

- Dimension & Weight -

Nom. Pipe Size		SCH 5S			SCH 10S			SCH 40S			Permissible Variation in Dimension		
Outside Diameter		Wall Thickness (mm)	Weight (kg/m)		Wall Thickness (mm)	Weight (kg/m)		Wall Thickness (mm)	Weight (kg/m)		Dimension	NPS	Tolerance (mm)
Inch	mm		304/L	316/L		304/L	316/L		304/L	316/L			
3/8	17.15	-	-	-	1.65	0.64	0.65	2.31	0.85	0.86	Outside Diameter (According to ASTM A999)	3/8" to 1 1/2"	+ 0.4, -0.8
1/2	21.34	1.65	0.81	0.82	2.11	1.01	1.02	2.77	1.28	1.29		2" to 4"	+ 0.8, -0.8
3/4	26.67	1.65	1.03	1.04	2.11	1.29	1.30	2.87	1.70	1.71		5" to 8"	+ 1.6, -0.8
1	33.40	1.65	1.31	1.32	2.77	2.11	2.13	3.38	2.53	2.54	For ASTM A312		
1 1/4	42.16	1.65	1.67	1.68	2.77	2.72	2.74	3.56	3.42	3.45	NPS Designator	Tolerance (mm)	
1 1/2	48.26	1.65	1.92	1.93	2.77	3.14	3.16	3.68	4.09	4.11		Over (+)	Under (-)
2	60.33	1.65	2.41	2.43	2.77	3.97	4.00	3.91	5.50	5.53	1/8" to 2 1/2" incl., all t/D ratios	20.0	12.5
2 1/2	73.03	2.11	3.73	3.75	3.05	5.32	5.35	5.16	8.72	8.78	3" to 18" incl., t/D up to 5%	22.5	12.5
3	88.90	2.11	4.58	4.61	3.05	6.52	6.56	5.49	11.41	11.48	3" to 18" incl., t/D > 5%	15.0	12.5
3 1/2	101.60	2.11	5.25	5.28	3.05	7.49	7.54	5.74	13.71	13.79	Where t = Normal Wall Thickness D = Normal Outside Diameter of Pipe		
4	114.30	2.11	5.92	5.96	3.05	8.45	8.51	6.02	16.24	16.34	For ASTM A778 Tolerance = ± 12.5% from Nominal		
5	141.30	2.77	9.59	9.65	3.40	11.68	11.75	6.55	21.99	22.13			
6	168.28	2.77	11.46	11.53	3.40	13.96	14.05	7.11	28.55	28.73			
8	219.08	2.77	14.98	15.08	3.76	20.17	20.30	8.18	42.97	43.25			
10	273.05	3.40	22.92	23.07	4.19	28.06	28.24	9.27	60.91	61.30			
12	323.85	3.96	31.67	31.87	4.57	36.35	36.58	9.52	74.54	75.02			
14	355.60	3.96	34.81	35.03	4.78	41.92	42.19	9.52	82.37	82.89			
16	406.40	4.19	42.13	42.40	4.78	47.99	48.30	9.52	94.46	95.06			

- Chemical Composition -

Specifications- Type	Chemical Composition % (Maximum unless range is shown)							
	C	Si	Mn	P	S	Ni	Cr	Mo
ASTM A312								
TP304	0.080	1.00	2.00	0.045	0.030	8.00 - 11.00	18.00 - 20.00	-
TP304L	0.035	1.00	2.00	0.045	0.030	8.00 - 13.00	18.00 - 20.00	-
TP316	0.080	1.00	2.00	0.045	0.030	11.00 - 14.00	16.00 - 18.00	2.00 - 3.00
TP316L	0.035	1.00	2.00	0.045	0.030	10.00 - 14.00	16.00 - 18.00	2.00 - 3.00

- Formular For Weight Calculation -

Items	Formular(kg/m)	Designation	Specific Gravity
Pipe	$(O.D-T) * T * 0.02491$	304, 304L	7.93
	$(O.D-T) * T * 0.02507$	316, 316L	7.98
Plate	$W * L * T * S.G.$		
Round Bar	$R^2 * 3.14 * S.G.$	309(S), 310(S)	7.98
	$0.7854 * D^2 * S.G.$		
Square Bar	$D^2 * S.G.$	420J1(J2), 431	7.80
Hexagonal Bar	$0.8660 * D^2 * S.G.$	430	7.70
Angle Bar	$(W+W-T) * T * S.G.$		