



Pressure Rating Tables for Stainless Steel Pipe

Notes to the tables of allowable working pressures.

1. This data is intended to provide a general guide. It must not be relied upon in the absence of competent professional advice.
2. These allowable pressures were calculated by the formula given in AS 4041-2006 "Pressure Piping", clause 3.14.3. Other design codes may give different allowable pressures. The original specifications must be consulted for full details.
3. These calculations assume Piping Class 1 so only apply if this level of piping construction quality has been achieved.
4. Calculations are for seamless pipe to specification ASTM A312/A312M. An additional weld joint efficiency factor of 85% must be allowed for standard welded pipe, and allowance made for corrosion or wear loss if appropriate.
5. Grade 304 and 316 design pressures are only valid at temperatures above 538°C if carbon content is 0.04% or higher.
6. Allowable working pressures are given in megapascals (MPa). Conversions to other units are:

to convert	to	multiply by
megapascals (MPa)	pounds/sq. inch (psi)	145.0
megapascals (MPa)	ksi	0.145
megapascals (MPa)	kilograms/mm ² (kgf/mm ²)	0.10197
megapascals (MPa)	bar	10.00
megapascals (MPa)	kilopascals (kPa)	1000

LIMITATION OF LIABILITY

The information contained in this Atlas Steels series of tables is not an exhaustive statement of all relevant information. It is a general guide for customers to the products and services available from Atlas Steels and no representation is made or warranty given in relation to this information or the products or processes it describes.

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STAINLESS STEEL GRADE TP304 PIPES - ASTM A 312, Seamless

ALLOWABLE WORKING PRESSURE AT TEMPERATURE

Temperature (°C):		50 100 150 200 250 300 325 350 375 400 425 450 475 500 525 550 575 600 625 650 675 700 725																									
Design Strength (MPa):		138 138 138 130 122 115 113 111 110 107 105 103 101 100 97 90 78 64 51 41 33 27 21																									
Size		Allowable Working Pressure (MPa)																									
DN	NPS	mm	Sch No	WT (mm)																							
10	½	17.15	10S	1.65	25.4	25.4	25.4	23.9	22.4	21.1	20.8	20.4	20.2	19.7	19.3	18.9	18.6	18.4	17.8	16.5	14.3	11.8	9.4	7.5	6.1	5.0	3.9
		17.15	40S	2.31	36.9	36.9	36.9	34.7	32.6	30.7	30.2	29.7	29.4	28.6	28.1	27.5	27.0	26.7	25.9	24.0	20.8	17.1	13.6	11.0	8.8	7.2	5.6
		17.15	80S	3.20	53.9	53.9	53.9	50.7	47.6	44.9	44.1	43.3	42.9	41.8	41.0	40.2	39.4	39.0	37.9	35.1	30.4	25.0	19.9	16.0	12.9	10.5	8.2
15	¾	21.34	5S	1.65	20.0	20.0	20.0	18.9	17.7	16.7	16.4	16.1	16.0	15.5	15.2	14.9	14.7	14.5	14.1	13.1	11.3	9.3	7.4	6.0	4.8	3.9	3.0
		21.34	10S	2.11	26.1	26.1	26.1	24.6	23.1	21.8	21.4	21.0	20.8	20.3	19.9	19.5	19.1	18.9	18.4	17.0	14.8	12.1	9.7	7.8	6.3	5.1	4.0
		21.34	40S	2.77	35.4	35.4	35.4	33.3	31.3	29.5	29.0	28.4	28.2	27.4	26.9	26.4	25.9	25.6	24.9	23.1	20.0	16.4	13.1	10.5	8.5	6.9	5.4
		21.34	80S	3.73	49.8	49.8	49.8	46.9	44.1	41.5	40.8	40.1	39.7	38.6	37.9	37.2	36.5	36.1	35.0	32.5	28.2	23.1	18.4	14.8	11.9	9.7	7.6
20	¾	26.67	5S	1.65	15.8	15.8	15.8	14.9	14.0	13.2	12.9	12.7	12.6	12.2	12.0	11.8	11.6	11.4	11.1	10.3	8.9	7.3	5.8	4.7	3.8	3.1	2.4
		26.67	10S	2.11	20.5	20.5	20.5	19.3	18.1	17.1	16.8	16.5	16.4	15.9	15.6	15.3	15.0	14.9	14.4	13.4	11.6	9.5	7.6	6.1	4.9	4.0	3.1
		26.67	40S	2.87	28.7	28.7	28.7	27.0	25.4	23.9	23.5	23.1	22.9	22.2	21.8	21.4	21.0	20.8	20.2	18.7	16.2	13.3	10.6	8.5	6.9	5.6	4.4
		26.67	80S	3.91	40.6	40.6	40.6	38.3	35.9	33.8	33.3	32.7	32.4	31.5	30.9	30.3	29.7	29.4	28.5	26.5	23.0	18.8	15.0	12.1	9.7	7.9	6.2
25	1	33.40	5S	1.65	12.5	12.5	12.5	11.7	11.0	10.4	10.2	10.0	9.9	9.7	9.5	9.3	9.1	9.0	8.8	8.1	7.0	5.8	4.6	3.7	3.0	2.4	1.9
		33.40	10S	2.77	21.6	21.6	21.6	20.3	19.1	18.0	17.7	17.4	17.2	16.7	16.4	16.1	15.8	15.6	15.2	14.1	12.2	10.0	8.0	6.4	5.2	4.2	3.3
		33.40	40S	3.38	26.8	26.8	26.8	25.3	23.7	22.3	22.0	21.6	21.4	20.8	20.4	20.0	19.6	19.4	18.8	17.5	15.2	12.4	9.9	8.0	6.4	5.2	4.1
		33.40	80S	4.55	37.4	37.4	37.4	35.2	33.0	31.1	30.6	30.0	29.8	29.0	28.4	27.9	27.3	27.1	26.3	24.4	21.1	17.3	13.8	11.1	8.9	7.3	5.7
32	1½	42.16	5S	1.65	9.8	9.8	9.8	9.2	8.7	8.2	8.0	7.9	7.8	7.6	7.4	7.3	7.2	7.1	6.9	6.4	5.5	4.5	3.6	2.9	2.3	1.9	1.5
		42.16	10S	2.77	16.8	16.8	16.8	15.9	14.9	14.0	13.8	13.5	13.4	13.1	12.8	12.6	12.3	12.2	11.8	11.0	9.5	7.8	6.2	5.0	4.0	3.3	2.6
		42.16	40S	3.56	22.0	22.0	22.0	20.7	19.5	18.3	18.0	17.7	17.6	17.1	16.8	16.4	16.1	16.0	15.5	14.4	12.4	10.2	8.1	6.5	5.3	4.3	3.4
		42.16	80S	4.85	30.9	30.9	30.9	29.1	27.3	25.7	25.3	24.8	24.6	24.0	23.5	23.1	22.6	22.4	21.7	20.1	17.5	14.3	11.4	9.2	7.4	6.0	4.7
40	1½	48.26	5S	1.65	8.5	8.5	8.5	8.0	7.5	7.1	7.0	6.8	6.8	6.6	6.5	6.4	6.2	6.2	6.0	5.6	4.8	3.9	3.1	2.5	2.0	1.7	1.3
		48.26	10S	2.77	14.6	14.6	14.6	13.7	12.9	12.2	12.0	11.7	11.6	11.3	11.1	10.9	10.7	10.6	10.3	9.5	8.2	6.8	5.4	4.3	3.5	2.9	2.2
		48.26	40S	3.68	19.7	19.7	19.7	18.6	17.4	16.4	16.2	15.9	15.7	15.3	15.0	14.7	14.4	14.3	13.9	12.9	11.2	9.2	7.3	5.9	4.7	3.9	3.0
		48.26	80S	5.08	28.0	28.0	28.0	26.4	24.8	23.3	22.9	22.5	22.3	21.7	21.3	20.9	20.5	20.3	19.7	18.3	15.8	13.0	10.3	8.3	6.7	5.5	4.3
50	2	60.33	5S	1.65	6.8	6.8	6.8	6.4	6.0	5.6	5.5	5.4	5.4	5.2	5.1	5.1	5.0	4.9	4.8	4.4	3.8	3.1	2.5	2.0	1.6	1.3	1.0
		60.33	10S	2.77	11.6	11.6	11.6	10.9	10.2	9.6	9.5	9.3	9.2	9.0	8.8	8.6	8.5	8.4	8.1	7.5	6.5	5.4	4.3	3.4	2.8	2.3	1.8
		60.33	40S	3.91	16.6	16.6	16.6	15.6	14.7	13.8	13.6	13.3	13.2	12.9	12.6	12.4	12.1	12.0	11.7	10.8	9.4	7.7	6.1	4.9	4.0	3.2	2.5
		60.33	80S	5.54	24.1	24.1	24.1	22.7	21.3	20.1	19.7	19.4	19.2	18.7	18.3	18.0	17.6	17.2	16.9	15.7	13.6	11.2	8.9	7.2	5.8	4.7	3.7
65	2½	73.03	5S	2.11	7.2	7.2	7.2	6.7	6.3	6.0	5.9	5.8	5.7	5.6	5.4	5.3	5.2	5.0	4.7	4.0	3.3	2.6	2.1	1.7	1.4	1.1	
		73.03	10S	3.05	10.5	10.5	10.5	9.9	9.3	8.7	8.6	8.4	8.3	8.1	8.0	7.8	7.7	7.6	7.4	6.8	5.9	4.9	3.9	3.1	2.5	2.0	1.6
		73.03	40S	5.16	18.2	18.2	18.2	17.1	16.1	15.2	14.9	14.6	14.5	14.1	13.8	13.6	13.3	13.2	12.8	11.9	10.3	8.4	6.7	5.4	4.3	3.6	2.8
		73.03	80S	7.01	25.3	25.3	25.3	23.8	22.4	21.1	20.7	20.4	20.2	19.6	19.3	18.9	18.5	18.3	17.8	16.5	14.3	11.7	9.4	7.5	6.1	5.0	3.9
80	3	88.90	5S	2.11	5.9	5.9	5.9	5.5	5.2	4.9	4.8	4.7	4.7	4.5	4.5	4.4	4.3	4.2	4.1	3.8	3.3	2.7	2.2	1.7	1.4	1.1	0.9
		88.90	10S	3.05	8.5	8.5	8.5	8.0	7.6	7.1	7.0	6.9	6.8	6.6	6.5	6.4	6.3	6.2	6.0	5.6	4.8	4.0	3.2	2.5	2.0	1.7	1.3
		88.90	40S	5.49	15.8	15.8	15.8	14.9	13.9	13.1	12.9	12.7	12.6	12.2	12.0	11.8	11.5	11.4	11.1	10.3	8.9	7.3	5.8	4.7	3.8	3.1	2.4
		88.90	80S	7.62	22.4	22.4	22.4	21.1	19.8	18.6	18.3	18.0	17.8	17.4	17.0	16.7	16.4	16.2	15.7	14.6	12.6	10.4	8.3	6.6	5.4	4.4	3.4
90	3½	101.60	5S	2.11	5.1	5.1	5.1	4.8	4.5	4.3	4.2	4.1	4.1	4.0	3.9	3.8	3.7	3.7	3.6	3.3	2.9	2.4	1.9	1.5	1.2	1.0	0.8
		101.60	10S	3.05	7.4	7.4	7.4	7.0	6.6	6.2	6.1	6.0	5.9	5.8	5.7	5.6	5.4	5.4	5.2	4.9	4.2	3.5	2.8	2.2	1.8	1.5	1.1
		101.60	40S	5.74	14.4	14.4	14.4	13.5	12.7	12.0	11.8	11.5	11.4	11.1	10.9	10.7	10.5	10.4	10.1	9.4	8.1	6.7	5.3	4.3	3.4	2.8	2.2
		101.60	80S	8.08	20.6	20.6	20.6	19.4	18.2	17.2	16.9	16.6	16.5	16.0	15.7	15.4	15.1	15.0	14.5	13.5	11.7	9.6	7.6	6.1	4.9	4.0	3.1
100	4	114.30	5S	2.11	4.5	4.5	4.5	4.3	4.0	3.8	3.7	3.6	3.6	3.5	3.4	3.4	3.3	3.3	3.2	3.0	2.6	2.1	1.7	1.3	1.1	0.9	0.7
		114.30	10S	3.05	6.6	6.6	6.6	6.2	5.8	5.5	5.4	5.3	5.3	5.1	5.0	4.9	4.8	4.8	4.6	4.3	3.7	3.1	2.4	2.0	1.6	1.3	1.0
		114.30	40S	6.02	13.3	13.3	13.3	12.6	11.8	11.1	10.9	10.7	10.6	10.3	10.1	10.0	9.8	9.7	9.4	8.7	7.5	6.2	4.9	4.0	3.2	2.6	2.0
		114.30	80S	8.56	19.4	19.4	19.4	18.2	17.1	16.1	15.8	15.6	15.4	15.0	14.7	14.4	14.2	14.0	13.6	12.6	10.9	9.0	7.2	5.8	4.6	3.8	2.9
125	5	141.30	5S	2.77	4.8	4.8	4.8	4.5	4.3	4.0	3.9	3.8	3.7	3.7	3.6	3.5	3.5	3.4	3.1	2.7	2.2	1.8	1.4	1.2	0.9	0.7	
		141.30	10S	3.40	5.9	5.9	5.9	5.6	5.2	4.9	4.9	4.8	4.7	4.6	4.5	4.4	4.3	4.3	4.2	3.9	3.4	2.8	2.2	1.8	1.4	1.2	0.9
		141.30	40S	6.55	11.7	11.7	11.7	11.0	10.3	9.7	9.																



STAINLESS STEEL GRADE TP304L PIPES - ASTM A 312, Seamless

ALLOWABLE WORKING PRESSURE AT TEMPERATURE

Temperature (°C):		50	100	150	200	250	300	325	350	375	400	425	450	475	500	525			
Design Strength (MPa):		115	115	115	109	103	98	96	94	93	92	90	88	84	73	60			
Size		Sch No	WT (mm)	Allowable Working Pressure (MPa)															
DN	NPS	mm																	
10	¾	17.15	10S	1.65	21.1	21.1	21.1	20.0	18.9	18.0	17.6	17.3	17.1	16.9	16.5	16.2	15.4	13.4	11.0
		17.15	40S	2.31	30.7	30.7	30.7	29.1	27.5	26.2	25.7	25.1	24.9	24.6	24.0	23.5	22.4	19.5	16.0
		17.15	80S	3.20	44.9	44.9	44.9	42.5	40.2	38.2	37.5	36.7	36.3	35.9	35.1	34.3	32.8	28.5	23.4
15	½	21.34	5S	1.65	16.7	16.7	16.7	15.8	14.9	14.2	13.9	13.6	13.5	13.4	13.1	12.8	12.2	10.6	8.7
		21.34	10S	2.11	21.8	21.8	21.8	20.6	19.5	18.6	18.2	17.8	17.6	17.4	17.0	16.7	15.9	13.8	11.4
		21.34	40S	2.77	29.5	29.5	29.5	27.9	26.4	25.1	24.6	24.1	23.8	23.6	23.1	22.6	21.5	18.7	15.4
		21.34	80S	3.73	41.5	41.5	41.5	39.4	37.2	35.4	34.7	33.9	33.6	33.2	32.5	31.8	30.3	26.4	21.7
20	¾	26.67	5S	1.65	13.2	13.2	13.2	12.5	11.8	11.2	11.0	10.8	10.6	10.5	10.3	10.1	9.6	8.4	6.9
		26.67	10S	2.11	17.1	17.1	17.1	16.2	15.3	14.6	14.3	14.0	13.8	13.7	13.4	13.1	12.5	10.9	8.9
		26.67	40S	2.87	23.9	23.9	23.9	22.7	21.4	20.4	20.0	19.5	19.3	19.1	18.7	18.3	17.5	15.2	12.5
		26.67	80S	3.91	33.8	33.8	33.8	32.1	30.3	28.8	28.3	27.7	27.4	27.1	26.5	25.9	24.7	21.5	17.7
25	1	33.40	5S	1.65	10.4	10.4	10.4	9.8	9.3	8.9	8.7	8.5	8.4	8.3	8.1	8.0	7.6	6.6	5.4
		33.40	10S	2.77	18.0	18.0	18.0	17.1	16.1	15.3	15.0	14.7	14.6	14.4	14.1	13.8	13.1	11.4	9.4
		33.40	40S	3.38	22.3	22.3	22.3	21.2	20.0	19.0	18.7	18.3	18.1	17.9	17.5	17.1	16.3	14.2	11.7
		33.40	80S	4.55	31.1	31.1	31.1	29.5	27.9	26.5	26.0	25.4	25.2	24.9	24.4	23.8	22.7	19.8	16.2
32	1½	42.16	5S	1.65	8.2	8.2	8.2	7.7	7.3	6.9	6.8	6.7	6.6	6.5	6.4	6.2	6.0	5.2	4.3
		42.16	10S	2.77	14.0	14.0	14.0	13.3	12.6	12.0	11.7	11.5	11.3	11.2	11.0	10.7	10.2	8.9	7.3
		42.16	40S	3.56	18.3	18.3	18.3	17.4	16.4	15.6	15.3	15.0	14.8	14.7	14.4	14.0	13.4	11.6	9.6
		42.16	80S	4.85	25.7	25.7	25.7	24.4	23.1	21.9	21.5	21.0	20.8	20.6	20.1	19.7	18.8	16.3	13.4
40	1½	48.26	5S	1.65	7.1	7.1	7.1	6.7	6.4	6.0	5.9	5.8	5.7	5.7	5.6	5.4	5.2	4.5	3.7
		48.26	10S	2.77	12.2	12.2	12.2	11.5	10.9	10.4	10.2	9.9	9.8	9.7	9.5	9.3	8.9	7.7	6.3
		48.26	40S	3.68	16.4	16.4	16.4	15.6	14.7	14.0	13.7	13.4	13.3	13.2	12.9	12.6	12.0	10.4	8.6
		48.26	80S	5.08	23.3	23.3	23.3	22.1	20.9	19.9	19.5	19.1	18.9	18.7	18.3	17.9	17.0	14.8	12.2
50	2	60.33	5S	1.65	5.6	5.6	5.6	5.3	5.1	4.8	4.7	4.6	4.6	4.5	4.4	4.3	4.1	3.6	2.9
		60.33	10S	2.77	9.6	9.6	9.6	9.1	8.6	8.2	8.0	7.9	7.8	7.7	7.5	7.4	7.0	6.1	5.0
		60.33	40S	3.91	13.8	13.8	13.8	13.1	12.4	11.8	11.5	11.3	11.2	11.1	10.8	10.6	10.1	8.8	7.2
		60.33	80S	5.54	20.1	20.1	20.1	19.0	18.0	17.1	16.8	16.4	16.3	16.1	15.7	15.4	14.7	12.8	10.5
65	2½	73.03	5S	2.11	6.0	6.0	6.0	5.7	5.3	5.1	5.0	4.9	4.8	4.8	4.7	4.6	4.4	3.8	3.1
		73.03	10S	3.05	8.7	8.7	8.7	8.3	7.8	7.4	7.3	7.1	7.1	7.0	6.8	6.7	6.4	5.5	4.6
		73.03	40S	5.16	15.2	15.2	15.2	14.4	13.6	12.9	12.7	12.4	12.3	12.1	11.9	11.6	11.1	9.6	7.9
		73.03	80S	7.01	21.1	21.1	21.1	20.0	18.9	18.0	17.6	17.2	17.1	16.9	16.5	16.1	15.4	13.4	11.0
80	3	88.90	5S	2.11	4.9	4.9	4.9	4.6	4.4	4.2	4.1	4.0	3.9	3.9	3.8	3.7	3.6	3.1	2.5
		88.90	10S	3.05	7.1	7.1	7.1	6.7	6.4	6.1	5.9	5.8	5.8	5.7	5.6	5.4	5.2	4.5	3.7
		88.90	40S	5.49	13.1	13.1	13.1	12.5	11.8	11.2	11.0	10.7	10.6	10.5	10.3	10.1	9.6	8.3	6.9
		88.90	80S	7.62	18.6	18.6	18.6	17.7	16.7	15.9	15.6	15.2	15.1	14.9	14.6	14.3	13.6	11.8	9.7
90	3½	101.60	5S	2.11	4.3	4.3	4.3	4.0	3.8	3.6	3.6	3.5	3.4	3.4	3.3	3.3	3.1	2.7	2.2
		101.60	10S	3.05	6.2	6.2	6.2	5.9	5.6	5.3	5.2	5.1	5.0	5.0	4.9	4.7	4.5	3.9	3.2
		101.60	40S	5.74	12.0	12.0	12.0	11.3	10.7	10.2	10.0	9.8	9.7	9.6	9.4	9.2	8.7	7.6	6.2
		101.60	80S	8.08	17.2	17.2	17.2	16.3	15.4	14.7	14.4	14.1	13.9	13.8	13.5	13.2	12.6	10.9	9.0
100	4	114.30	5S	2.11	3.8	3.8	3.8	3.6	3.4	3.2	3.2	3.1	3.1	3.0	3.0	2.9	2.8	2.4	2.0
		114.30	10S	3.05	5.5	5.5	5.5	5.2	4.9	4.7	4.6	4.5	4.4	4.4	4.3	4.2	4.0	3.5	2.9
		114.30	40S	6.02	11.1	11.1	11.1	10.5	10.0	9.5	9.3	9.1	9.0	8.9	8.7	8.5	8.1	7.1	5.8
		114.30	80S	8.56	16.1	16.1	16.1	15.3	14.4	13.7	13.5	13.2	13.0	12.9	12.6	12.3	11.8	10.2	8.4
125	5	141.30	5S	2.77	4.0	4.0	4.0	3.8	3.6	3.4	3.4	3.3	3.2	3.2	3.1	3.1	2.9	2.5	2.1
		141.30	10S	3.40	4.9	4.9	4.9	4.7	4.4	4.2	4.1	4.0	4.0	4.0	3.9	3.8	3.6	3.1	2.6
		141.30	40S	6.55	9.7	9.7	9.7	9.2	8.7	8.3	8.1	7.9	7.8	7.8	7.6	7.4	7.1	6.2	5.1
		141.30	80S	9.53	14.4	14.4	14.4	13.7	12.9	12.3	12.0	11.8	11.7	11.5	11.3	11.0	10.5	9.2	7.5
150	6	168.28	5S	2.77	3.4	3.4	3.4	3.2	3.0	2.9	2.8	2.7	2.7	2.6	2.6	2.5	2.1	1.8	
		168.28	10S	3.40	4.1	4.1	4.1	3.9	3.7	3.5	3.5	3.4	3.3	3.3	3.2	3.2	3.0	2.6	2.2
		168.28	40S	7.11	8.8	8.8	8.8	8.4	7.9	7.5	7.4	7.2	7.1	7.1	6.9	6.8	6.4	5.6	4.6
		168.28	80S	10.97	13.9	13.9	13.9	13.2	12.5	11.9	11.6	11.4	11.3	11.1	10.9	10.6	10.2	8.8	7.3
200	8	219.08	5S	2.77	2.6	2.6	2.6	2.4	2.3	2.2	2.1	2.1	2.1	2.1	2.0	2.0	1.9	1.6	1.3
		219.08	10S	3.76	3.5	3.5	3.5	3.3	3.1	3.0	2.9	2.9	2.8	2.8	2.7	2.7	2.6	2.2	1.8
		219.08	40S	8.18	7.8	7.8	7.8	7.4	7.0	6.6	6.5	6.3	6.3	6.2	6.1	5.9	5.7	4.9	4.1
		219.08	80S	12.70	12.3	12.3	12.3	11.6	11.0	10.5	10.3	10.0	9.9	9.8	9.6	9.4	9.0	7.8	6.4
250	10	273.05	5S	3.40	2.5	2.5	2.5	2.4	2.3	2.2	2.1	2.1	2.0	2.0	2.0	1.9	1.9	1.6	1.3
		273.05	10S	4.19	3.1	3.1	3.1	3.0	2.8	2.7	2.6	2.6	2.5	2.5	2.4	2.4	2.3	2.0	1.6
		273.05	40S	9.27	7.0	7.0	7.0	6.7	6.3	6.0	5.9	5.8	5.7	5.6	5.5	5.4	5.1	4.5	3.7
		273.05	80S	12.70	9.8	9.8	9.8	9.2	8.7	8.3	8.1	8.0	7.9	7.8	7.6	7.5	7.1	6.2	5.1
300	12	323.85	5S	3.96	2.5	2.5	2.5	2.4	2.2	2.1	2.1	2.0	2.0	2.0	1.9	1.9	1.8	1.6	1.3
		323.85	10S	4.57	2.9	2.9	2.9	2.7	2.6	2.5	2.4	2.4	2.3	2.3	2.3	2.2	2.1	1.8	1.5
		323.85	40S	9.53	6.1	6.1	6.1	5.8	5.4	5.2	5.1	5.0	4.9	4.9	4.8	4.7	4.4	3.9	3.2
		323.85	80S	12.70	8.2	8.2	8.2	7.7	7.3	7.0	6.8	6.7	6.6	6.5	6.4	6.3	6.0	5.2	4.3
350	14	355.60	5S	3.96	2.3	2.3	2.3	2.1	2.0	1.9	1.9	1.8	1.8	1.8	1.8				



STAINLESS STEEL GRADE TP316 PIPES - ASTM A 312, Seamless

ALLOWABLE WORKING PRESSURE AT TEMPERATURE

Temperature (°C):		50	100	150	200	250	300	325	350	375	400	425	450	475	500	525	550	575	600	625	650	675	700			
Design Strength (MPa):		138	138	138	133	125	119	117	114	112	111	110	108	107	106	106	103	95	81	65	50	39	30			
Size		Allowable Working Pressure (MPa)																								
DN	NPS	mm	Sch No	WT (mm)																						
10	¾	17.15	10S	1.65	25.4	25.4	25.4	24.5	23.0	21.9	21.5	21.0	20.6	20.4	20.2	19.9	19.7	19.5	19.5	18.9	17.5	14.9	11.9	9.2	7.2	5.5
		17.15	40S	2.31	36.9	36.9	36.9	35.5	33.4	31.8	31.3	30.5	29.9	29.7	29.4	28.9	28.6	28.3	28.3	27.5	25.4	21.6	17.4	13.4	10.4	8.0
		17.15	80S	3.20	53.9	53.9	53.9	51.9	48.8	46.4	45.7	44.5	43.7	43.3	42.9	42.1	41.8	41.4	41.4	40.2	37.1	31.6	25.4	19.5	15.2	11.7
15	½	21.34	5S	1.65	20.0	20.0	20.0	19.3	18.1	17.3	17.0	16.5	16.3	16.1	16.0	15.7	15.5	15.4	14.9	13.8	11.8	9.4	7.3	5.7	4.4	
		21.34	10S	2.11	26.1	26.1	26.1	25.2	23.7	22.5	22.2	21.6	21.2	21.0	20.8	20.5	20.3	20.1	20.1	19.5	18.0	15.3	12.3	9.5	7.4	5.7
		21.34	40S	2.77	35.4	35.4	35.4	34.1	32.0	30.5	30.0	29.2	28.7	28.4	28.2	27.7	27.4	27.2	27.2	26.4	24.3	20.8	16.7	12.8	10.0	7.7
		21.34	80S	3.73	49.8	49.8	49.8	48.0	45.1	43.0	42.2	41.2	40.4	40.1	39.7	39.0	38.6	38.3	38.3	37.2	34.3	29.2	23.5	18.1	14.1	10.8
20	¾	26.67	5S	1.65	15.8	15.8	15.8	15.2	14.3	13.6	13.4	13.0	12.8	12.7	12.6	12.4	12.2	12.1	12.1	11.8	10.9	9.3	7.4	5.7	4.5	3.4
		26.67	10S	2.11	20.5	20.5	20.5	19.8	18.6	17.7	17.4	17.0	16.7	16.5	16.4	16.1	15.9	15.8	15.8	15.3	14.1	12.0	9.7	7.4	5.8	4.5
		26.67	40S	2.87	28.7	28.7	28.7	27.7	26.0	24.7	24.3	23.7	23.3	23.1	22.9	22.5	22.2	22.0	22.0	21.4	19.8	16.8	13.5	10.4	8.1	6.2
		26.67	80S	3.91	40.6	40.6	40.6	39.1	36.8	35.0	34.4	33.6	33.0	32.7	32.4	31.8	31.5	31.2	31.2	30.3	28.0	23.8	19.1	14.7	11.5	8.8
25	1	33.40	5S	1.65	12.5	12.5	12.5	12.0	11.3	10.8	10.6	10.3	10.1	10.0	9.9	9.8	9.7	9.6	9.6	9.3	8.6	7.3	5.9	4.5	3.5	2.7
		33.40	10S	2.77	21.6	21.6	21.6	20.8	19.6	18.6	18.3	17.8	17.5	17.4	17.2	16.9	16.7	16.6	16.6	16.1	14.9	12.7	10.2	7.8	6.1	4.7
		33.40	40S	3.38	26.8	26.8	26.8	25.8	24.3	23.1	22.7	22.2	21.8	21.6	21.4	21.0	20.8	20.6	20.6	20.0	18.5	15.7	12.6	9.7	7.6	5.8
		33.40	80S	4.55	37.4	37.4	37.4	36.0	33.8	32.2	31.7	30.9	30.3	30.0	29.8	29.2	29.0	28.7	28.7	27.9	25.7	21.9	17.6	13.5	10.6	8.1
32	1¼	42.16	5S	1.65	9.8	9.8	9.8	9.4	8.9	8.4	8.3	8.1	7.9	7.9	7.8	7.7	7.6	7.5	7.5	7.3	6.7	5.7	4.6	3.5	2.8	2.1
		42.16	10S	2.77	16.8	16.8	16.8	16.2	15.2	14.5	14.3	13.9	13.7	13.5	13.4	13.2	13.1	12.9	12.9	12.6	11.6	9.9	7.9	6.1	4.8	3.7
		42.16	40S	3.56	22.0	22.0	22.0	21.2	19.9	19.0	18.7	18.2	17.9	17.7	17.6	17.2	17.1	16.9	16.9	16.4	15.2	12.9	10.4	8.0	6.2	4.8
		42.16	80S	4.85	30.9	30.9	30.9	29.8	28.0	26.6	26.2	25.5	25.1	24.8	24.6	24.2	24.0	23.7	23.7	23.1	21.3	18.1	14.6	11.2	8.7	6.7
40	1½	48.26	5S	1.65	8.5	8.5	8.5	8.2	7.7	7.3	7.2	7.0	6.9	6.8	6.8	6.7	6.6	6.5	6.5	6.4	5.9	5.0	4.0	3.1	2.4	1.9
		48.26	10S	2.77	14.6	14.6	14.6	14.1	13.2	12.6	12.4	12.1	11.8	11.7	11.6	11.4	11.3	11.2	11.2	10.9	10.0	8.6	6.9	5.3	4.1	3.2
		48.26	40S	3.68	19.7	19.7	19.7	19.0	17.9	17.0	16.7	16.3	16.0	15.9	15.7	15.4	15.3	15.2	15.2	14.7	13.6	11.6	9.3	7.1	5.6	4.3
		48.26	80S	5.08	28.0	28.0	28.0	27.0	25.4	24.1	23.7	23.1	22.7	22.5	22.3	21.9	21.7	21.5	21.5	20.9	19.3	16.4	13.2	10.1	7.9	6.1
50	2	60.33	5S	1.65	6.8	6.8	6.8	6.5	6.1	5.8	5.7	5.6	5.5	5.4	5.4	5.3	5.2	5.2	5.2	5.1	4.7	4.0	3.2	2.5	1.9	1.5
		60.33	10S	2.77	11.6	11.6	11.6	11.1	10.5	10.0	9.8	9.5	9.4	9.3	9.2	9.0	9.0	8.9	8.9	8.6	8.0	6.8	5.4	4.2	3.3	2.5
		60.33	40S	3.91	16.6	16.6	16.6	16.0	15.0	14.3	14.1	13.7	13.5	13.3	13.2	13.0	12.9	12.7	12.7	12.4	11.4	9.7	7.8	6.0	4.7	3.6
		60.33	80S	5.54	24.1	24.1	24.1	23.2	21.8	20.8	20.4	19.9	19.6	19.4	19.2	18.9	18.7	18.5	18.5	18.0	16.6	14.2	11.4	8.7	6.8	5.2
65	2½	73.03	5S	2.11	7.2	7.2	7.2	6.9	6.5	6.2	6.1	5.9	5.8	5.8	5.7	5.6	5.6	5.5	5.5	5.3	4.9	4.2	3.4	2.6	2.0	1.6
		73.03	10S	3.05	10.5	10.5	10.5	10.1	9.5	9.0	8.9	8.6	8.5	8.4	8.3	8.2	8.1	8.0	8.0	7.8	7.2	6.1	4.9	3.8	3.0	2.3
		73.03	40S	5.16	18.2	18.2	18.2	17.5	16.5	15.7	15.4	15.0	14.8	14.6	14.5	14.2	14.1	14.0	14.0	13.6	12.5	10.7	8.6	6.6	5.1	4.0
		73.03	80S	7.01	25.3	25.3	25.3	24.4	22.9	21.8	21.5	20.9	20.5	20.4	20.2	19.8	19.6	19.4	19.4	18.9	17.4	14.9	11.9	9.2	7.2	5.5
80	3	88.90	5S	2.11	5.9	5.9	5.9	5.6	5.3	5.0	5.0	4.8	4.8	4.7	4.7	4.6	4.5	4.5	4.5	4.4	4.0	3.4	2.8	2.1	1.7	1.3
		88.90	10S	3.05	8.5	8.5	8.5	8.2	7.7	7.4	7.2	7.1	6.9	6.9	6.8	6.7	6.6	6.6	6.6	6.4	5.9	5.0	4.0	3.1	2.4	1.9
		88.90	40S	5.49	15.8	15.8	15.8	15.2	14.3	13.6	13.4	13.0	12.8	12.7	12.6	12.3	12.2	12.1	12.1	11.8	10.9	9.3	7.4	5.7	4.5	3.4
		88.90	80S	7.62	22.4	22.4	22.4	21.6	20.3	19.3	19.0	18.5	18.2	18.0	17.8	17.5	17.4	17.2	17.2	16.7	15.4	13.1	10.5	8.1	6.3	4.9
90	3½	101.60	5S	2.11	5.1	5.1	5.1	4.9	4.6	4.4	4.3	4.2	4.1	4.1	4.0	4.0	3.9	3.9	3.8	3.5	3.0	2.4	1.9	1.4	1.1	
		101.60	10S	3.05	7.4	7.4	7.4	7.2	6.7	6.4	6.3	6.2	6.0	6.0	5.9	5.8	5.8	5.7	5.7	5.6	5.1	4.4	3.5	2.7	2.1	1.6
		101.60	40S	5.74	14.4	14.4	14.4	13.8	13.0	12.4	12.2	11.9	11.6	11.5	11.4	11.2	11.1	11.0	11.0	10.7	9.9	8.4	6.8	5.2	4.1	3.1
		101.60	80S	8.08	20.6	20.6	20.6	19.9	18.7	17.8	17.5	17.1	16.8	16.6	16.5	16.2	16.0	15.9	15.9	15.4	14.2	12.1	9.7	7.5	5.8	4.5
100	4	114.30	5S	2.11	4.5	4.5	4.5	4.4	4.1	3.9	3.8	3.7	3.7	3.6	3.5	3.5	3.5	3.5	3.5	3.4	3.1	2.7	2.1	1.6	1.3	1.0
		114.30	10S	3.05	6.6	6.6	6.6	6.4	6.0	5.7	5.6	5.5	5.4	5.3	5.3	5.2	5.1	5.1	5.1	4.9	4.5	3.9	3.1	2.4	1.9	1.4
		114.30	40S	6.02	13.3	13.3	13.3	12.9	12.1	11.5	11.3	11.0	10.8	10.7	10.6	10.4	10.3	10.2	10.2	10.0	9.2	7.8	6.3	4.8	3.8	2.9
		114.30	80S	8.56	19.4	19.4	19.4	18.7	17.5	16.7	16.4	16.0	15.7	15.6	15.4	15.1	15.0	14.9	14.9	14.4	13.3	11.4	9.1	7.0	5.5	4.2
125	5	141.30	5S	2.77	4.8	4.8	4.8	4.6	4.4	4.2	4.1	4.0	3.9	3.9	3.8	3.8	3.7	3.7	3.7	3.6	3.3	2.8	2.3	1.7	1.4	1.0
		141.30	10S	3.40	5.9	5.9	5.9	5.7	5.4	5.1	5.0	4.9	4.8	4.8	4.7	4.6	4.6	4.6	4.6	4.4	4.1	3.5	2.8	2.2	1.7	1.3
		141.30	40S	6.55	11.7	11.7	11.7	11.2	10.6	10.1	9.9	9.6	9.5	9.4	9.3	9.1	9.0	9.0	9.0	8.7	8.0	6.8	5.5	4.2	3.3	2.5
		141.30	80S	9																						

STAINLESS STEEL GRADE TP316L PIPES - ASTM A 312, Seamless

ALLOWABLE WORKING PRESSURE AT TEMPERATURE

Temperature (°C):			50	100	150	200	250	300	325	350	375	400	425	450	475	500	525		
Design Strength (MPa):			115	115	115	108	101	95	92	91	89	87	86	84	82	80	78		
Size		Sch No	WT (mm)	Allowable Working Pressure (MPa)															
DN	NPS	mm																	
10	¾	17.15	10S	1.65	21.1	21.1	21.1	19.9	18.6	17.5	16.9	16.7	16.4	16.0	15.8	15.4	15.1	14.7	14.3
		17.15	40S	2.31	30.7	30.7	30.7	28.9	27.0	25.4	24.6	24.3	23.8	23.2	23.0	22.4	21.9	21.4	20.8
		17.15	80S	3.20	44.9	44.9	44.9	42.1	39.4	37.1	35.9	35.5	34.7	34.0	33.6	32.8	32.0	31.2	30.4
15	½	21.34	5S	1.65	16.7	16.7	16.7	15.7	14.7	13.8	13.4	13.2	12.9	12.6	12.5	12.2	11.9	11.6	11.3
		21.34	10S	2.11	21.8	21.8	21.8	20.5	19.1	18.0	17.4	17.2	16.9	16.5	16.3	15.9	15.5	15.2	14.8
		21.34	40S	2.77	29.5	29.5	29.5	27.7	25.9	24.3	23.6	23.3	22.8	22.3	22.0	21.5	21.0	20.5	20.0
		21.34	80S	3.73	41.5	41.5	41.5	39.0	36.5	34.3	33.2	32.9	32.1	31.4	31.1	30.3	29.6	28.9	28.2
20	¾	26.67	5S	1.65	13.2	13.2	13.2	12.4	11.6	10.9	10.5	10.4	10.2	10.0	9.8	9.6	9.4	9.2	8.9
		26.67	10S	2.11	17.1	17.1	17.1	16.1	15.0	14.1	13.7	13.5	13.2	12.9	12.8	12.5	12.2	11.9	11.6
		26.67	40S	2.87	23.9	23.9	23.9	22.5	21.0	19.8	19.1	18.9	18.5	18.1	17.9	17.5	17.0	16.6	16.2
		26.67	80S	3.91	33.8	33.8	33.8	31.8	29.7	28.0	27.1	26.8	26.2	25.6	25.3	24.7	24.1	23.5	23.0
25	1	33.40	5S	1.65	10.4	10.4	10.4	9.8	9.1	8.6	8.3	8.2	8.0	7.9	7.8	7.6	7.4	7.2	7.0
		33.40	10S	2.77	18.0	18.0	18.0	16.9	15.8	14.9	14.4	14.2	13.9	13.6	13.5	13.1	12.8	12.5	12.2
		33.40	40S	3.38	22.3	22.3	22.3	21.0	19.6	18.5	17.9	17.7	17.3	16.9	16.7	16.3	15.9	15.5	15.2
		33.40	80S	4.55	31.1	31.1	31.1	29.2	27.3	25.7	24.9	24.6	24.1	23.5	23.3	22.7	22.2	21.7	21.1
32	1½	42.16	5S	1.65	8.2	8.2	8.2	7.7	7.2	6.7	6.5	6.5	6.3	6.2	6.1	6.0	5.8	5.7	5.5
		42.16	10S	2.77	14.0	14.0	14.0	13.2	12.3	11.6	11.2	11.1	10.9	10.6	10.5	10.2	10.0	9.8	9.5
		42.16	40S	3.56	18.3	18.3	18.3	17.2	16.1	15.2	14.7	14.5	14.2	13.9	13.7	13.4	13.1	12.8	12.4
		42.16	80S	4.85	25.7	25.7	25.7	24.2	22.6	21.3	20.6	20.4	19.9	19.5	19.3	18.8	18.4	17.9	17.5
40	1½	48.26	5S	1.65	7.1	7.1	7.1	6.7	6.2	5.9	5.7	5.6	5.5	5.4	5.3	5.2	5.1	4.9	4.8
		48.26	10S	2.77	12.2	12.2	12.2	11.4	10.7	10.0	9.7	9.6	9.4	9.2	9.1	8.9	8.7	8.5	8.2
		48.26	40S	3.68	16.4	16.4	16.4	15.4	14.4	13.6	13.2	13.0	12.7	12.4	12.3	12.0	11.7	11.4	11.2
		48.26	80S	5.08	23.3	23.3	23.3	21.9	20.5	19.3	18.7	18.5	18.1	17.7	17.4	17.0	16.6	16.2	15.8
50	2	60.33	5S	1.65	5.6	5.6	5.6	5.3	5.0	4.7	4.5	4.5	4.4	4.3	4.2	4.1	4.0	3.9	3.8
		60.33	10S	2.77	9.6	9.6	9.6	9.0	8.5	8.0	7.7	7.6	7.5	7.3	7.2	7.0	6.9	6.7	6.5
		60.33	40S	3.91	13.8	13.8	13.8	13.0	12.1	11.4	11.1	10.9	10.7	10.5	10.3	10.1	9.9	9.6	9.4
		60.33	80S	5.54	20.1	20.1	20.1	18.9	17.6	16.6	16.1	15.9	15.6	15.2	15.0	14.7	14.3	14.0	13.6
65	2½	73.03	5S	2.11	6.0	6.0	6.0	5.6	5.2	4.9	4.8	4.7	4.6	4.5	4.4	4.3	4.1	4.0	
		73.03	10S	3.05	8.7	8.7	8.7	8.2	7.7	7.2	7.0	6.9	6.8	6.6	6.5	6.4	6.2	6.1	5.9
		73.03	40S	5.16	15.2	15.2	15.2	14.2	13.3	12.5	12.1	12.0	11.7	11.5	11.3	11.1	10.8	10.5	10.3
		73.03	80S	7.01	21.1	21.1	21.1	19.8	18.5	17.4	16.9	16.7	16.3	16.0	15.8	15.4	15.0	14.7	14.3
80	3	88.90	5S	2.11	4.9	4.9	4.9	4.6	4.3	4.0	3.9	3.8	3.7	3.6	3.6	3.5	3.4	3.3	
		88.90	10S	3.05	7.1	7.1	7.1	6.7	6.3	5.9	5.7	5.6	5.5	5.4	5.3	5.2	5.1	5.0	4.8
		88.90	40S	5.49	13.1	13.1	13.1	12.3	11.5	10.9	10.5	10.4	10.2	9.9	9.8	9.6	9.4	9.1	8.9
		88.90	80S	7.62	18.6	18.6	18.6	17.5	16.4	15.4	14.9	14.8	14.4	14.1	13.9	13.6	13.3	13.0	12.6
90	3½	101.60	5S	2.11	4.3	4.3	4.3	4.0	3.7	3.5	3.4	3.4	3.3	3.2	3.2	3.1	3.0	3.0	
		101.60	10S	3.05	6.2	6.2	6.2	5.8	5.4	5.1	5.0	4.9	4.8	4.7	4.6	4.5	4.4	4.3	4.2
		101.60	40S	5.74	12.0	12.0	12.0	11.2	10.5	9.9	9.6	9.5	9.3	9.0	8.9	8.7	8.5	8.3	8.1
		101.60	80S	8.08	17.2	17.2	17.2	16.2	15.1	14.2	13.8	13.6	13.3	13.0	12.9	12.6	12.3	12.0	11.7
100	4	114.30	5S	2.11	3.8	3.8	3.8	3.5	3.3	3.1	3.0	3.0	2.9	2.9	2.8	2.7	2.6	2.6	
		114.30	10S	3.05	5.5	5.5	5.5	5.2	4.8	4.5	4.4	4.4	4.3	4.2	4.1	4.0	3.9	3.8	3.7
		114.30	40S	6.02	11.1	11.1	11.1	10.4	9.8	9.2	8.9	8.8	8.6	8.4	8.3	8.1	7.9	7.7	7.5
		114.30	80S	8.56	16.1	16.1	16.1	15.1	14.2	13.3	12.9	12.8	12.5	12.2	12.1	11.8	11.5	11.2	10.9
125	5	141.30	5S	2.77	4.0	4.0	4.0	3.8	3.5	3.3	3.2	3.2	3.1	3.0	3.0	2.9	2.9	2.8	2.7
		141.30	10S	3.40	4.9	4.9	4.9	4.6	4.3	4.1	4.0	3.9	3.8	3.7	3.7	3.6	3.5	3.4	3.4
		141.30	40S	6.55	9.7	9.7	9.7	9.1	8.5	8.0	7.8	7.7	7.5	7.4	7.3	7.1	6.9	6.8	6.6
		141.30	80S	9.53	14.4	14.4	14.4	13.5	12.7	11.9	11.5	11.4	11.2	10.9	10.8	10.5	10.3	10.0	9.8
150	6	168.28	5S	2.77	3.4	3.4	3.4	3.2	3.0	2.8	2.7	2.7	2.6	2.5	2.5	2.4	2.3	2.3	
		168.28	10S	3.40	4.1	4.1	4.1	3.9	3.6	3.4	3.3	3.3	3.2	3.1	3.1	3.0	3.0	2.9	2.8
		168.28	40S	7.11	8.8	8.8	8.8	8.3	7.8	7.3	7.1	7.0	6.8	6.7	6.6	6.4	6.3	6.1	6.0
		168.28	80S	10.97	13.9	13.9	13.9	13.1	12.2	11.5	11.1	11.0	10.8	10.5	10.4	10.2	9.9	9.7	9.4
200	8	219.08	5S	2.77	2.6	2.6	2.6	2.4	2.3	2.1	2.1	2.0	2.0	1.9	1.9	1.9	1.8	1.8	1.7
		219.08	10S	3.76	3.5	3.5	3.5	3.3	3.1	2.9	2.8	2.8	2.7	2.7	2.6	2.6	2.5	2.4	2.4
		219.08	40S	8.18	7.8	7.8	7.8	7.3	6.8	6.4	6.2	6.1	6.0	5.9	5.8	5.7	5.5	5.4	5.3
		219.08	80S	12.70	12.3	12.3	12.3	11.5	10.8	10.2	9.8	9.7	9.5	9.3	9.2	9.0	8.8	8.5	8.3
250	10	273.05	5S	3.40	2.5	2.5	2.5	2.4	2.2	2.1	2.0	2.0	2.0	1.9	1.9	1.9	1.8	1.8	1.7
		273.05	10S	4.19	3.1	3.1	3.1	2.9	2.7	2.6	2.5	2.5	2.4	2.4	2.3	2.3	2.2	2.2	2.1
		273.05	40S	9.27	7.0	7.0	7.0	6.6	6.2	5.8	5.6	5.6	5.4	5.3	5.3	5.1	5.0	4.9	4.8
		273.05	80S	12.70	9.8	9.8	9.8	9.2	8.6	8.1	7.8	7.7	7.6	7.4	7.3	7.1	7.0	6.8	6.6
300	12	323.85	5S	3.96	2.5	2.5	2.5	2.3	2.2	2.1	2.0	2.0	1.9	1.9	1.9	1.8	1.8	1.7	1.7
		323.85	10S	4.78	3.0	3.0	3.0	2.8	2.6	2.5	2.4	2.4	2.3	2.3	2.2	2.1	2.1	2.0	
		323.85	40S	9.53	6.1	6.1	6.1	5.7	5.3	5.0	4.9	4.8	4.7	4.6	4.5	4.4	4.3	4.2	4.1
		323.85	80S	12.70	8.2	8.2	8.2	7.7	7.2	6.8	6.5	6.5	6.3	6.2	6.1	6.0	5.8	5.7	5.5
350	14	355.60	5S	4.19	2.4	2.4	2.4	2.3	2.1	2.0	1.9	1.9	1.9	1.8	1.8	1.8	1.7	1.7</	