ASTM Carbon Steel Pipe and Flange Specifications -

Pipe and Tubing Description and Applications	Spec No.	ASTM OR Type	GRADE STRENGTH PSI
Seamless milled steel pipe for high- temperature service, suitable for bending, flanging and similar forming operations	(1) A106	A	48,000
As above, except use Grade A for close coiling, cold bending or forge welding.	(1) A106	В	60,000
Black or hot-dip galvanize seamless or res-welded steel pipe suitable for coiling, bending, flanging, and other special purposes, suitable for welding	A 53	Α	48,000
As above, except use Grade A for close coiling, cold bending or forge welding.	A 53	В	60,000
Black or hot-dip galvanize seamless or res. welded steel pipe suitable for ordinary uses. (When tension, flattening or bend test required, order to A-53)	A 120 (obsolete)	_	-
Resistance welded steel pipe for liquid, gas or vapor	A 135	Α	48,000
As above, except use Grade A for flanging and bending	A 135	В	60,000
Electric-fusion-welded strait- or spiral- seam pipe for liquid, gas or vapor frommill grades of plate	A 139	А	48,000
As above	A 139	В	60,000
Forged Pipe, Flanges Description and Applications			
Forged or rolled steel pipe flanges, fittings (6) values and parts for high temperature service. Heat treatment required; may be annealed or normalized	A105	I	60,000
As above	A 105	Ш	70,000
As above except for general service. Heat treatment is not required	A 181	I	60,000
As above	A 181	II	70,000

^{(1) 0.10%} silicon minimum.

⁽²⁾ Open hearth, 0.13 max for 1/8" and 1/4" size resistance welded pipe only

⁽³⁾ Seamless: open hearth 0.048 max, acid bessemar 0.11 max; Res. welded: open hearth 0.050 max.

⁽⁴⁾ Longitudinal or transverse direction of test specimen with respect to pipe axis

YIELD POINT OR	ELONG	ation (°	% IN	2")		Снег	MICAL		
STRENGTH	STD					Composition, %			
PSI	ROUND			⁵ /16"	C	MN	P	S	
	28 long.			35		.27			
30,000	OR (4)	or	401		.25	to	.048	.058	
		12.5+		25	max	.93	max	max	
35,000	28 long. OR (4)	17.5+	561	35	30	.27 to	.048	.058	
33,000	12 trans.	or 6.5+	32t	16.5	max	1.06		max	
	12 transi	0.01		10.0	Παλ	1.00	max	THUX	
30,000	28	17.5+	56t	35	(2)	_	(3)	-	
					, ,		. ,		
35,000	22	15+	48t	30	(2)		(2)	_	
33,000		10+	401	30	(2)		(3)		
_	_	_	_	_	_	_	_		
30,000	_	17.5+	56t	35	_	_	.050	.060	
							max	max	
35,000	_	15+	48t	30	_	-	.05	.060	
						20	max	max	
30,000	_	17.5+	56t	35	_	.30 to	.040	.050	
00,000		17.01	001	00		1.00	max	max	
						.30			
					.30	to	.040	.050	
35,000	_	15+	48t	30	max	1.00	max	max	
					.35 (5)	۵n	.05	.05	
30,000	25		_	_	max	max	max	max	
	_0				1110.71	11167	11167	111607	
					.35 (5)	.90	.05	.05	
36,000	22		_	_	max	max	max	max	
00.000	22				.35 (5)		.05	.05	
30,000	22		_	_	max	max	max	max	
26.000	4.0				.35 (5)		.05	.05	
36,000	18		_	_	max	max	max	max	

⁽⁵⁾ When flanges will be subject to fusion welding, carbon content shall be $\le 0.35\%$. If carbon is $\le 0.35\%$, it may be necessary to add silicon to meet required tensile properties. The silicon content shall be $\le 0.35\%$.

⁽⁶⁾ Factor-made Wrought Carbon Steel and Ferritic Alloy Steel Welding Fitting Specifications are covered under ASTM A234.