



Mid-South Control Line

Theoretical Mechanical Calculations
Other alloys and sizes available upon request.



Size/Type			Welded					
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 (psi)
0.250	0.035	316L	75,000	30,000	6,600	21,100	6,300	7,700
		825	85,000	35,000	7,700	24,000	7,400	8,900
		825 E*	95,000	60,000	13,200	26,800	12,700	15,300
		625	120,000	60,000	13,200	33,800	12,700	15,300
		2205	95,000	70,000	15,400	26,800	14,800	17,800
0.250	0.049	316L	75,000	30,000	8,700	30,700	9,200	11,100
		825	85,000	35,000	10,100	34,800	10,800	13,000
		825 E*	95,000	60,000	17,400	38,900	18,400	18,000*
		625	120,000	60,000	17,400	49,100	18,400	18,000*
		2205	95,000	70,000	20,300	38,900	21,500	18,000*
0.250	0.065	316L	75,000	30,000	10,700	41,900	12,600	15,100
		825	85,000	35,000	12,500	47,400	14,700	17,700
		825 E*	95,000	60,000	21,500	53,000	25,200	18,000*
		625	120,000	60,000	21,500	67,000	25,200	18,000*
		2205	95,000	70,000	25,000	53,000	29,400	18,000*
0.375	0.035	316L	75,000	30,000	4,600	13,600	4,100	5,000
		825	85,000	35,000	5,300	15,400	4,700	5,800
		825 E*	95,000	60,000	9,200	17,200	8,200	9,900
		625	120,000	60,000	9,200	21,800	8,200	9,900
		2205	95,000	70,000	10,700	17,200	9,500	11,500
0.375	0.049	316L	75,000	30,000	6,200	19,600	5,900	7,100
		825	85,000	35,000	7,200	22,200	6,800	8,300
		825 E*	95,000	60,000	12,400	24,800	11,800	14,200
		625	120,000	60,000	12,400	31,400	11,800	14,200
		2205	95,000	70,000	14,500	24,800	13,700	16,500
0.375	0.065	316L	75,000	30,000	7,800	26,800	8,000	9,700
		825	85,000	35,000	9,200	30,300	9,400	11,300
		825 E*	95,000	60,000	15,700	33,900	16,100	19,400
		625	120,000	60,000	15,700	42,800	16,100	19,400
		2205	95,000	70,000	18,400	33,900	18,800	18,000*
0.500	0.035	316L	75,000	30,000	3,500	10,000	3,000	3,700
		825	85,000	35,000	4,100	11,300	3,500	4,300
		825 E*	95,000	60,000	7,000	12,700	6,000	7,300
		625	120,000	60,000	7,000	16,000	6,000	7,300
		2205	95,000	70,000	8,200	12,700	7,000	8,500
0.500	0.049	316L	75,000	30,000	4,800	14,300	4,300	5,200
		825	85,000	35,000	5,600	16,200	5,000	6,100
		825 E*	95,000	60,000	9,600	18,200	8,600	10,400
		625	120,000	60,000	9,600	23,000	8,600	10,400
		2205	95,000	70,000	11,200	18,200	10,000	12,100
0.500	0.065	316L	75,000	30,000	6,100	19,500	5,800	7,100
		825	85,000	35,000	7,200	22,100	6,800	8,300
		825 E*	95,000	60,000	12,300	24,700	11,700	14,100
		625	120,000	60,000	12,300	31,200	11,700	14,100
		2205	95,000	70,000	14,400	24,700	13,700	16,500
0.500	0.083	316L	75,000	30,000	7,600	25,500	7,600	9,300
		825	85,000	35,000	8,800	28,900	8,900	10,800
		825 E*	95,000	60,000	15,200	32,300	15,300	18,000*
		625	120,000	60,000	15,200	40,800	15,300	18,000*
		2205	95,000	70,000	17,700	32,300	17,900	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 LAME Formula

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

*MSCL 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.