



Mid-South Control Line

Theoretical Mechanical Calculations
Other alloys and sizes available upon request.



Size/Type			Seamless					
OD	WT	Alloy	Min Tensile Strength (psi)	Min Yield Strength (psi)	Theoretical Collapse Pressure ¹ (psi)	Theoretical Burst Pressure ² (psi)	Theoretical Working Pressure ³ (psi)	Recommended Test Pressure ⁴ (psi)
0.250	0.035	316L	75,000	30,000	6,600	21,000	6,300	7,600
		825	85,000	35,000	7,700	23,800	7,300	8,900
		625	120,000	60,000	13,200	33,600	12,600	15,200
		2205	95,000	70,000	15,400	26,600	14,700	17,700
0.250	0.049	316L	75,000	30,000	8,700	29,600	8,900	10,700
		825	85,000	35,000	10,100	33,600	10,400	12,500
		625	120,000	60,000	17,400	47,500	17,800	21,400
		2205	95,000	70,000	20,300	37,600	20,800	18,000*
0.250	0.065	316L	75,000	30,000	10,700	38,000	11,400	13,700
		825	85,000	35,000	12,500	43,100	13,300	16,000
		625	120,000	60,000	21,500	60,800	22,800	18,000*
		2205	95,000	70,000	25,000	48,100	26,700	18,000*
0.375	0.035	316L	75,000	30,000	4,600	13,500	4,000	4,900
		825	85,000	35,000	5,300	15,300	4,700	5,700
		625	120,000	60,000	9,200	21,600	8,100	9,800
		2205	95,000	70,000	10,700	17,100	9,400	11,400
0.375	0.049	316L	75,000	30,000	6,200	19,400	5,800	7,100
		825	85,000	35,000	7,200	22,000	6,800	8,200
		625	120,000	60,000	12,400	31,100	11,700	14,100
		2205	95,000	70,000	14,500	24,600	13,600	16,400
0.375	0.065	316L	75,000	30,000	7,800	26,700	8,000	9,700
		825	85,000	35,000	9,200	30,300	9,300	11,300
		625	120,000	60,000	15,700	42,700	16,000	18,000*
		2205	95,000	70,000	18,400	33,800	18,700	18,000*
0.500	0.035	316L	75,000	30,000	3,500	9,900	2,900	3,600
		825	85,000	35,000	4,100	11,200	3,400	4,200
		625	120,000	60,000	7,000	15,900	5,900	7,200
		2205	95,000	70,000	8,200	12,600	6,900	8,400
0.500	0.049	316L	75,000	30,000	4,800	14,200	4,200	5,200
		825	85,000	35,000	5,600	16,100	4,900	6,000
		625	120,000	60,000	9,600	22,700	8,500	10,300
		2205	95,000	70,000	11,200	18,000	9,900	12,000
0.500	0.065	316L	75,000	30,000	6,100	19,300	5,800	7,000
		825	85,000	35,000	7,200	21,900	6,700	8,200
		625	120,000	60,000	12,300	30,900	11,600	14,000
		2205	95,000	70,000	14,400	24,500	13,500	16,300
0.500	0.083	316L	75,000	30,000	7,600	25,400	7,600	9,200
		825	85,000	35,000	8,800	28,800	8,900	10,700
		625	120,000	60,000	15,200	40,700	15,300	18,000*
		2205	95,000	70,000	17,700	32,200	17,800	18,000*

¹Theoretical Collapse pressure based on nominal OD, minimum wall thickness, and minimum yield strength, API 5C3 Formula

²Theoretical Burst & Yield pressures based on nominal OD, minimum wall thickness, and minimum mechanical properties, utilizing Claverino (t/D > 0.17) or Boardman Formulas (t/D < 0.17)

³Theoretical working pressure utilizes a 1.33 S.F. from Theoretical Yield Pressure (= Yield Pressure / 1.33)

⁴MSCL Recommended Test Pressure = 90% of Theoretical Yield Pressure (= Yield Pressure x 0.9)

825 E* - "Enhanced" properties with increased yield strengths. No orbital welds at final size.

*MSCL Limits Testing Pressures to 18,000 PSI for Internal Safety Requirements. The 18,000 limit was established based on the 1.2 x 15,000 psi. 15,000 psi is typically the highest rated subsea tree capability. Test pressures above 18,000 psi can be accommodated upon request.