



— DURAL —

STAINLESS STEEL PIPES



Dimension Specifications

ASTM A312-10/ ASME SA312-10 - Standard Specification for Seamless, Welded, and Heavily Cold Worked Austenitic Stainless Steel Pipes.

Material Specifications

TP316
TP316L

Size Range

1/8"NB – 4"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. (As per Figure 1)

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 EN1600 and DIN EN 12072 part 1 taking into account the type of application and the welding technique.



Stainless Steel Pipes

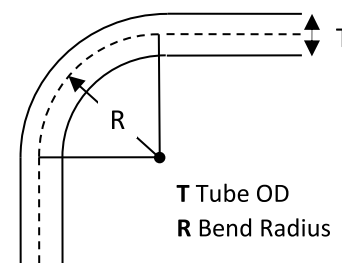


Figure 1 Recommended Bend Radius

Chemical Composition

SS316/SS316L Chemical Composition (%)								
	C	Mn	P	S	Si	Ni	Cr	Mo
Min.						11.0	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.
Min.	515	205	35
Max.			



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





Ordering Information

PS	-	01	-	AP	-	NB	-	02	X	080
I		II		III		IV		V		VI

I	Type of Item		
PS	Stainless Steel Pipes		

II	Material Grade		
01	SS316/SS316L Plain End		

III	Item Finish
AP	Annealed & Pickled

IV	Size Designator		
NB	Nominal Bore Size		

V	Tube OD Sizes		
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For Inch NB Sizes

Size	1/8"	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"	7/8"
Code	02	04	05	06	08	10	12	14
Size	1"	1 1/8"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
Code	16	18	20	24	32	40	48	64

VI	Pipe Thickness Sizes		
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For Schedule Sizes

Size	SCH10S	SCH40S	SCH80S	SCH160S	SCHXXS
Code	010	040	080	160	XXS

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

Pipe Size NB (Inch)	Pipe Size NB	Outer Diameter OD (MM)	Wall Thickness (MM)	Schedule		Inner Diameter ID (MM)	Working Pressure (Bar)	Burst Pressure (Bar)	Weight /6 MTRS (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	15.4
3/4	20	26.7	2.87	40S	STD	20.9	289	1084	10.2
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	22.1
1	25	33.4	3.38	40S	STD	26.6	271	1016	15.1
1	25	33.4	4.55	80S	XS	24.3	375	1406	19.6
1	25	33.4	6.35	160S		20.7	547	2051	25.7
1	25	33.4	9.09		XXS	15.2	840	3150	33.0
1 1/4	32	42.2	3.56	40S	STD	35.1	223	836	20.6
1 1/4	32	42.2	4.85	80S	XS	32.5	311	1166	27.1
1 1/4	32	42.2	6.35	160S		29.5	419	1571	34.0
1 1/4	32	42.2	9.70		XXS	22.8	684	2565	47.1
1 1/2	40	48.3	3.68	40S	STD	40.9	200	750	24.5
1 1/2	40	48.3	5.08	80S	XS	38.1	282	1058	32.8
1 1/2	40	48.3	7.14	160S		34.0	411	1541	43.9
1 1/2	40	48.3	10.16		XXS	27.9	615	2306	57.9
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	33.0
2	50	60.3	5.54	80S	XS	49.3	244	915	45.3
2	50	60.3	8.74	160S		42.8	402	1508	67.4
2	50	60.3	11.07		XXS	38.2	525	1969	81.5
2 1/2	65	73.0	3.05	10S		66.9	107	401	31.9
2 1/2	65	73.0	5.16	40S	STD	62.7	185	694	52.3
2 1/2	65	73.0	7.01	80S	XS	59.0	256	960	69.2
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	39.1
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
4	100	114.3	8.56	80S	XS	97.18	204	675	165.0

Part Number Reference

No.	Part No	Description
1	PS-01-AP-NB-02-040	1/8"NB x SCH40S x 6MTR SS316/316L SMLS PIPE, ANNEAL & PICKLE, PE (10.3 x 1.73)
2	PS-01-AP-NB-02-080	1/8"NB x SCH80S x 6MTR SS316/316L SMLS PIPE, ANNEAL & PICKLE, PE (10.3 x 2.41)
3	PS-01-AP-NB-04-040	1/4"NB x SCH40S x 6MTR SS316/316L SMLS PIPE, ANNEAL & PICKLE, PE (13.7 x 2.24)
4	PS-01-AP-NB-04-080	1/4"NB x SCH80S x 6MTR SS316/316L SMLS PIPE, ANNEAL & PICKLE, PE (13.7 x 3.02)
5	PS-01-AP-NB-06-010	3/8"NB x SCH10S x 6MTR SS316/316L SMLS PIPE, ANNEAL & PICKLE, PE (17.1 x 1.65)
6	PS-01-AP-NB-06-040	3/8"NB x SCH40S x 6 MTR SS316/316L SMLS PIPE, ANNEAL & PICKLE, PE (17.1 x 2.31)
7	PS-01-AP-NB-06-080	3/8"NB x SCH80S x 6MTR SS316/316L SMLS PIPE, ANNEAL & PICKLE, PE (17.14 x 3.20)
8	PS-01-AP-NB-08-040	1/2"NB x SCH40S x 6 MTR SS316/316L SMLS PIPE, ANNEAL & PICKLE, PE (21.3 x 2.77)
9	PS-01-AP-NB-08-080	1/2"NB x SCH80S x 6 MTR SS316/316L SMLS PIPE, ANNEAL & PICKLE, PE (21.3 x 3.73)
10	PS-01-AP-NB-08-160	1/2"NB x SCH160S x 6 MTR SS316/316L SMLS PIPE, ANNEAL & PICKLE, PE (21.3 x 4.75)
11	PS-01-AP-NB-08-XXS	1/2"NB x SCHXXS x 6 MTR SS316/316L SMLS PIPE, ANNEAL & PICKLE, PE (21.3 x 7.47)
12	PS-01-AP-NB-12-040	3/4"NB x SCH40S x 6 MTR SS316/316L SMLS PIPE, ANNEAL & PICKLE, PE (26.7 x 2.87)
13	PS-01-AP-NB-12-080	3/4"NB x SCH80S x 6 MTR SS316/316L SMLS PIPE, ANNEAL & PICKLE, PE (26.7 x 3.91)
14	PS-01-AP-NB-12-160	3/4"NB x SCH160S x 6 MTR SS316/316L SMLS PIPE, ANNEAL & PICKLE, PE (26.7 x 5.56)
15	PS-01-AP-NB-12-XXS	3/4"NB x SCHXXS x 6 MTR SS316/316L SMLS PIPE, ANNEAL & PICKLE, PE (26.7 x 7.82)
16	PS-01-AP-NB-16-040	1"NB x SCH40S x 6 MTR SS316/316L SMLS PIPE, ANNEAL & PICKLE, PE (33.4 x 3.38)
17	PS-01-AP-NB-16-080	1"NB x SCH80S x 6 MTR SS316/316L SMLS PIPE, ANNEAL & PICKLE, PE (33.4 x 4.55)
18	PS-01-AP-NB-16-160	1"NB x SCH160S x 6 MTR SS316/316L SMLS PIPE, ANNEAL & PICKLE, PE (33.4 x 6.35)
19	PS-01-AP-NB-16-XXS	1"NB x SCHXXS x 6 MTR SS316/316L SMLS PIPE, ANNEAL & PICKLE, PE (33.4 x 9.09)
20	PS-01-AP-NB-20-040	1 1/4"NB x SCH40S x 6 MTR SS316/316L SMLS PIPE, ANNEAL & PICKLE, PE (42.2 x 3.56)
21	PS-01-AP-NB-20-080	1 1/4"NB x SCH80S x 6 MTR SS316/316L SMLS PIPE, ANNEAL & PICKLE, PE (42.2 x 4.85)
22	PS-01-AP-NB-20-160	1 1/4"NB x SCH160S x 6 MTR SS316/316L SMLS PIPE, ANNEAL & PICKLE, PE (42.2 x 6.35)
23	PS-01-AP-NB-20-XXS	1 1/4"NB x SCHXXS x 6 MTR SS316/316L SMLS PIPE, ANNEAL & PICKLE, PE (42.2 x 9.70)
24	PS-01-AP-NB-24-040	1 1/2"NB x SCH40S x 6 MTR SS316/316L SMLS PIPE, ANNEAL & PICKLE, PE (48.3 x 3.68)
25	PS-01-AP-NB-24-080	1 1/2"NB x SCH80S x 6 MTR SS316/316L SMLS PIPE, ANNEAL & PICKLE, PE (48.3 x 5.08)
26	PS-01-AP-NB-24-160	1 1/2"NB x SCH160S x 6 MTR SS316/316L SMLS PIPE, ANNEAL & PICKLE, PE (48.3 x 7.14)
27	PS-01-AP-NB-24-XXS	1 1/2"NB x SCHXXS x 6 MTR SS316/316L SMLS PIPE, ANNEAL & PICKLE, PE (48.3 x 10.16)
28	PS-01-AP-NB-32-010	2"NB x SCH10S x 6 MTR SS316/316L SMLS PIPE, ANNEAL & PICKLE, PE (60.3 x 2.77)
29	PS-01-AP-NB-32-040	2"NB x SCH40S x 6 MTR SS316/316L SMLS PIPE, ANNEAL & PICKLE, PE (60.3 x 3.91)
30	PS-01-AP-NB-32-080	2"NB x SCH80S x 6 MTR SS316/316L SMLS PIPE, ANNEAL & PICKLE, PE (60.3 x 5.54)
31	PS-01-AP-NB-32-160	2"NB x SCH160S x 6 MTR SS316/316L SMLS PIPE, ANNEAL & PICKLE, PE (60.3 x 8.74)
32	PS-01-AP-NB-32-XXS	2"NB x SCHXXS x 6 MTR SS316/316L SMLS PIPE, ANNEAL & PICKLE, PE (60.3 x 11.07)
33	PS-01-AP-NB-40-010	2 1/2"NB x SCH10S x 6 MTR SS316/316L SMLS PIPE, ANNEAL & PICKLE, PE (73.0 x 3.05)
34	PS-01-AP-NB-40-040	2 1/2"NB x SCH40S x 6 MTR SS316/316L SMLS PIPE, ANNEAL & PICKLE, PE (73.0 x 5.16)
35	PS-01-AP-NB-40-080	2 1/2"NB x SCH80S x 6 MTR SS316/316L SMLS PIPE, ANNEAL & PICKLE, PE (73.0 x 7.01)
36	PS-01-AP-NB-40-160	2 1/2"NB x SCH160S x 6 MTR SS316/316L SMLS PIPE, ANNEAL & PICKLE, PE (73.0 x 9.52)
37	PS-01-AP-NB-48-010	3"NB x SCH10S x 6 MTR SS316/316L SMLS PIPE, ANNEAL & PICKLE, PE (88.9 x 3.05)
38	PS-01-AP-NB-48-040	3"NB x SCH40S x 6MTR SS316/316L SMLS PIPE, ANNEAL & PICKLE, PE (88.9 x 5.49)
39	PS-01-AP-NB-64-010	4"NB x SCH10S x 6 MTR SS316/316L SMLS PIPE, ANNEAL & PICKLE, PE (114.3 x 3.05)
40	PS-01-AP-NB-64-040	4"NB x SCH40S x 6MTR SS316/316L SMLS PIPE, ANNEAL & PICKLE, PE (114.3 x 6.02)
41	PS-01-AP-NB-64-080	4"NB x SCH80S x 6MTR SS316/316L SMLS PIPE, ANNEAL & PICKLED, PE (114.3 x 8.56)

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