

HO-70 Technical Data Sheet

Upon request, HO-70 can be ordered as a Flash-Free product. As supplied, HO-70 may contain tube-to-tube welds. HO-70 is manufactured from high strength low alloy steel (HSLAS).

Mechanical Properties

Minimum Yield Strength, psi (MPa)	70,000 (483)
Minimum Tensile Strength, psi (MPa)	80,000 (552)
Minimum Elongation	<p>Calculated from the formula:</p> $E=625,000 \frac{A_w^{0.2}}{L_u^{0.9}} \%$ <p>Where: A_w = Pipe Metal Cross Section, (in²) L_u = Specified Minimum Tensile Strength (psi).</p>
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 _i		Hydro Test Pressure, P _t		Torsional Yield Strength, T _r	
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	17,470	7,920	19,960	9,060	11,480	79.2	9,200	63.3	350	470
1	25.4	0.095	2.4	0.810	20.6	0.919	1.368	0.270	174.3	18,910	8,580	21,610	9,800	12,600	86.9	10,100	69.5	380	520
1	25.4	0.102	2.6	0.796	20.2	0.979	1.457	0.288	185.6	20,140	9,140	23,020	10,440	13,580	93.6	10,900	74.9	400	540
1	25.4	0.109	2.8	0.782	19.9	1.038	1.545	0.305	196.8	21,360	9,690	24,410	11,070	14,560	100.4	11,600	80.3	410	560
1	25.4	0.118	3.0	0.764	19.4	1.113	1.656	0.327	210.9	22,890	10,380	26,160	11,860	15,820	109.1	12,700	87.3	440	600
1	25.4	0.125	3.2	0.750	19.1	1.169	1.740	0.344	221.7	24,050	10,910	27,490	12,470	16,800	115.8	13,400	92.7	450	610
1 ¼	31.8	0.087	2.2	1.076	27.4	1.082	1.613	0.318	205.4	22,250	10,110	25,430	11,560	9,180	63.2	7,300	50.6	580	790
1 ¼	31.8	0.095	2.4	1.060	27.0	1.173	1.749	0.345	222.8	24,130	10,960	27,580	12,530	10,080	69.4	8,100	55.5	620	840
1 ¼	31.8	0.102	2.6	1.046	26.6	1.252	1.866	0.368	237.7	25,750	11,700	29,430	13,370	10,860	74.8	8,700	59.8	660	890
1 ¼	31.8	0.109	2.8	1.032	26.3	1.330	1.982	0.391	252.5	27,350	12,430	31,260	14,200	11,650	80.2	9,300	64.1	690	940
1 ¼	31.8	0.118	3.0	1.014	25.8	1.428	2.129	0.420	271.2	29,370	13,350	33,570	15,250	12,660	87.1	10,100	69.7	730	990
1 ¼	31.8	0.125	3.2	1.000	25.5	1.503	2.241	0.442	285.5	30,930	14,050	35,340	16,060	13,440	92.5	10,800	74.0	760	1,030
1 ¼	31.8	0.134	3.4	0.982	25.0	1.599	2.384	0.470	303.6	32,890	14,940	37,580	17,080	14,450	99.5	11,600	79.6	800	1,080
1 ¼	31.8	0.145	3.7	0.960	24.4	1.713	2.554	0.503	325.3	35,240	16,010	40,270	18,300	15,680	107.9	12,500	86.4	840	1,140
1 ¼	31.8	0.156	4.0	0.938	23.9	1.824	2.720	0.536	346.5	37,530	17,050	42,890	19,490	16,910	116.4	13,500	93.1	880	1,190
1 ¼	31.8	0.175	4.4	0.900	22.9	2.011	2.999	0.591	382.0	41,370	18,800	47,280	21,490	19,040	131.1	15,000	103.4	940	1,270
1 ¼	31.8	0.188	4.8	0.874	22.2	2.134	3.183	0.627	405.4	43,910	19,950	50,180	22,800	20,500	141.1	15,000	103.4	980	1,330
1 ½	38.1	0.095	2.4	1.310	33.3	1.427	2.124	0.419	270.5	29,350	13,310	33,550	15,220	8,400	57.9	6,700	46.3	930	1,260
1 ½	38.1	0.102	2.6	1.296	32.9	1.524	2.269	0.448	289.0	31,360	14,220	35,840	16,260	9,050	62.4	7,200	49.9	990	1,340
1 ½	38.1	0.109	2.8	1.282	32.6	1.621	2.412	0.476	307.3	33,340	15,120	38,110	17,280	9,710	66.9	7,800	53.5	1,040	1,410
1 ½	38.1	0.118	3.0	1.264	32.1	1.743	2.594	0.512	330.5	35,860	16,270	40,990	18,590	10,550	72.7	8,400	58.2	1,110	1,500
1 ½	38.1	0.125	3.2	1.250	31.8	1.837	2.735	0.540	348.4	37,800	17,140	43,200	19,590	11,200	77.2	9,000	61.8	1,160	1,570
1 ½	38.1	0.134	3.4	1.232	31.3	1.957	2.912	0.575	371.0	40,250	18,260	46,000	20,870	12,040	83.0	9,600	66.4	1,220	1,650
1 ½	38.1	0.145	3.7	1.210	30.7	2.100	3.126	0.617	398.2	43,210	19,600	49,380	22,400	13,070	90.1	10,500	72.1	1,290	1,750
1 ½	38.1	0.156	4.0	1.188	30.2	2.241	3.336	0.659	425.0	46,110	20,910	52,690	23,900	14,090	97.2	11,300	77.7	1,350	1,830
1 ½	38.1	0.175	4.4	1.150	29.2	2.479	3.689	0.728	470.0	50,990	23,130	58,280	26,430	15,870	109.4	12,700	87.5	1,460	1,980
1 ½	38.1	0.188	4.8	1.124	28.5	2.637	3.924	0.775	499.9	54,240	24,600	61,990	28,120	17,080	117.8	13,700	94.2	1,530	2,070
1 ½	38.1	0.203	5.2	1.094	27.8	2.815	4.189	0.827	533.6	57,900	26,260	66,170	30,020	18,480	127.4	14,800	101.9	1,600	2,170
1 ¾	44.5	0.109	2.8	1.532	39.0	1.912	2.849	0.562	363.0	39,340	17,860	44,950	20,420	8,320	57.3	6,700	45.8	1,460	1,980
1 ¾	44.5	0.118	3.0	1.514	38.5	2.059	3.068	0.605	390.8	42,350	19,230	48,400	21,980	9,040	62.3	7,200	49.8	1,560	2,120
1 ¾	44.5	0.125	3.2	1.500	38.2	2.171	3.236	0.638	412.2	44,670	20,290	51,050	23,180	9,600	66.1	7,700	52.9	1,630	2,210
1 ¾	44.5	0.134	3.4	1.482	37.7	2.315	3.450	0.680	439.4	47,620	21,630	54,420	24,720	10,320	71.1	8,300	56.9	1,720	2,330
1 ¾	44.5	0.145	3.7	1.460	37.1	2.488	3.707	0.731	472.3	51,180	23,240	58,490	26,560	11,200	77.1	9,000	61.7	1,830	2,480
1 ¾	44.5	0.156	4.0	1.438	36.6	2.658	3.961	0.781	504.6	54,680	24,840	62,500	28,380	12,080	83.2	9,700	66.6	1,930	2,620
1 ¾	44.5	0.175	4.4	1.400	35.6	2.946	4.391	0.866	559.3	60,610	27,530	69,270	31,460	13,600	93.7	10,900	74.9	2,090	2,830
1 ¾	44.5	0.188	4.8	1.374	34.9	3.139	4.678	0.923	595.9	64,580	29,330	73,800	33,520	14,640	100.8	11,700	80.7	2,200	2,980
1 ¾	44.5	0.203	5.2	1.344	34.2	3.357	5.003	0.987	637.3	69,060	31,370	78,930	35,850	15,840	109.1	12,700	87.3	2,310	3,130
1 ¾	44.5	0.224	5.7	1.302	33.1	3.624	5.446	1.074	693.4	75,170	34,141	85,910	39,000	17,520	120.7	14,000	96.5	2,460	3,510
2	50.8	0.109	2.8	1.782	45.3	2.203	3.279	0.648	417.8	45,330	20,560	51,800	23,500	7,280	50.2	5,800	40.2	1,960	2,660
2	50.8	0.118	3.0	1.764	44.8	2.374	3.533	0.698	450.1	48,840	22,150	55,810	25,320	7,910	54.5	6,300	43.6	2,090	2,830
2	50.8	0.125	3.2	1.750	44.5	2.505	3.729	0.736	475.0	51,540	23,380	58,910	26,720	8,400	57.9	6,700	46.3	2,190	2,970
2	50.8	0.134	3.4	1.732	44.0	2.673	3.978	0.786	506.8	54,990	24,940	62,840	28,510	9,030	62.3	7,200	49.8	2,310	3,130
2	50.8	0.145	3.7	1.710	43.4	2.875	4.280	0.845	545.2	59,150	26,830	67,600	30,660	9,800	67.6	7,800	54.1	2,460	3,340
2	50.8	0.156	4.0	1.688	42.9	3.075	4.577	0.904	583.0	63,260	28,690	72,300	32,790	10,570	72.9	8,500	58.3	2,610	3,540
2	50.8	0.175	4.4	1.650	41.9	3.414	5.081	1.003	647.3	70,230	31,860	80,270	36,410	11,900	80.2	9,500	65.6	2,840	3,850
2	50.8	0.188	4.8	1.624	41.2	3.642	5.420	1.070	690.5	74,910	33,980	85,620	38,840	12,810	88.3	10,200	70.7	2,990	4,050
2	50.8	0.203	5.2	1.594	40.5	3.900	5.804	1.146	739.4	80,220	36,390	91,680	41,590	13,860	95.6	11,100	76.4	3,160	4,280
2	50.8	0.224	5.7	1.552	39.4	4.253	6.327	1.250	806.0	87,490	39,670	99,980	45,330	15,330	105.6	12,300	84.5	3,370	4,570
2	50.8	0.236	6.0	1.528	38.8	4.450	6.623	1.308	843.7	91,550	41,520	104,630	47,460	16,170	111.5	12,900	89.2	3,490	4,730
2	50.8	0.250	6.4	1.500	38.1	4.677	6.961	1.374	886.7	96,210	43,640	109,960	49,880	17,150	118.2	13,700	94.6	3,620	4,910

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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 _y		Hydro Test Pressure, P _t		Torsional Yield Strength, T _y	
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
2 3/8	60.3	0.134	3.4	2.107	53.5	3.210	4.776	0.943	608.4	66,040	29,940	75,470	34,220	7,600	52.5	6,100	42.0	3,370	4,570
2 3/8	60.3	0.145	3.7	2.085	52.9	3.457	5.142	1.016	655.1	71,110	32,240	81,270	36,850	8,250	56.9	6,600	45.5	3,600	4,880
2 3/8	60.3	0.156	4.0	2.063	52.4	3.700	5.505	1.088	701.3	76,130	34,510	87,000	39,450	8,900	61.4	7,100	49.1	3,820	5,180
2 3/8	60.3	0.175	4.4	2.025	51.4	4.116	6.123	1.210	780.0	84,670	38,390	96,760	43,870	10,020	69.1	8,000	55.3	4,180	5,670
2 3/8	60.3	0.188	4.8	1.999	50.7	4.395	6.539	1.292	833.0	90,420	40,990	103,340	46,850	10,790	74.4	8,600	59.5	4,410	5,980
2 3/8	60.3	0.203	5.2	1.969	50.0	4.713	7.012	1.385	893.3	96,960	43,960	110,810	50,240	11,670	80.5	9,300	64.4	4,670	6,330
2 3/8	60.3	0.224	5.7	1.927	48.9	5.151	7.659	1.514	975.7	105,960	48,020	121,100	54,880	12,910	89.0	10,300	71.2	5,020	6,810
2 3/8	60.3	0.236	6.0	1.903	48.3	5.396	8.028	1.586	1,022.6	111,010	50,330	126,870	57,520	13,620	93.9	10,900	75.1	5,210	7,060
2 3/8	60.3	0.250	6.4	1.875	47.6	5.679	8.449	1.669	1,076.3	116,830	52,970	133,520	60,530	14,440	99.6	11,600	79.7	5,420	7,350
2 3/8	66.7	0.156	4.0	2.313	58.8	4.117	6.131	1.210	781.0	84,700	38,440	96,800	43,930	8,050	55.5	6,400	44.4	4,750	6,440
2 3/8	66.7	0.175	4.4	2.275	57.8	4.583	6.824	1.347	869.4	94,290	42,790	107,760	48,900	9,070	62.5	7,300	50.0	5,210	7,060
2 3/8	66.7	0.188	4.8	2.249	57.1	4.898	7.292	1.439	929.0	100,750	45,720	115,150	52,250	9,760	67.3	7,800	53.8	5,520	7,480
2 3/8	66.7	0.203	5.2	2.219	56.4	5.256	7.826	1.545	996.9	108,120	49,060	123,570	56,070	10,560	72.8	8,400	58.2	5,850	7,930
2 3/8	66.7	0.224	5.7	2.177	55.3	5.749	8.557	1.690	1,090.1	118,270	53,650	135,170	61,310	11,680	80.5	9,300	64.4	6,300	8,540
2 3/8	66.7	0.236	6.0	2.153	54.7	6.027	8.974	1.771	1,143.1	123,990	56,260	141,700	64,300	12,320	84.9	9,900	67.9	6,550	8,880
2 3/8	66.7	0.250	6.4	2.125	54.0	6.347	9.451	1.865	1,203.9	130,570	59,250	149,230	67,720	13,070	90.1	10,500	72.0	6,820	9,250
2 7/8	73.0	0.156	4.0	2.563	65.1	4.534	6.746	1.333	859.4	93,280	42,290	106,600	48,340	7,350	50.7	5,900	40.6	5,790	7,850
2 7/8	73.0	0.175	4.4	2.525	64.1	5.051	7.515	1.484	957.3	103,910	47,120	118,750	53,850	8,280	57.1	6,600	45.7	6,360	8,620
2 7/8	73.0	0.188	4.8	2.499	63.4	5.400	8.034	1.587	1,023.5	111,090	50,370	126,960	57,570	8,910	61.5	7,100	49.2	6,740	9,140
2 7/8	73.0	0.203	5.2	2.469	62.7	5.798	8.627	1.704	1,099.0	119,280	54,090	136,320	61,810	9,640	66.5	7,700	53.2	7,170	9,720
2 7/8	73.0	0.224	5.7	2.427	61.6	6.348	9.441	1.866	1,202.6	130,590	59,190	149,240	67,640	10,660	73.5	8,500	58.8	7,730	10,480
2 7/8	73.0	0.236	6.0	2.403	61.0	6.658	9.905	1.957	1,261.8	136,960	62,100	156,530	70,970	11,250	77.6	9,000	62.1	8,040	10,900
2 7/8	73.0	0.250	6.4	2.375	60.3	7.015	10.437	2.062	1,329.6	144,320	65,440	164,930	74,790	11,930	82.3	9,500	65.8	8,400	11,390
3 1/4	82.6	0.188	4.8	2.874	73.0	6.154	9.165	1.808	1,167.5	126,590	57,460	144,680	65,670	7,880	54.3	6,300	43.5	8,820	11,960
3 1/4	82.6	0.203	5.2	2.844	72.3	6.612	9.848	1.943	1,254.5	136,020	61,740	155,460	70,560	8,530	58.8	6,800	47.0	9,390	12,730
3 1/4	82.6	0.224	5.7	2.802	71.2	7.246	10.787	2.129	1,374.1	149,060	67,630	170,360	77,290	9,430	65.0	7,500	52.0	10,160	13,780
3 1/4	82.6	0.236	6.0	2.778	70.6	7.604	11.324	2.235	1,442.5	156,420	70,990	178,770	81,140	9,950	68.6	8,000	54.8	10,580	14,340
3 1/4	82.6	0.250	6.4	2.750	69.9	8.018	11.941	2.356	1,521.1	164,930	74,860	188,500	85,560	10,550	72.7	8,400	58.2	11,060	15,000
3 1/2	88.9	0.188	4.8	3.124	79.3	6.656	9.907	1.956	1,262.0	136,930	62,110	156,490	70,980	7,320	50.5	5,900	40.4	10,360	14,050
3 1/2	88.9	0.203	5.2	3.094	78.6	7.155	10.649	2.103	1,356.5	147,190	66,760	168,210	76,300	7,920	54.6	6,300	43.7	11,040	14,970
3 1/2	88.9	0.224	5.7	3.052	77.5	7.845	11.671	2.305	1,486.7	161,380	73,170	184,430	83,620	8,760	60.4	7,000	48.3	11,960	16,220
3 1/2	88.9	0.236	6.0	3.028	76.9	8.235	12.255	2.420	1,561.2	169,400	76,830	193,600	87,810	9,240	63.7	7,400	51.0	12,470	16,910
3 1/2	88.9	0.250	6.4	3.000	76.2	8.686	12.927	2.553	1,646.8	178,680	81,050	204,200	92,630	9,800	67.6	7,800	54.1	13,050	17,690

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.