QT-900 Technical Data Sheet

For the appropriate sizes, QT-900 can be routinely ordered as a TRUE-TAPER™ string, straight wall, straight wall Flash-Free string or as a string with an electric wireline or capillary tube installed. QT-900 is manufactured from high strength low alloy steel (HSLAS) with alloying additions to provide resistance to atmospheric corrosion. The chemical composition of QT-900 meets the specification requirements of API 5ST CT90.

Mechanical Properties

Minimum Yield Strength, psi (MPa)	90,000 (621)
Minimum Tensile Strength, psi (MPa)	98,000 (676)
Minimum Elongation	Calculated from the formula: $E=850{,}000\ \frac{A_w^{0.2}}{L_u^{0.9}}\ \%$ Where: A_w = Pipe Metal Cross Section, (in^2) L_u = Specified Minimum Tensile Strength (psi).
Maximum Hardness	22 HRC

Technical Data

Specified

Outside Diameter, D		**Wall Thickness, t**		**Calculated Inside Diameter, d**		**Plain End Mass, M_{pe}**		**Pipe Metal Cross Sectional Area, A**		**Pipe Body Yield Load, L_y**		**Tensile Load, L_T**		**Internal Yield Pressure, P_r**		**Hydro Test Pressure, P_T**		**Torsional Yield Strength, T_f**	
in	mm	in	mm	in	mm	lb/ft	kg/m	in^2	mm^2	lb	kg	lb	kg	psi	MPa	psi	MPa	ft-lb	N-m
1	25.4	0.087	2.2	0.826	21.0	0.849	1.264	0.250	161.0	22,460	10,190	24,450	11,090	14,760	101.8	11,800	81.4	450	610
1	25.4	0.095	2.4	0.810	20.6	0.919	1.368	0.270	174.3	24,310	11,030	26,470	12,010	16,200	111.7	13,000	89.4	480	650
1	25.4	0.102	2.6	0.796	20.2	0.979	1.457	0.288	185.6	25,900	11,750	28,200	12,790	17,460	120.4	14,000	96.3	510	690
1	25.4	0.109	2.8	0.782	19.9	1.038	1.545	0.305	196.8	27,460	12,460	29,900	13,560	18,720	129.1	15,000	103.3	530	720
1	25.4	0.118	3.0	0.764	19.4	1.113	1.656	0.327	210.9	29,430	13,350	32,040	14,530	20,340	140.2	15,000	103.4	560	760
1	25.4	0.125	3.2	0.750	19.1	1.169	1.740	0.344	221.7	30,930	14,030	33,670	15,270	21,600	148.9	15,000	103.4	580	790
1 ¼	31.8	0.087	2.2	1.076	27.4	1.082	1.613	0.318	205.4	28,610	13,000	31,150	14,150	11,810	81.3	9,400	65.0	750	1,020
1 ¼	31.8	0.095	2.4	1.060	27.0	1.173	1.749	0.345	222.8	31,020	14,100	33,780	15,350	12,960	89.2	10,400	71.4	800	1,080
1 ¼	31.8	0.102	2.6	1.046	26.6	1.252	1.866	0.368	237.7	33,110	15,040	36,050	16,380	13,970	96.2	11,200	76.9	850	1,150
1 ¼	31.8	0.109	2.8	1.032	26.3	1.330	1.982	0.391	252.5	35,160	15,980	38,290	17,400	14,980	103.1	12,000	82.5	890	1,210
1 ¼	31.8	0.118	3.0	1.014	25.8	1.428	2.129	0.420	271.2	37,770	17,160	41,120	18,690	16,270	112.0	13,000	89.6	940	1,270
1 ¼	31.8	0.125	3.2	1.000	25.5	1.503	2.241	0.442	285.5	39,760	18,070	43,300	19,670	17,280	119.0	13,800	95.2	980	1,330
1 ¼	31.8	0.134	3.4	0.982	25.0	1.599	2.384	0.470	303.6	42,280	19,210	46,040	20,920	18,580	127.9	14,900	102.3	1,030	1,400
1 ¼	31.8	0.145	3.7	0.960	24.4	1.713	2.554	0.503	325.3	45,300	20,590	49,330	22,420	20,160	138.8	15,000	103.4	1,080	1,460
1 ¼	31.8	0.156	4.0	0.938	23.9	1.824	2.720	0.536	346.5	48,250	21,930	52,540	23,880	21,740	149.7	15,000	103.4	1,130	1,530
1 ¼	31.8	0.175	4.4	0.900	22.9	2.011	2.999	0.591	382.0	53,190	24,170	57,920	26,320	24,480	168.5	15,000	103.4	1,210	1,640
1 ¼	31.8	0.188	4.8	0.874	22.2	2.134	3.183	0.627	405.4	56,450	25,650	61,470	27,930	26,350	181.4	15,000	103.4	1,260	1,710
1 ½	38.1	0.095	2.4	1.310	33.3	1.427	2.124	0.419	270.5	37,740	17,120	41,090	18,640	10,800	74.5	8,600	59.6	1,200	1,630
1 ½	38.1	0.102	2.6	1.296	32.9	1.524	2.269	0.448	289.0	40,320	18,290	43,900	19,910	11,640	80.3	9,300	64.2	1,270	1,720
1 ½	38.1	0.109	2.8	1.282	32.6	1.621	2.412	0.476	307.3	42,870	19,450	46,680	21,170	12,480	86.0	10,000	68.8	1,340	1,820
1 ½	38.1	0.118	3.0	1.264	32.1	1.743	2.594	0.512	330.5	46,110	20,910	50,210	22,770	13,560	93.5	10,800	74.8	1,420	1,930
1 ½	38.1	0.125	3.2	1.250	31.8	1.837	2.735	0.540	348.4	48,600	22,040	52,920	24,000	14,400	99.3	11,500	79.4	1,490	2,020
1 ½	38.1	0.134	3.4	1.232	31.3	1.957	2.912	0.575	371.0	51,750	23,480	56,360	25,560	15,480	106.7	12,400	85.4	1,560	2,120
1 ½	38.1	0.145	3.7	1.210	30.7	2.100	3.126	0.617	398.2	55,550	25,200	60,490	27,440	16,800	115.8	13,400	92.7	1,650	2,240
1 ½	38.1	0.156	4.0	1.188	30.2	2.241	3.336	0.659	425.0	59,280	26,890	64,550	29,280	18,120	124.9	14,500	99.9	1,740	2,360
1 ½	38.1	0.175	4.4	1.150	29.2	2.479	3.689	0.728	470.0	65,560	29,740	71,390	32,380	20,400	140.7	15,000	103.4	1,880	2,550
1 ½	38.1	0.188	4.8	1.124	28.5	2.637	3.924	0.775	499.9	69,740	31,630	75,940	34,450	21,960	151.4	15,000	103.4	1,960	2,660
1 ½	38.1	0.203	5.2	1.094	27.8	2.815	4.189	0.827	533.6	74,440	33,770	81,060	36,770	23,760	163.8	15,000	103.4	2,060	2,790
1 ¾	44.5	0.109	2.8	1.532	39.0	1.912	2.849	0.562	363.0	50,570	22,970	55,070	25,010	10,700	73.7	8,600	58.9	1,880	2,550
1 ¾	44.5	0.118	3.0	1.514	38.5	2.059	3.068	0.605	390.8	54,450	24,730	59,290	26,920	11,620	80.0	9,300	64.0	2,000	2,710
1 ¾	44.5	0.125	3.2	1.500	38.2	2.171	3.236	0.638	412.2	57,430	26,080	62,540	28,400	12,340	85.0	9,900	68.0	2,100	2,850
1 ¾	44.5	0.134	3.4	1.482	37.7	2.315	3.450	0.680	439.4	61,230	27,810	66,670	30,280	13,270	91.4	10,600	73.1	2,210	3,000
1 ¾	44.5	0.145	3.7	1.460	37.1	2.488	3.707	0.731	472.3	65,800	29,880	71,650	32,540	14,400	99.2	11,500	79.3	2,350	3,190
1 ¾	44.5	0.156	4.0	1.438	36.6	2.658	3.961	0.781	504.6	70,310	31,930	76,560	34,770	15,530	107.0	12,400	85.6	2,480	3,360
1 ¾	44.5	0.175	4.4	1.400	35.6	2.946	4.391	0.866	559.3	77,930	35,390	84,860	38,540	17,490	120.4	14,000	96.3	2,690	3,650
1 ¾	44.5	0.188	4.8	1.374	34.9	3.139	4.678	0.923	595.9	83,030	37,710	90,410	41,060	18,820	129.6	15,000	103.4	2,820	3,820
1 ¾	44.5	0.203	5.2	1.344	34.2	3.357	5.003	0.987	637.3	88,790	40,330	96,690	43,910	20,370	140.3	15,000	103.4	2,970	4,030
1 ¾	44.5	0.224	5.7	1.302	33.1	3.654	5.444	1.074	693.4	96,650	43,880	105,240	47,780	22,530	155.1	15,000	103.4	3,160	4,280
2	50.8	0.109	2.8	1.782	45.3	2.203	3.279	0.648	417.8	58,280	26,440	63,460	28,780	9,360	64.5	7,500	51.6	2,510	3,400
2	50.8	0.118	3.0	1.764	44.8	2.374	3.533	0.698	450.1	62,790	28,480	68,370	31,010	10,170	70.1	8,100	56.1	2,690	3,650
2	50.8	0.125	3.2	1.750	44.5	2.505	3.729	0.736	475.0	66,270	30,060	72,160	32,730	10,800	74.5	8,600	59.6	2,810	3,810
2	50.8	0.134	3.4	1.732	44.0	2.673	3.978	0.786	506.8	70,700	32,070	76,980	34,920	11,610	80.0	9,300	64.0	2,980	4,040
2	50.8	0.145	3.7	1.710	43.4	2.875	4.280	0.845	545.2	76,050	34,500	82,810	37,560	12,600	86.9	10,100	69.5	3,170	4,300
2	50.8	0.156	4.0	1.688	42.9	3.075	4.577	0.904	583.0	81,340	36,890	88,570	40,170	13,590	93.7	10,900	75.0	3,350	4,540
2	50.8	0.175	4.4	1.650	41.9	3.414	5.081	1.003	647.3	90,300	40,960	98,330	44,600	15,300	105.5	12,200	84.4	3,650	4,950
2	50.8	0.188	4.8	1.624	41.2	3.642	5.420	1.070	690.5	96,320	43,690	104,880	47,570	16,470	113.6	13,200	90.8	3,840	5,210
2	50.8	0.203	5.2	1.594	40.5	3.900	5.804	1.146	739.4	103,140	46,780	112,310	50,940	17,820	122.9	14,300	98.3	4,060	5,500
2	50.8	0.224	5.7	1.552	39.4	4.253	6.327	1.250	806.0	112,480	51,000	122,480	55,530	19,710	135.8	15,000	103.4	4,340	5,880
2	50.8	0.236	6.0	1.528	38.8	4.450	6.623	1.308	843.7	117,710	53,390	128,170	58,130	20,790	143.3	15,000	103.4	4,480	6,070
2	50.8	0.250	6.4	1.500	38.1	4.677	6.961	1.374	886.7	123,700	56,110	134,700	61,100	22,050	152.0	15,000	103.4	4,650	6,300

QT-900 Technical Data Sheet

Specified																			
Outside Diameter, D		Wall Thickness, t		Calculated Inside Diameter, d		Plain End Mass, M_{pe}		Pipe Metal Cross Sectional Area, A		Pipe Body Yield Load, L_y		Tensile Load, L_T		Internal Yield Pressure, P_r		Hydro Test Pressure, P_T		Torsional Yield Strength, T_f	
in	mm	in	mm	in	mm	lb/ft	kg/m	in^2	mm^2	lb	kg	lb	kg	psi	MPa	psi	MPa	lb/ft	kg/m
2 3/8	60.3	0.134	3.4	2.107	53.5	3.210	4.776	0.943	608.4	84,910	38,500	92,450	41,920	9,780	67.4	7,800	53.9	4,330	5,870
2 3/8	60.3	0.145	3.7	2.085	52.9	3.457	5.142	1.016	655.1	91,430	41,450	99,550	45,140	10,610	73.2	8,500	58.5	4,620	6,260
2 3/8	60.3	0.156	4.0	2.063	52.4	3.700	5.505	1.088	701.3	97,880	44,380	106,580	48,320	11,440	78.9	9,200	63.2	4,910	6,660
2 3/8	60.3	0.175	4.4	2.025	51.4	4.116	6.123	1.210	780.0	108,860	49,350	118,530	53,740	12,880	88.9	10,300	71.1	5,370	7,280
2 3/8	60.3	0.188	4.8	1.999	50.7	4.395	6.539	1.292	833.0	116,250	52,710	126,590	57,390	13,870	95.7	11,100	76.5	5,670	7,690
2 3/8	60.3	0.203	5.2	1.969	50.0	4.713	7.012	1.385	893.3	124,670	56,520	135,750	61,550	15,010	103.5	12,000	82.8	6,010	8,150
2 3/8	60.3	0.224	5.7	1.927	48.9	5.151	7.659	1.514	975.7	136,230	61,740	148,340	67,230	16,600	114.4	13,300	91.5	6,450	8,750
2 3/8	60.3	0.236	6.0	1.903	48.3	5.396	8.028	1.586	1,022.6	142,730	64,710	155,420	70,460	17,510	120.8	14,000	96.6	6,690	9,070
2 3/8	60.3	0.250	6.4	1.875	47.6	5.679	8.449	1.669	1,076.3	150,210	68,100	163,560	74,160	18,570	128.1	14,900	102.5	6,970	9,450
2 5/8	66.7	0.156	4.0	2.313	58.8	4.117	6.131	1.210	781.0	108,900	49,420	118,580	53,810	10,350	71.4	8,300	57.1	6,110	8,280
2 5/8	66.7	0.175	4.4	2.275	57.8	4.583	6.824	1.347	869.4	121,230	55,010	132,000	59,900	11,660	80.3	9,300	64.3	6,700	9,080
2 5/8	66.7	0.188	4.8	2.249	57.1	4.898	7.292	1.439	929.0	129,540	58,780	141,060	64,010	12,550	86.5	10,000	69.2	7,090	9,610
2 5/8	66.7	0.203	5.2	2.219	56.4	5.256	7.826	1.545	996.9	139,020	63,080	151,370	68,690	13,580	93.6	10,900	74.9	7,530	10,210
2 5/8	66.7	0.224	5.7	2.177	55.3	5.749	8.557	1.690	1,090.1	152,070	68,980	165,580	75,110	15,020	103.5	12,000	82.8	8,100	10,980
2 5/8	66.7	0.236	6.0	2.153	54.7	6.027	8.974	1.771	1,143.1	159,410	72,330	173,580	78,760	15,840	109.2	12,700	87.3	8,420	11,420
2 5/8	66.7	0.250	6.4	2.125	54.0	6.347	9.451	1.865	1,203.9	167,880	76,180	182,800	82,950	16,800	115.8	13,400	92.6	8,770	11,890
2 7/8	73.0	0.156	4.0	2.563	65.1	4.534	6.746	1.333	859.4	119,930	54,380	130,590	59,210	9,450	65.2	7,600	52.2	7,440	10,090
2 7/8	73.0	0.175	4.4	2.525	64.1	5.051	7.515	1.484	957.3	133,600	60,580	145,470	65,960	10,640	73.4	8,500	58.7	8,180	11,090
2 7/8	73.0	0.188	4.8	2.499	63.4	5.400	8.034	1.587	1,023.5	142,830	64,760	155,530	70,520	11,460	79.0	9,200	63.2	8,670	11,750
2 7/8	73.0	0.203	5.2	2.469	62.7	5.798	8.627	1.704	1,099.0	153,360	69,540	167,000	75,720	12,400	85.5	9,900	68.4	9,210	12,490
2 7/8	73.0	0.224	5.7	2.427	61.6	6.348	9.441	1.866	1,202.6	167,900	76,100	182,820	82,860	13,710	94.5	11,000	75.6	9,940	13,480
2 7/8	73.0	0.236	6.0	2.403	61.0	6.658	9.905	1.957	1,261.8	176,090	79,840	191,750	86,940	14,460	99.7	11,600	79.8	10,340	14,020
2 7/8	73.0	0.250	6.4	2.375	60.3	7.015	10.437	2.062	1,329.6	185,550	84,130	202,040	91,610	15,340	105.8	12,300	84.6	10,790	14,630

A Minimum wall thickness is 0.005" (0.13 mm) less than specified wall thickness.

B Pressures calculated based on t – 0.005" (0.13 mm).

C Maximum hydrostatic test pressure is 15,000 psi (103 MPa).

D Additional diameters and wall thicknesses may be available upon request.