

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 (R 2016) "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 (austenitic grades) or ASTM A790/A790M (grade 2205). An additional weld joint efficiency factor (typically 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.

GRADE TP304L

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	5S	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	10S	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	1¼	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	5.7	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	7.9	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	2.7	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				

GRADE TP316

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		Sch	WT	Allowable Working Pressure (MPa)																							
DN	NPS	mm	No																								
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	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	
20	¾	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	
		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	
25	1	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	
		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	
32	1¼	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	
40	1½	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	
40	1½	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	
		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	
50	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	
		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	
65	2½	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	
80	3	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	
80	3	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	
		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	
90	3½	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	
		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	4.1	4.0	4.0	3.9	3.9	3.8	3.5	3.0	2.4	1.9	1.4	1.1	
100	4	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	
125	5	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	3.6	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	
125	5	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	
		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	
150	6	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								



GRADE TP316L

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	
DN	Size		Sch No	WT (mm)	Allowable Working Pressure (MPa)													
	NPS	mm			115	115	115	108	101	95	92	91	89	87	86	84	82	80
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	1¼	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	4.5	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	3.9	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	2.9	2.9
		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	2.8	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	2.5	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	2.3	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	1.6
		355.60 10S	4.78	2.7	2.7	2.7	2.6	2.4	2.3	2.2	2.2	2.1	2.1	2.0	2.0	1.9	1.9	
		355.60 40																



GRADE TP2205

ALLOWABLE WORKING PRESSURE AT TEMPERATURE

Temperature (°C):					50	100	150	200	250	300
Design Strength (MPa):					207	207	199	193	188	186
DN	Size		Sch No	WT (mm)	Allowable Working Pressure (MPa)					
	NPS	mm								
10	¾	17.15	10S	1.65	38.1	38.1	36.6	35.5	34.6	34.2
		17.15	40S	2.31	55.3	55.3	53.2	51.6	50.2	49.7
		17.15	80S	3.20	80.8	80.8	77.7	75.3	73.4	72.6
15	½	21.34	5S	1.65	30.0	30.0	28.9	28.0	27.3	27.0
		21.34	10S	2.11	39.2	39.2	37.7	36.6	35.6	35.2
		21.34	40S	2.77	53.0	53.0	51.0	49.5	48.2	47.7
		21.34	80S	3.73	74.7	74.7	71.9	69.7	67.9	67.2
20	¾	26.67	5S	1.65	23.7	23.7	22.8	22.1	21.5	21.3
		26.67	10S	2.11	30.8	30.8	29.6	28.7	28.0	27.7
		26.67	40S	2.87	43.0	43.0	41.4	40.1	39.1	38.7
		26.67	80S	3.91	60.9	60.9	58.6	56.8	55.3	54.7
25	1	33.40	5S	1.65	18.7	18.7	18.0	17.4	17.0	16.8
		33.40	10S	2.77	32.4	32.4	31.1	30.2	29.4	29.1
		33.40	40S	3.38	40.2	40.2	38.7	37.5	36.5	36.1
		33.40	80S	4.55	56.0	56.0	53.9	52.2	50.9	50.3
32	1¼	42.16	5S	1.65	14.7	14.7	14.1	13.7	13.3	13.2
		42.16	10S	2.77	25.3	25.3	24.3	23.5	22.9	22.7
		42.16	40S	3.56	33.0	33.0	31.8	30.8	30.0	29.7
		42.16	80S	4.85	46.3	46.3	44.5	43.2	42.1	41.6
40	1½	48.26	5S	1.65	12.8	12.8	12.3	11.9	11.6	11.5
		48.26	10S	2.77	21.9	21.9	21.0	20.4	19.9	19.7
		48.26	40S	3.68	29.6	29.6	28.5	27.6	26.9	26.6
		48.26	80S	5.08	42.0	42.0	40.4	39.2	38.1	37.7
50	2	60.33	5S	1.65	10.2	10.2	9.8	9.5	9.2	9.1
		60.33	10S	2.77	17.3	17.3	16.7	16.2	15.7	15.6
		60.33	40S	3.91	24.9	24.9	23.9	23.2	22.6	22.4
		60.33	80S	5.54	36.2	36.2	34.8	33.7	32.9	32.5
65	2½	73.03	5S	2.11	10.7	10.7	10.3	10.0	9.8	9.6
		73.03	10S	3.05	15.7	15.7	15.1	14.6	14.3	14.1
		73.03	40S	5.16	27.3	27.3	26.2	25.4	24.8	24.5
		73.03	80S	7.01	38.0	38.0	36.5	35.4	34.5	34.1
80	3	88.90	5S	2.11	8.8	8.8	8.4	8.2	8.0	7.9
		88.90	10S	3.05	12.8	12.8	12.3	11.9	11.6	11.5
		88.90	40S	5.49	23.6	23.6	22.7	22.0	21.5	21.2
		88.90	80S	7.62	33.6	33.6	32.3	31.3	30.5	30.2
90	3½	101.60	5S	2.11	7.7	7.7	7.4	7.1	7.0	6.9
		101.60	10S	3.05	11.2	11.2	10.7	10.4	10.1	10.0
		101.60	40S	5.74	21.5	21.5	20.7	20.1	19.6	19.3
		101.60	80S	8.08	31.0	31.0	29.8	28.9	28.1	27.8
100	4	114.30	5S	2.11	6.8	6.8	6.5	6.3	6.2	6.1
		114.30	10S	3.05	9.9	9.9	9.5	9.2	9.0	8.9
		114.30	40S	6.02	20.0	20.0	19.2	18.6	18.2	18.0
		114.30	80S	8.56	29.0	29.0	27.9	27.1	26.4	26.1
125	5	141.30	5S	2.77	7.2	7.2	6.9	6.7	6.6	6.5
		141.30	10S	3.40	8.9	8.9	8.6	8.3	8.1	8.0
		141.30	40S	6.55	17.5	17.5	16.8	16.3	15.9	15.7
		141.30	80S	9.53	26.0	26.0	25.0	24.2	23.6	23.3
150	6	168.28	5S	2.77	6.1	6.1	5.8	5.6	5.5	5.4
		168.28	10S	3.40	7.5	7.5	7.2	6.9	6.8	6.7
		168.28	40S	7.11	15.9	15.9	15.3	14.8	14.4	14.3
		168.28	80S	10.97	25.0	25.0	24.1	23.3	22.7	22.5
200	8	219.08	5S	2.77	4.6	4.6	4.5	4.3	4.2	4.2
		219.08	10S	3.76	6.3	6.3	6.1	5.9	5.7	5.7
		219.08	40S	8.18	14.0	14.0	13.4	13.0	12.7	12.6
		219.08	80S	12.70	22.1	22.1	21.3	20.6	20.1	19.9
250	10	273.05	5S	3.40	4.6	4.6	4.4	4.3	4.1	4.1
		273.05	10S	4.19	5.6	5.6	5.4	5.3	5.1	5.1
		273.05	40S	9.27	12.7	12.7	12.2	11.8	11.5	11.4
		273.05	80S	12.70	17.6	17.6	16.9	16.4	16.0	15.8
300	12	323.85	5S	3.96	4.5	4.5	4.3	4.2	4.1	4.0
		323.85	10S	4.57	5.2	5.2	5.0	4.8	4.7	4.7
		323.85	40S	9.53	10.9	10.9	10.5	10.2	9.9	9.8
		323.85	80S	12.70	14.7	14.7	14.1	13.7	13.4	13.2
350	14	355.60	5S	3.96	4.1	4.1	3.9	3.8	3.7	3.7
		355.60	10S	4.78	4.9	4.9	4.7	4.6	4.5	4.4
		355.60	40S	9.53	9.9	9.9	9.6	9.3	9.0	8.9
		355.60	80S	12.70	13.4	13.4	12.8	12.5	12.1	12.0
400	16	406.40	5S	4.19	3.8	3.8	3.6	3.5	3.4	3.4
		406.40	10S	4.78	4.3	4.3	4.1	4.0	3.9	3.9
		406.40	40S	9.53	8.7	8.7	8.3	8.1	7.9	7.8
		406.40	80S	12.70	11.6	11.6	11.2	10.9	10.6	10.5
450	18	457.20	5S	4.19	3.3	3.3	3.2	3.1	3.0	3.0
		457.20	10S	4.78	3.8	3.8	3.7	3.6	3.5	3.4
		457.20	40S	9.53	7.7	7.7	7.4	7.2	7.0	6.9
		457.20	80S	12.70	10.3	10.3	9.9	9.6	9.4	9.3
500	20	508.00	5S	4.78	3.4	3.4	3.3	3.2	3.1	3.1
		508.00	10S	5.54	4.0	4.0	3.8	3.7	3.6	3.6
		508.00	40S	9.53	6.9	6.9	6.6	6.4	6.3	6.2
		508.00	80S	12.70	9.3	9.3	8.9	8.6	8.4	8.3
550	22	558.80	5S	4.78	3.1	3.1	3.0	2.9	2.8	2.8
		558.80	10S	5.54	3.6	3.6	3.5	3.4	3.3	3.3
600	24	609.60	5S	5.54	3.3	3.3	3.2	3.1	3.0	3.0
		609.60	10S	6.35	3.8	3.8	3.7	3.6	3.5	3.4
		609.60	40S	9.53	5.7	5.7	5.5	5.4	5.2	5.2
		609.60	80S	12.70	7.7	7.7	7.4	7.2	7.0	6.9
750	30	762.00	5S	6.35	3.0	3.0	2.9	2.8	2.8	2.7
		762.00	10S	7.92	3.8	3.8	3.7	3.5	3.5	3.4

Important - refer to the associated Notes to this table.