SEAMLESS STAINLESS STEEL PIPES

Seamless Stainless Steel Pipe ASTM 312 TP316/316L

Dimension Specifications:
ASTM A312/ ASME SA312 - Standard Specification for Seamless, Welded, and Heavily Cold Worked Austenitic Stainless Steel Pipes

Material Specifications:
TP316
TP316L

Size Range: 1/8"NB – 24”NB

Wall Thickness:
SCH 10S, 40S, 80S, 160S, STD, XS, XXS

Finishing:
Annealed and Pickled (AP)

Recommended Bend Radius
A bend radius of 3x the external tube diameter is recommended for cold bending of tubes with tube benders or by hand.

Welding Suitability
Tubes made of TP316 & TP316L are suitable for arc welding according to usual techniques. The welding filler should be selected in accordance with DIN EN 1600 and DIN EN 12072 part 1 taking into account the type of application and the welding technique.

Chemical Composition:

SS316/SS316L Chemical Composition in %								
	C	**Mn**	**P**	**S**	**Si**	**Ni**	**Cr**	**Mo**
Min.						10.0	16.0	2.00
Max.	0.035	2.000	0.045	0.030	1.000	14.0	18.0	3.00

Mechanical Properties of the tubes at room temperature:

SS316/SS316L	**Tensile Strength R_m N/mm^2**	**Upper Yield Point R_{eH} N/mm^2 min.**	**Elongation at rupture A_5 % min.**	**Hardness Test HRB**
Min.	515	205	35	
Max.				75

Elevated Temperature Factor

Elevated Temperature Rating Factor is calculated using as per ASME B31.3. Dual Grades such as TP316/316L meet the requirements for the lower maximum carbon content of the L grades and the higher minimum yield and tensile strength of the non-L grades.

°F	-76	200	400	600	800	1000
°C	-60	93	204	315	426	537
Rating Factor	1.00	1.00	0.96	0.85	0.79	0.76

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Seamless Stainless Steel Pipe ASTM 312 TP316/316L Working Pressure & Size Range Table

Pipe Size NB (Inche)	Pipe Size NB	Outer Diameter, OD (MM)	Wall Thickness (MM)	Schedule		Inner Diameter ID (MM)	Working Pressure (BAR)	Burst Pressure (BAR)	Weight /6MTRS (KG)
1/8	6	10.3	1.73	40S	STD	6.8	474	1778	2.2
1/8	6	10.3	2.41	80S	XS	5.5	698	2618	2.8
1/4	8	13.7	2.24	40S	STD	9.2	460	1725	3.8
1/4	8	13.7	3.02	80S	XS	7.6	650	2438	4.8
3/8	10	17.1	1.65	10S		13.8	263	870	3.8
3/8	10	17.1	2.31	40S	STD	12.5	371	1391	5.2
3/8	10	17.1	3.20	80S	XS	10.7	537	2014	6.7
1/2	15	21.3	2.77	40S	STD	15.8	356	1335	7.7
1/2	15	21.3	3.73	80S	XS	13.9	497	1864	9.8
1/2	15	21.3	4.75	160S		11.8	659	2471	11.8
1/2	15	21.3	7.47		XXS	6.4	1165	4369	13.5
3/4	20	26.7	2.87	40S	STD	20.9	289	1084	11.8
3/4	20	26.7	3.91	80S	XS	18.8	406	1523	13.4
3/4	20	26.7	5.56	160S		15.6	608	2280	17.6
3/4	20	26.7	7.82		XXS	11.0	921	3454	21.8
1	25	33.4	3.38	40S	STD	26.6	271	1016	15.0
1	25	33.4	4.55	80S	XS	24.3	375	1406	19.4
1	25	33.4	6.35	160S		20.7	547	2051	25.4
1	25	33.4	9.09		XXS	15.2	840	3150	32.7
1 1/4	32	42.2	3.56	40S	STD	35.1	223	836	20.3
1 1/4	32	42.2	4.85	80S	XS	32.5	311	1166	26.8
1 1/4	32	42.2	6.35	160S		29.5	419	1571	33.6
1 1/4	32	42.2	9.70		XXS	22.8	684	2565	46.5
1 1/2	40	48.3	3.68	40S	STD	40.9	200	750	24.3
1 1/2	40	48.3	5.08	80S	XS	38.1	282	1058	32.4
1 1/2	40	48.3	7.14	160S		34.0	411	1541	43.4
1 1/2	40	48.3	10.16		XXS	27.9	615	2306	57.2
2	50	60.3	2.77	10S		54.8	118	443	23.9
2	50	60.3	3.91	40S	STD	52.5	169	634	32.6
2	50	60.3	5.54	80S	XS	49.3	244	915	44.8
2	50	60.3	8.74	160S		42.8	402	1508	66.6
2	50	60.3	11.07		XXS	38.2	525	1969	80.4
2 1/2	65	73.0	3.05	10S		66.9	107	401	32.2
2 1/2	65	73.0	5.16	40S	STD	62.7	185	694	52.8
2 1/2	65	73.0	7.01	80S	XS	59.0	256	960	69.8
2 1/2	65	73.0	9.52	160S		53.9	357	1339	90.3
3	80	88.9	3.05	10S		82.8	87	326	38.7
3	80	88.9	5.49	40S	STD	77.9	160	600	69.0
4	100	114.3	3.05	10S		108.2	68	255	51.0
4	100	114.3	6.02	40S	STD	102.3	136	510	98.0

Note: Working Pressure Calculation: Calculated from ASME B31.1, with values from AMSE B31.3