

# ASTM A500 Grade B

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## ●Production Standard of ASTM A500 Grade B

### ●ASTM A500 Grade B

ASTM A500 Grade B vs Grade C, it has a lower yield strength , but a higher yield strength than Grade A. The most common application for steel tube Gr. B is in construction, where it is used to create everything from tubular steel framing to steel beams. Steel tube Gr. B is a versatile material that can be used in a variety of construction applications. Its strength and durability make it an ideal choice for structural elements such as steel framing, and its affordability makes it a popular choice for common construction applications.

## ●Dimensions and Sizes of ASTM A500 Grade B

Nominal Pipe Size		Outside Diameter (mm)	Nominal Wall Thickness Schedule											
NP S	DN		OD	SC H 5	SCH 10	SCH 20	SCH 30	SCH Sth	SCH 40	SCH 60	SCH XS	SCH 80	SCH 100	SCH 120
1/8	6	10.3		1.24		1.45	1.73	1.73		2.41	2.41			
1/4	8	13.7		1.65		1.85	2.24	2.24		3.02	3.02			
3/8	10	17.1		1.65		1.85	2.31	2.31		3.2	3.2			
1/2	15	21.3	1.6	2.11		2.41	2.77	2.77		3.73	3.73			

			5											
3/4	20	26.7	1.6 5	2.11		2.41	2.87	2.87		3.91	3.91			
1	25	33.4	1.6 5	2.77		2.9	3.38	3.38		4.55	4.55			
1 1/4	32	42.2	1.6 5	2.77		2.97	3.56	3.56		4.85	4.85			
1 1/2	40	48.3	1.6 5	2.77		3.18	3.68	3.68		5.08	5.08			
2	50	60.3	1.6 5	2.77		3.18	3.91	3.91		5.54	5.54			
2 1/2	65	73	2.1 1	3.05		4.78	5.16	5.16		7.01	7.01			
3	80	88.9	2.1 1	3.05		4.78	5.49	5.49		7.62	7.62			
3 1/2	90	101.6	2.1 1	3.05		4.78	5.74	5.74		8.08	8.08			
4	10 0	114.3	2.1 1	3.05		4.78	6.02	6.02		8.56	8.56		11.13	
5	12 5	141.3	2.7 7	3.4			6.55	6.55		9.53	9.53		12.7	
6	15 0	168.3	2.7 7	3.4			7.11	7.11		10.9 7	10.9 7		14.27	
8	20 0	219.1	2.7 7	3.76	6.35	7.04	8.18	8.18	10.3 1	12.7	12.7	15.0 9	18.26	20.62
10	25 0	273	3.4	4.19	6.35	7.8	9.27	9.27	12.7	12.7	15.0 9	18.2 6	21.44	25.4
12	30 0	323.8	3.9 6	4.57	6.35	8.38	9.53	10.3 1	14.2 7	12.7	17.4 8	21.4 4	25.4	
14	35 0	355.6	3.9 6	6.35	7.92	9.53	9.53	11.1 3	15.0 9	12.7	19.0 5	23.8 3		
16	40 0	406.4	4.1 9	6.35	7.92	9.53	9.53	12.7	16.6 6	12.7	21.4 4			
18	45 0	457	4.1 9	6.35	7.92	11.1 3	9.53	14.2 7	19.0 5	12.7	23.8 3			
20	50 0	508	4.7 8	6.35	9.53	12.7	9.53	15.0 9	20.6 2	12.7				
22	55 0	559	4.7 8	6.35	9.53	12.7	9.53		22.2 3	12.7				
24	60	610	5.5	6.35	9.53	14.2	9.53	17.4	24.6	12.7				

	0		4			7		8	1								
26	650	660		7.92	12.7		9.53			12.7							
28	700	711		7.92	12.7	15.88	9.53			12.7							
30	750	762	6.35	7.92	12.7	15.88	9.53			12.7							
32	800	813		7.92	12.7	15.88	9.53	17.48		12.7							
34	850	864		7.92	12.7	15.88	9.53	17.48		12.7							
36	900	914		7.92	12.7	15.88	9.53	19.05		12.7							
38	950	965					9.53			12.7							
40	1000	1016					9.53			12.7							
42	1050	1067					9.53			12.7							
44	1100	1118					9.53			12.7							
46	1150	1168					9.53			12.7							
48	1200	1219					9.53			12.7							
52	1300	1321	9.53	10.31	11.13	11.91	12.7	14.27	15.88	17.48	19.05	20.62	22.23	23.83	25.4		
56	1400	1422	9.53	10.31	11.13	11.91	12.7	14.27	15.88	17.48	19.05	20.62	22.23	23.83	25.4		
60	1500	1524	9.53	10.31	11.13	11.91	12.7	14.27	15.88	17.48	19.05	20.62	22.23	23.83	25.4		
64	1600	1626	9.53	10.31	11.13	11.91	12.7	14.27	15.88	17.48	19.05	20.62	22.23	23.83	25.4		
68	1700	1727	9.53	10.31	11.13	11.91	12.7	14.27	15.88	17.48	19.05	20.62	22.23	23.83	25.4		

72	18 00	1829					12.7	14.2 7	15.8 8	17.4 8	19.0 5	20.6 2	22.23	23 .8 3	25. 4
76	19 00	1930					12.7	14.2 7	15.8 8	17.4 8	19.0 5	20.6 2	22.23	23 .8 3	25. 4
80	20 00	2032						14.2 7	15.8 8	17.4 8	19.0 5	20.6 2	22.23	23 .8 3	25. 4
84		2134													
88		2235													

### ●Chemical Composition of ASTM A500 Grade B

Element	Composition, %	
	Heat analysis	Product analysis
Carbon	0.26	0.3
Manganese	1.35	1.4
Phosphorus	0.035	0.035
Sulfur	0.035	0.045
Copper	0.2	0.18

### ●Mechanical Properties Tensile Strength and Yield Strength of ASTM A500 Grade B

Physical Properties	Metric	English	Comments
Density	<u>7.80 g/cc</u>	<u>0.282 lb/in</u>	Typical of ASTM Steel