1329	
1000	0.0889	0.0806	0.1148	0.1298	0.1298	
538	7.4080	6.7164	9.5663	10.8162	10.8162	
1050	0.0946	0.0855	0.1216			
566	7.8830	7.1247	0.1329			
1100	0.1004	0.0905	0.1284			
593	8.366	7.5414	10.6996			