

# QT-1000 Technical Data Sheet

For the appropriate sizes, QT-1000 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-1000 is manufactured from high strength low alloy steel (HSLAS) with alloying additions to provide resistance to atmospheric corrosion. The chemical composition of QT-1000 meets the specification requirements of API 5ST CT100.

## Mechanical Properties

Minimum Yield Strength, psi (MPa)	100,000 (689)
Minimum Tensile Strength, psi (MPa)	110,000 (758)
Minimum Elongation	<p>Calculated from the formula:</p> $E=800,000 \frac{A_w^{0.2}}{L_u^{0.9}} \%$ <p>Where:  <math>A_w</math> = Pipe Metal Cross Section, (in<sup>2</sup>)  <math>L_u</math> = Specified Minimum Tensile Strength (psi).</p>
Maximum Hardness	28 HRC

## Technical Data

Specified

Outside Diameter, D		Wall Thickness, t		Calculated Inside Diameter, d		Plain End Mass, M <sub>pe</sub>		Pipe Metal Cross Sectional Area, A		Pipe Body Yield Load, L <sub>y</sub>		Tensile Load, L <sub>t</sub>		Internal Yield Pressure, P <sub>i</sub>		Hydro Test Pressure, P <sub>t</sub>		Torsional Yield Strength, T <sub>r</sub>	
in	mm	in	mm	in	mm	lb/ft	kg/m	in <sup>2</sup>	mm <sup>2</sup>	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	24,950	11,320	27,450	12,450	16,400	113.1	13,100	90.5	500	680
1	25.4	0.095	2.4	0.810	20.6	0.919	1.368	0.270	174.3	27,010	12,250	29,710	13,480	18,000	124.1	14,400	99.3	540	730
1	25.4	0.102	2.6	0.796	20.2	0.979	1.457	0.288	185.6	28,780	13,050	31,650	14,360	19,400	133.8	15,000	103.4	570	770
1	25.4	0.109	2.8	0.782	19.9	1.038	1.545	0.305	196.8	30,510	13,840	33,560	15,220	20,800	143.4	15,000	103.4	590	800
1	25.4	0.118	3.0	0.764	19.4	1.113	1.656	0.327	210.9	32,700	14,830	35,970	16,310	22,600	155.8	15,000	103.4	620	840
1	25.4	0.125	3.2	0.750	19.1	1.169	1.740	0.344	221.7	34,360	15,590	37,800	17,140	24,000	165.5	15,000	103.4	650	880
1 1/4	31.8	0.087	2.2	1.076	27.4	1.082	1.613	0.318	205.4	31,790	14,440	34,970	15,890	13,120	90.3	10,500	72.3	830	1,130
1 1/4	31.8	0.095	2.4	1.060	27.0	1.173	1.749	0.345	222.8	34,470	15,660	37,920	17,230	14,400	99.1	11,500	79.3	890	1,210
1 1/4	31.8	0.102	2.6	1.046	26.6	1.252	1.866	0.368	237.7	36,790	16,720	40,470	18,390	15,520	106.8	12,400	85.5	940	1,270
1 1/4	31.8	0.109	2.8	1.032	26.3	1.330	1.982	0.391	252.5	39,070	17,750	42,980	19,530	16,640	114.5	13,300	91.6	990	1,340
1 1/4	31.8	0.118	3.0	1.014	25.8	1.428	2.129	0.420	271.2	41,960	19,070	46,160	20,970	18,080	124.5	14,500	99.6	1,050	1,420
1 1/4	31.8	0.125	3.2	1.000	25.5	1.503	2.241	0.442	285.5	44,180	20,070	48,600	22,080	19,200	132.2	15,000	103.4	1,090	1,480
1 1/4	31.8	0.134	3.4	0.982	25.0	1.599	2.384	0.470	303.6	46,980	21,350	51,680	23,480	20,640	142.1	15,000	103.4	1,140	1,550
1 1/4	31.8	0.145	3.7	0.960	24.4	1.713	2.554	0.503	325.3	50,340	22,870	55,370	25,160	22,400	154.2	15,000	103.4	1,200	1,630
1 1/4	31.8	0.156	4.0	0.938	23.9	1.824	2.720	0.536	346.5	53,620	24,360	58,980	26,800	24,160	166.3	15,000	103.4	1,260	1,710
1 1/4	31.8	0.175	4.4	0.900	22.9	2.011	2.999	0.591	382.0	59,100	26,860	65,010	29,540	27,200	187.2	15,000	103.4	1,350	1,830
1 1/4	31.8	0.188	4.8	0.874	22.2	2.134	3.183	0.627	405.4	62,720	28,500	69,000	31,350	29,280	201.6	15,000	103.4	1,400	1,900
1 1/2	38.1	0.095	2.4	1.310	33.3	1.427	2.124	0.419	270.5	41,930	19,020	46,130	20,920	12,000	82.7	9,600	66.2	1,330	1,800
1 1/2	38.1	0.102	2.6	1.296	32.9	1.524	2.269	0.448	289.0	44,800	20,320	49,280	22,350	12,930	89.2	10,300	71.3	1,410	1,910
1 1/2	38.1	0.109	2.8	1.282	32.6	1.621	2.412	0.476	307.3	47,630	21,610	52,400	23,770	13,870	95.6	11,100	76.5	1,490	2,020
1 1/2	38.1	0.118	3.0	1.264	32.1	1.743	2.594	0.512	330.5	51,230	23,240	56,360	25,560	15,070	103.9	12,100	83.1	1,580	2,140
1 1/2	38.1	0.125	3.2	1.250	31.8	1.837	2.735	0.540	348.4	54,000	24,490	59,400	26,940	16,000	110.3	12,800	88.3	1,650	2,240
1 1/2	38.1	0.134	3.4	1.232	31.3	1.957	2.912	0.575	371.0	57,510	26,080	63,260	28,690	17,200	118.6	13,800	94.9	1,740	2,360
1 1/2	38.1	0.145	3.7	1.210	30.7	2.100	3.126	0.617	398.2	61,720	28,000	67,900	30,800	18,670	128.7	14,900	103.0	1,840	2,490
1 1/2	38.1	0.156	4.0	1.188	30.2	2.241	3.336	0.659	425.0	65,870	29,880	72,450	32,870	20,130	138.8	15,000	103.4	1,930	2,620
1 1/2	38.1	0.175	4.4	1.150	29.2	2.479	3.689	0.728	470.0	72,850	33,040	80,130	36,350	22,670	156.3	15,000	103.4	2,090	2,830
1 1/2	38.1	0.188	4.8	1.124	28.5	2.637	3.924	0.775	499.9	77,490	35,150	85,240	38,660	24,400	168.2	15,000	103.4	2,180	2,960
1 1/2	38.1	0.203	5.2	1.094	27.8	2.815	4.189	0.827	533.6	82,720	37,520	90,990	41,270	26,400	182.0	15,000	103.4	2,290	3,100
1 3/4	44.5	0.109	2.8	1.532	39.0	1.912	2.849	0.562	363.0	56,190	25,520	61,810	28,070	11,890	81.9	9,500	65.5	2,090	2,830
1 3/4	44.5	0.118	3.0	1.514	38.5	2.059	3.068	0.605	390.8	60,500	27,470	66,550	30,220	12,910	88.9	10,300	71.1	2,230	3,020
1 3/4	44.5	0.125	3.2	1.500	38.2	2.171	3.236	0.638	412.2	63,810	28,980	70,200	31,880	13,710	94.5	11,000	75.6	2,330	3,160
1 3/4	44.5	0.134	3.4	1.482	37.7	2.315	3.450	0.680	439.4	68,030	30,900	74,830	33,990	14,740	101.5	11,800	81.2	2,460	3,340
1 3/4	44.5	0.145	3.7	1.460	37.1	2.488	3.707	0.731	472.3	73,110	33,200	80,420	36,520	16,000	110.2	12,800	88.2	2,610	3,540
1 3/4	44.5	0.156	4.0	1.438	36.6	2.658	3.961	0.781	504.6	78,120	35,480	85,930	39,030	17,260	118.9	13,800	95.1	2,750	3,730
1 3/4	44.5	0.175	4.4	1.400	35.6	2.946	4.391	0.866	559.3	86,590	39,330	95,250	43,260	19,430	133.8	15,000	103.4	2,990	4,050
1 3/4	44.5	0.188	4.8	1.374	34.9	3.139	4.678	0.923	595.9	92,250	41,900	101,480	46,090	20,910	144.0	15,000	103.4	3,140	4,260
1 3/4	44.5	0.203	5.2	1.344	34.2	3.357	5.003	0.987	637.3	98,660	44,810	108,530	49,290	22,630	155.8	15,000	103.4	3,300	4,470
1 3/4	44.5	0.224	5.7	1.302	33.1	3.654	5.444	1.074	693.4	107,390	48,750	118,130	53,630	25,030	172.3	15,000	103.4	3,510	4,760
2	50.8	0.109	2.8	1.782	45.3	2.203	3.279	0.648	417.8	64,750	29,370	71,230	32,310	10,400	71.7	8,300	57.4	2,790	3,780
2	50.8	0.118	3.0	1.764	44.8	2.374	3.533	0.698	450.1	69,770	31,640	76,740	34,810	11,300	77.9	9,000	62.3	2,980	4,040
2	50.8	0.125	3.2	1.750	44.5	2.505	3.729	0.736	475.0	73,630	33,400	80,990	36,740	12,000	82.7	9,600	66.2	3,130	4,240
2	50.8	0.134	3.4	1.732	44.0	2.673	3.978	0.786	506.8	78,550	35,630	86,410	39,190	12,900	88.9	10,300	71.2	3,310	4,490
2	50.8	0.145	3.7	1.710	43.4	2.875	4.280	0.845	545.2	84,500	38,330	92,950	42,160	14,000	96.5	11,200	77.2	3,520	4,770
2	50.8	0.156	4.0	1.688	42.9	3.075	4.577	0.904	583.0	90,370	40,990	99,410	45,090	15,100	104.1	12,100	83.3	3,720	5,040
2	50.8	0.175	4.4	1.650	41.9	3.414	5.081	1.003	647.3	100,330	45,510	110,370	50,060	17,000	117.2	13,600	93.8	4,060	5,500
2	50.8	0.188	4.8	1.624	41.2	3.642	5.420	1.070	690.5	107,020	48,540	117,720	53,400	18,300	126.2	14,600	100.9	4,270	5,790
2	50.8	0.203	5.2	1.594	40.5	3.900	5.804	1.146	739.4	114,600	51,980	126,060	57,180	19,800	136.5	15,000	103.4	4,510	6,110
2	50.8	0.224	5.7	1.552	39.4	4.253	6.327	1.250	806.0	124,980	56,670	137,480	62,330	21,900	150.9	15,000	103.4	4,820	6,540
2	50.8	0.236	6.0	1.528	38.8	4.450	6.623	1.308	843.7	130,790	59,320	143,860	65,250	23,100	159.3	15,000	103.4	4,980	6,750
2	50.8	0.250	6.4	1.500	38.1	4.677	6.961	1.374	886.7	137,450	62,340	151,190	68,580	24,500	168.9	15,000	103.4	5,170	7,010

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## Specified

Outside Diameter, D		Wall Thickness, t		Calculated Inside Diameter, d		Plain End Mass, M <sub>pe</sub>		Pipe Metal Cross Sectional Area, A		Pipe Body Yield Load, L <sub>y</sub>		Tensile Load, L <sub>t</sub>		Internal Yield Pressure, P <sub>i</sub>		Hydro Test Pressure, P <sub>t</sub>		Torsional Yield Strength, T <sub>y</sub>	
in	mm	in	mm	in	mm	lb/ft	kg/m	in <sup>2</sup>	mm <sup>2</sup>	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	94,340	42,770	103,770	47,050	10,860	74.9	8,700	59.9	4,820	6,540
2 3/8	60.3	0.145	3.7	2.085	52.9	3.457	5.142	1.016	655.1	101,580	46,060	111,740	50,660	11,790	81.3	9,400	65.1	5,140	6,970
2 3/8	60.3	0.156	4.0	2.063	52.4	3.700	5.505	1.088	701.3	108,750	49,310	119,630	54,240	12,720	87.7	10,200	70.2	5,450	7,390
2 3/8	60.3	0.175	4.4	2.025	51.4	4.116	6.123	1.210	780.0	120,950	54,840	133,050	60,320	14,320	98.7	11,500	79.0	5,970	8,090
2 3/8	60.3	0.188	4.8	1.999	50.7	4.395	6.539	1.292	833.0	129,170	58,560	142,090	64,420	15,410	106.3	12,300	85.0	6,300	8,540
2 3/8	60.3	0.203	5.2	1.969	50.0	4.713	7.012	1.385	893.3	138,520	62,800	152,370	69,080	16,670	115.0	13,300	92.0	6,680	9,060
2 3/8	60.3	0.224	5.7	1.927	48.9	5.151	7.659	1.514	975.7	151,370	68,600	166,510	75,460	18,440	127.1	14,800	101.7	7,170	9,720
2 3/8	60.3	0.236	6.0	1.903	48.3	5.396	8.028	1.586	1,022.6	158,590	71,900	174,450	79,090	19,450	134.2	15,000	103.4	7,440	10,090
2 3/8	60.3	0.250	6.4	1.875	47.6	5.679	8.449	1.669	1,076.3	166,900	75,670	183,590	83,240	20,630	142.3	15,000	103.4	7,740	10,490
2 3/8	66.7	0.156	4.0	2.313	58.8	4.117	6.131	1.210	781.0	121,000	54,910	133,100	60,400	11,500	79.3	9,200	63.4	6,790	9,210
2 3/8	66.7	0.175	4.4	2.275	57.8	4.583	6.824	1.347	869.4	134,700	61,120	148,170	67,230	12,950	89.3	10,400	71.4	7,450	10,100
2 3/8	66.7	0.188	4.8	2.249	57.1	4.898	7.292	1.439	929.0	143,930	65,310	158,330	71,850	13,940	96.1	11,200	76.9	7,880	10,680
2 3/8	66.7	0.203	5.2	2.219	56.4	5.256	7.826	1.545	996.9	154,460	70,090	169,910	77,100	15,090	104.0	12,100	83.2	8,360	11,330
2 3/8	66.7	0.224	5.7	2.177	55.3	5.749	8.557	1.690	1,090.1	168,960	76,640	185,860	84,300	16,690	114.9	13,300	92.0	9,000	12,200
2 3/8	66.7	0.236	6.0	2.153	54.7	6.027	8.974	1.771	1,143.1	177,120	80,370	194,840	88,410	17,600	121.3	14,100	97.0	9,350	12,680
2 3/8	66.7	0.250	6.4	2.125	54.0	6.347	9.451	1.865	1,203.9	186,530	84,640	205,190	93,110	18,670	128.7	14,900	102.9	9,750	13,220
2 7/8	73.0	0.156	4.0	2.563	65.1	4.534	6.746	1.333	859.4	133,260	60,420	146,580	66,460	10,500	72.4	8,400	58.0	8,270	11,210
2 7/8	73.0	0.175	4.4	2.525	64.1	5.051	7.515	1.484	957.3	148,440	67,310	163,280	74,040	11,830	81.6	9,500	65.3	9,090	12,320
2 7/8	73.0	0.188	4.8	2.499	63.4	5.400	8.034	1.587	1,023.5	158,700	71,960	174,570	79,150	12,730	87.8	10,200	70.2	9,630	13,060
2 7/8	73.0	0.203	5.2	2.469	62.7	5.798	8.627	1.704	1,099.0	170,410	77,270	187,450	84,990	13,770	95.0	11,000	76.0	10,240	13,880
2 7/8	73.0	0.224	5.7	2.427	61.6	6.348	9.441	1.866	1,202.6	186,560	84,550	205,210	93,010	15,230	105.0	12,200	84.0	11,050	14,980
2 7/8	73.0	0.236	6.0	2.403	61.0	6.658	9.905	1.957	1,261.8	195,660	88,710	215,230	97,580	16,070	110.8	12,900	88.7	11,490	15,580
2 7/8	73.0	0.250	6.4	2.375	60.3	7.015	10.437	2.062	1,329.6	206,170	93,480	226,780	102,830	17,040	117.6	13,600	94.0	11,990	16,260
3 1/4	82.6	0.188	4.8	2.874	73.0	6.154	9.165	1.808	1,167.5	180,850	82,080	198,930	90,290	11,260	77.6	9,000	62.1	12,600	17,080
3 1/4	82.6	0.203	5.2	2.844	72.3	6.612	9.848	1.943	1,254.5	194,320	88,200	213,750	97,020	12,180	84.0	9,700	67.2	13,410	18,180
3 1/4	82.6	0.224	5.7	2.802	71.2	7.246	10.787	2.129	1,374.1	212,950	96,610	234,240	106,270	13,480	92.8	10,800	74.3	14,510	19,670
3 1/4	82.6	0.236	6.0	2.778	70.6	7.604	11.324	2.235	1,442.5	223,460	101,420	245,810	111,560	14,220	97.9	11,400	78.4	15,120	20,500
3 1/4	82.6	0.250	6.4	2.750	69.9	8.018	11.941	2.356	1,521.1	235,620	106,950	259,180	117,640	15,080	103.9	12,100	83.1	15,800	21,420
3 1/2	88.9	0.188	4.8	3.124	79.3	6.656	9.907	1.956	1,262.0	195,610	88,730	215,170	97,600	10,460	72.1	8,400	57.7	14,800	20,070
3 1/2	88.9	0.203	5.2	3.094	78.6	7.155	10.649	2.103	1,356.5	210,260	95,370	231,290	104,910	11,310	78.0	9,100	62.4	15,770	21,380
3 1/2	88.9	0.224	5.7	3.052	77.5	7.845	11.671	2.305	1,486.7	230,540	104,530	253,590	114,980	12,510	86.2	10,000	69.0	17,080	23,160
3 1/2	88.9	0.236	6.0	3.028	76.9	8.235	12.255	2.420	1,561.2	242,000	109,760	266,200	120,740	13,200	91.0	10,600	72.8	17,810	24,150
3 1/2	88.9	0.250	6.4	3.000	76.2	8.686	12.927	2.553	1,646.8	255,260	114,200	280,780	127,360	14,000	96.5	11,200	77.2	18,640	25,270

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.

**Disclaimer:** Coiled tubing grades and related information are provided for general information dissemination purposes only. All reasonable efforts were made to ensure the accuracy of all such information, but Quality Tubing makes no representation and gives no warranty with respect to the validity or fitness of such information for any particular customer's coiled tubing operations. The customer acknowledges that any use or interpretation of this information is at his own risk.