

Pipe Body Properties

Casing & Tubing



Pipe Body Properties

The following tables list the specific pipe body ratings of the available dimensions at different levels of minimum yield strength of the Steel Grades provided by Tenaris.

TUBING PERFORMANCE RATINGS																	
LABELS					PIPE BODY YIELD STRENGTH												
OD	NOMINAL WEIGHT NON UPSET T&C	NOMINAL WEIGHT UPSET T&C	WALL THICKNESS	DRIFT DIAMETER	40 ksi	55 ksi	70 ksi	75 ksi	80 ksi	90 ksi	95 ksi	100 ksi	110 ksi	125 ksi	40 ksi	55 ksi	
in	lb/ft	lb/ft	in	in	x 1000 lb												
2 3/8	4.00		0.167	1.947	46.3	63.7									4920	6770	
	4.60	4.70	0.190	1.901	52.2	71.7	91	98	104.3	117.4	123.9	130	143.4	163	5600	7700	
	5.10		0.218	1.845	59.1	81.2	103	111	118.2	133.0	140.3	148	162.5	185	6430	8830	
	5.80	5.95	0.254	1.773	67.7	93.1	119	127	135.4	152.3	160.7	169	186.1	212	7490	10290	
	6.20		0.261	1.759	69.3	95.3	121	130	138.7	156.0	164.7	173	190.7	217	7690	10580	
	6.30		0.280	1.721	73.7	101.4	129	138	147.4	165.9	175.1	184	202.7	230	8250	11350	
	6.60		0.295	1.691	77.1	106.0	135	145	154.2	173.5	183.2	193	212.0	241	8690	11960	
7.35	7.45	0.336	1.609	86.1	118.4	151	161	172.2	193.7	204.4	215	236.8	269	9900	13620		
2 7/8	6.40	6.50	0.217	2.347	72.5	99.7	127	136	145.0	163.1	172.1	181	199.3	227	5280	7260	
	7.80	7.90	0.276	2.229	90.1	123.9	158	169	180.3	202.9	214.1	225	247.9	282	6720	9240	
	8.60	8.70	0.308	2.165	99.4	136.6	174	186	198.7	223.6	236.0	248	273.2	311	7500	10310	
	9.35	9.45	0.340	2.101	108.3	148.9	190	203	216.6	243.7	257.3	271	297.9	339	8280	11380	
	9.80		0.362	2.057	114.3	157.2	200	214	228.6	257.2	271.5	286	314.4	357	8810	12120	
	10.50		0.392	1.997	122.3	168.2	214	229	244.6	275.2	290.5	306	336.4	382	9540	13120	
	11.00		0.405	1.971	125.7	172.8	220	236	251.4	282.8	298.6	314	345.7	393	9860	13560	
11.50		0.440	1.901	134.6	185.1	236	252	269.3	302.9	319.8	337	370.3	421	10710	14730		
3 1/2	6.50		0.170	3.035	71.1	97.8	125	133	142.3	160.1	169.0	178	195.6	222	3400	4680	
	7.70		0.216	2.943	89.1	122.5	156	167	178.2	200.5	211.7	223	245.1	279	4320	5940	
	9.20	9.30	0.254	2.867	103.6	142.5	181	194	207.2	233.1	246.0	259	284.9	324	5080	6990	
	10.20		0.289	2.797	116.6	160.3	204	219	233.2	262.4	276.9	292	320.7	364	5780	7950	
	12.80		0.368	2.639	144.8	199.2	254	272	289.7	325.9	344.0	362	398.3	453	7360	10120	
	12.70	12.95	0.375	2.625	147.3	202.5	258	276	294.6	331.1	349.8	368	405.0	460	7500	10310	
	13.70		0.413	2.549	160.2	220.3	280	300	320.4	360.5	380.5	401	440.6	501	8260	11360	
	14.30		0.430	2.515	165.9	228.1	290	311	331.8	373.2	394.0	415	456.2	518	8600	11820	
	14.70		0.449	2.477	172.1	236.7	301	323	344.3	387.3	408.8	430	473.4	538	8980	12350	
	15.50		0.476	2.423	180.9	248.7	317	339	361.8	407.0	429.6	452	497.4	565	9520	13090	
	16.70		0.510	2.355	191.6	263.5	335	359	383.3	431.2	455.1	479	527.0	599	10200	14020	
17.00		0.530	2.315	197.8	272.0	346	371	395.6	445.1	469.8	495	544.0	618	10600	14580		
4	8.20		0.190	3.495	91.0	125.1	159	171	181.9	204.7	216.0	227	250.2	284	3320	4570	
	9.50		0.226	3.423	107.2	147.4	188	201	214.4	241.2	254.6	268	294.8	335	3960	5440	
	10.70	11.10	0.262	3.351	123.1	169.2	215	231	246.2	276.9	292.3	308	338.4	385	4590	6300	
	11.60		0.286	3.303	133.5	183.5	234	250	267.0	300.3	317.0	334	367.1	417	5010	6880	
	13.20		0.330	3.215	152.2	209.3	266	285	304.4	342.5	361.5	381	418.5	476	5780	7940	
	14.85		0.380	3.115	172.9	237.7	303	324	345.7	388.9	410.6	432	475.4	540	6650	9140	
	16.10		0.415	3.045	187.0	257.1	327	351	373.9	420.7	444.0	467	514.1	584	7260	9990	
	16.50		0.430	3.015	192.9	265.2	338	362	385.8	434.0	458.2	482	530.5	603	7520	10350	
	18.90		0.500	2.875	219.9	302.4	385	412	439.8	494.8	522.3	550	604.8	687	8750	12030	
	22.20		0.610	2.655	259.9	357.3	455	487	519.8	584.7	617.2	650	714.6	812	10680	14680	
	4 1/2	11.00		0.237	3.901	127.0	175.0	222	238	254.0	286.0	302.0	317	349.0	397	3690	5070
12.60		12.75	0.271	3.833	144.0	198.0	252	270	288.0	324.0	342.0	360	396.1	450	4220	5800	
15.20			0.337	3.701	176.0	242.0	309	331	353.6	396.6	418.7	441	485.0	551	5240	7210	
16.60			0.375	3.625	194.0	267.0	340	365	389.0	437.0	462.0	486	535.0	607	5830	8020	
17.00			0.380	3.615	197.0	271.0	344	369	393.4	442.6	467.2	492	541.0	615	5910	8130	
17.70			0.402	3.571	207.0	285.0	362	388	414.0	466.0	492.0	518	569.0	647	6250	8600	
18.90			0.430	3.515	220.0	302.0	385	412	439.8	494.8	522.3	550	605.0	687	6690	9200	
21.50			0.500	3.375	251.0	346.0	440	471	502.6	565.5	596.9	628	691.0	785	7780	10690	
23.70			0.560	3.255	277.0	381.0	485	520	554.6	623.9	658.5	693	762.0	866	8710	11980	
26.10			0.630	3.115		421.3	536	575	612.8	689.4	727.7	766	842.5	957		13480	

NOTES: 1. Pipe body properties were calculated according to API Bulletin 5C3
 2. Other sizes and wall thickness values are available upon request. Contact oilfield@tenaris.com

Reliable Product Quality

All our products are manufactured to the most exacting quality standards. We hold a global ISO 9001 registration for our operations, which follow a uniform quality policy and apply rigorous quality management systems.

Quality control procedures include statistical process control, daily process and product audits, and tube traceability systems.

Leading technology

Ensuring that we have the right products to meet our customers' needs is a permanent objective. By sharing knowledge and resources across our mills and using our specialized research and testing centers in Italy, Japan and Argentina, we are investing to develop and improve our range of specialized products to meet the requirements of today's increasingly demanding well conditions.

INTERNAL YIELD PRESSURE								COLLAPSE PRESSURE									
70 ksi	75 ksi	80 ksi	90 ksi	95 ksi	100 ksi	110 ksi	125 ksi	40 ksi	55 ksi	70 ksi	75 ksi	80 ksi	90 ksi	95 ksi	100 ksi	110 ksi	125 ksi
psi								psi									
9800	10500	11200	12600	13300	14000	15400	17500	5890	8100	10300	11040	11780	13250	13980	14720	16130	17900
11240	12050	12850	14460	15260	16060	17670	20080	6670	9170	11670	12500	13340	15010	15840	16670	18340	20840
13100	14040	14970	16840	17780	18720	20590	23390	7640	10510	13370	14330	15280	17190	18150	19100	21010	23880
13460	14420	15390	17310	18270	19230	21150	24040	7830	10760	13690	14670	15650	17610	18590	19560	21520	24450
14440	15470	16510	18570	19600	20630	22690	25790	8320	11440	14560	15600	16640	18720	19760	20800	22880	26000
15220	16300	17390	19560	20650	21740	23910	27170	8700	11970	15230	16320	17410	19580	20670	21760	23930	27200
17330	18570	19810	22280	23520	24760	27230	30950	9720	13360	17000	18220	19430	21860	23080	24290	26720	30360
9250	9910	10570	11890	12550	13210	14530	16510	5580	7680	9770	10470	11170	12380	12940	13490	14550	16070
11760	12600	13440	15120	15960	16800	18480	21000	6940	9550	12150	13020	13890	15620	16490	17360	19090	21700
13120	14060	15000	16870	17810	18750	20620	23430	7650	10520	13390	14350	15300	17220	18170	19130	21040	23910
14490	15520	16560	18630	19660	20700	22770	25870	8340	11470	14600	15640	16680	18770	19810	20860	22940	26070
15420	16530	17630	19830	20930	22030	24240	27540	8800	12110	15410	16510	17610	19810	20910	22010	24210	27510
16700	17900	19090	21470	22670	23860	26250	29830	9420	12950	16490	17660	18840	21200	22370	23550	25910	29440
17260	18490	19720	22190	23420	24650	27120	30820	9680	13310	16940	18150	19360	21780	22990	24210	26630	30260
18750	20090	21430	24100	25440	26780	29460	33480	10370	14260	18150	19440	20740	23330	24630	25920	28520	32410
5950	6380	6800	7650	8080	8500	9350	10620	3120	3810	4350	4500	4640	4860	4950	5030	5190	5510
7560	8100	8640	9720	10260	10800	11880	13500	4630	5970	7140	7510	7870	8540	8850	9160	9730	10500
8890	9520	10160	11430	12070	12700	13970	15870	5380	7400	9420	10000	10540	11570	12080	12580	13530	14890
10120	10840	11560	13010	13730	14450	15900	18060	6060	8330	10610	11360	12120	13640	14390	15150	16670	18940
12880	13800	14720	16560	17480	18400	20240	23000	7530	10350	13170	14110	15050	16940	17880	18820	20700	23520
13120	14060	15000	16880	17810	18750	20630	23440	7650	10520	13390	14350	15310	17220	18180	19130	21050	23920
14460	15490	16520	18580	19620	20650	22720	25810	8330	11450	14570	15610	16650	18730	19770	20820	22900	26020
15050	16120	17200	19350	20430	21500	23650	26880	8620	11850	15090	16160	17240	19400	20480	21550	23710	26940
15720	16840	17960	20200	21330	22450	24700	28060	8950	12300	15660	16770	17890	20130	21250	22370	24600	27960
16660	17850	19040	21420	22610	23800	26180	29750	9400	12930	16450	17630	18800	21150	22330	23500	25850	29380
17850	19120	20400	22950	24220	25500	28050	31880	9960	13690	17430	18670	19920	22410	23650	24900	27390	31120
18550	19880	21200	23850	25170	26500	29150	33120	10280	14130	17990	19270	20560	23130	24410	25700	28270	32120
5820	6230	6650	7480	7900	8310	9140	10390	2990	3630	4120	4260	4380	4560	4630	4700	4940	5230
6920	7420	7910	8900	9390	9890	10880	12360	4050	5110	6040	6320	6590	7080	7310	7520	7910	8390
8020	8600	9170	10320	10890	11460	12610	14330	4900	6590	7950	8380	8800	9590	9980	10350	11060	12030
8760	9380	10010	11260	11890	12510	13760	15640	5310	7300	9230	9760	10280	11270	11760	12240	13160	14460
10110	10830	11550	12990	13720	14440	15880	18050	6060	8330	10600	11350	12110	13620	14380	15140	16650	18910
11640	12470	13300	14960	15790	16620	18290	20780	6880	9460	12040	12900	13760	15480	16340	17200	18910	21490
12710	13620	14530	16340	17250	18160	19970	22700	7440	10230	13020	13950	14880	16740	17670	18600	20460	23250
13170	14110	15050	16930	17870	18810	20690	23520	7680	10550	13430	14390	15350	17270	18230	19190	21110	23990
15310	16410	17500	19690	20780	21880	24060	27340	8750	12030	15310	16410	17500	19690	20780	21880	24060	27340
18680	20020	21350	24020	25350	26690	29360	33360	10340	14220	18090	19390	20680	23260	24560	25850	28430	32310
6450	6910	7370	8300	8760	9220	10140	11520	3600	4480	5220	5440	5650	6010	6170	6320	6570	6830
7380	7900	8430	9490	10010	10540	11590	13170	4490	5730	6830	7170	7500	8120	8410	8690	9210	9890
9170	9830	10480	11800	12450	13110	14420	16380	5540	7620	9700	10390	11080	12220	12760	13300	14340	15830
10210	10940	11670	13120	13850	14580	16040	18230	6110	8400	10690	11460	12220	13750	14510	15280	16810	19100
10340	11080	11820	13300	14040	14780	16260	18470	6190	8500	10820	11600	12370	13920	14690	15460	17010	19330
10940	11720	12510	14070	14850	15630	17200	19540	6510	8950	11390	12200	13020	14640	15460	16270	17900	20340
11710	12540	13380	15050	15890	16720	18390	20900	6910	9510	12100	12960	13830	15560	16420	17280	19010	21610
13610	14580	15560	17500	18470	19440	21390	24310	7900	10860	13830	14810	15800	17780	18770	19750	21730	24690
15240	16330	17420	19600	20690	21780	23960	27220	8720	11990	15250	16340	17430	19610	20700	21790	23970	27240
17150	18380	19600	22050	23280	24500	26950	30620		13240	16860	18060	19260	21670	22880	24080	26490	30100

CASING PERFORMANCE RATINGS

LABELS				PIPE BODY YIELD STRENGTH														
OD	NOMINAL WEIGHT	WALL THICKNESS	DRIFT DIAMETER	40 ksi	55 ksi	65 ksi	80 ksi	90 ksi	95 ksi	100 ksi	110 ksi	125 ksi	140 ksi	150 ksi	40 ksi	55 ksi	65 ksi	80 ksi
in	lb/ft	in	in	x 1000 lb														
4 1/2	9.50	0.205	3.965	111	152	180	221	249	263	277	304	346	387	415	3190	4380	5180	6380
	10.50	0.224	3.927	120	166	196	241	271	286	301	331	376	421	451	3480	4790	5660	6970
	11.00	0.237	3.901	127	175	206	254	286	302	317	349	397	444	476	3690	5070	5990	7370
	11.60	0.250	3.875	134	184	217	267	300	317	334	367	417	467	501	3890	5350	6320	7780
	13.50	0.290	3.795	153	211	249	307	345	364	384	422	479	537	575	4510	6200	7330	9020
	15.10	0.337	3.701	176	242	286	353	397	419	441	485	551	617	661	5240	7210	8520	10480
	16.60	0.375	3.625	194	267	316	389	437	462	486	535	607	680	729	5830	8020	9480	11670
	17.70	0.402	3.571	207	285	336	414	466	492	518	569	647	725	776	6250	8600	10160	12510
5	11.50	0.220	4.435	132	182	215	264	297	314	330	363	413	463	496	3080	4240	5010	6160
	13.00	0.253	4.369	151	208	245	302	340	358	377	415	472	528	566	3540	4870	5760	7080
	15.00	0.296	4.283	175	241	284	350	394	416	437	481	547	612	656	4140	5700	6730	8290
	18.00	0.362	4.151	211	290	343	422	475	501	527	580	659	738	791	5070	6970	8240	10140
	20.30	0.408	4.059	235	324	383	471	530	559	589	647	736	824	883	5710	7850	9280	11420
	20.80	0.422	4.031	243	334	395	486	546	577	607	668	759	850	910	5910	8120	9600	11820
	21.40	0.437	4.001	251	345	407	501	564	595	626	689	783	877	940	6120	8410	9940	12240
	23.20	0.478	3.919	272	373	441	543	611	645	679	747	849	951	1019	6690	9200	10870	13380
24.10	0.500	3.875	283	389	459	565	636	672	707	778	884	990	1060	7000	9620	11380	14000	
5 1/2	14.00	0.244	4.887	161	222	262	322	363	383	403	443	504	564	604	3110	4270	5050	6210
	15.50	0.275	4.825	181	248	293	361	406	429	451	497	564	632	677	3500	4810	5690	7000
	17.00	0.304	4.767	198	273	323	397	447	471	496	546	620	695	744	3870	5320	6290	7740
	20.00	0.361	4.653	233	321	379	466	525	554	583	641	729	816	874	4590	6320	7470	9190
	23.00	0.415	4.545	265	365	431	530	597	630	663	729	829	928	994	5280	7260	8580	10560
	26.00	0.476	4.423	301	413	488	601	676	714	751	826	939	1052	1127	6060	8330	9840	12120
	26.80	0.500	4.375	314	432	511	628	707	746	785	864	982	1100	1178	6360	8750	10340	12730
	28.40	0.530	4.315	331	455	538	662	745	786	828	910	1034	1159	1241	6750	9280	10960	13490
	29.70	0.562	4.251	349	480	567	697	785	828	872	959	1090	1221	1308	7150	9840	11620	14310
	32.00	0.612	4.151	376	517	611	752	846	893	940	1034	1175	1316	1410	7790	10710	12660	15580
	32.60	0.625	4.125	383	526	622	766	861	909	957	1053	1197	1340	1436	7950	10940	12930	15910
	35.30	0.687	4.001	416	571	675	831	935	987	1039	1143	1298	1454	1558	8740	12020	14210	17490
38.00	0.750	3.875	448	616	727	895	1007	1063	1119	1231	1399	1567	1679	9550	13120	15510	19090	
6 5/8	20.00	0.288	5.924	229	315	373	459	516	545	573	631	717	803	860	3040	4180	4940	6090
	23.20	0.330	5.840	261	359	424	522	587	620	653	718	816	914	979	3490	4790	5670	6970
	24.00	0.352	5.796	277	382	451	555	624	659	694	763	867	971	1041	3720	5110	6040	7440
	28.00	0.417	5.666	325	447	529	651	732	773	813	895	1017	1139	1220	4410	6060	7160	8810
	29.00	0.432	5.636	336	462	546	672	756	798	840	925	1051	1177	1261	4560	6280	7420	9130
	32.00	0.475	5.550	367	505	597	734	826	872	918	1010	1147	1285	1377	5020	6900	8160	10040
	35.00	0.525	5.450	402	553	654	805	905	956	1006	1107	1258	1409	1509	5550	7630	9010	11090
7	17.00	0.231	6.413	196	270	319	393	442	467	491	540	614	688	737	2310	3180	3750	4620
	20.00	0.272	6.331	230	316	374	460	517	546	575	632	719	805	862	2720	3740	4420	5440
	23.00	0.317	6.241	266	366	433	532	599	632	666	732	832	932	998	3170	4360	5150	6340
	24.75	0.343	6.189	287	395	466	574	646	681	717	789	897	1004	1076	3430	4720	5570	6860
	26.00	0.362	6.151	302	415	491	604	679	717	755	830	944	1057	1132	3620	4980	5880	7240
	29.00	0.408	6.059	338	465	549	676	760	803	845	929	1056	1183	1267	4080	5610	6630	8160
	32.00	0.453	5.969	373	512	606	745	839	885	932	1025	1165	1304	1398	4530	6230	7360	9060
	35.00	0.498	5.879	407	559	661	814	916	966	1017	1119	1272	1424	1526	4980	6850	8090	9960
	38.00	0.540	5.795	438	603	712	877	986	1041	1096	1206	1370	1534	1644	5400	7420	8780	10800
	41.00	0.590	5.695	475	653	772	950	1069	1129	1188	1307	1485	1663	1782	5900	8110	9590	11800
	42.70	0.626	5.623	501	689	815	1003	1128	1191	1254	1379	1567	1755	1880	6260	8610	10170	12520
	44.00	0.640	5.595	512	703	831	1023	1151	1215	1279	1407	1598	1790	1918	6400	8800	10400	12800
	46.00	0.670	5.535	533	733	866	1066	1199	1266	1332	1466	1665	1865	1999	6700	9210	10890	13400
46.40	0.687	5.501	545	749	886	1090	1226	1294	1363	1499	1703	1908	2044	6870	9450	11160	13740	
49.50	0.730	5.415	575	791	935	1150	1294	1366	1438	1582	1797	2013	2157	7300	10040	11860	14600	
7 5/8	24.00	0.300	6.900	276	380	449	552	621	656	690	759	863	967	1036	2750	3790	4480	5510
	26.40	0.328	6.844	301	414	489	602	677	714	752	827	940	1053	1128	3010	4140	4890	6020
	29.70	0.375	6.750	342	470	555	683	769	811	854	940	1068	1196	1281	3440	4730	5590	6890
	33.70	0.430	6.640	389	535	632	778	875	923	972	1069	1215	1361	1458	3950	5430	6410	7900
	35.80	0.465	6.570	418	575	680	837	941	994	1046	1151	1307	1464	1569	4270	5870	6940	8540
	39.00	0.500	6.500	448	616	727	895	1007	1063	1119	1231	1399	1567	1679	4590	6310	7460	9180
	42.80	0.562	6.376	499	686	811	998	1122	1185	1247	1372	1559	1746	1871	5160	7090	8380	10320
	45.30	0.595	6.310	526	723	854	1051	1183	1248	1314	1445	1643	1840	1971	5460	7510	8880	10920
	47.10	0.625	6.250	550	756	893	1100	1237	1306	1374	1512	1718	1924	2062	5740	7890	9320	11480
	51.20	0.687	6.126	599	824	973	1198	1348	1423	1497	1647	1872	2096	2246	6310	8670	10250	12610
53.00	0.712	6.076	619	850	1005	1237	1392	1469	1546	1701	1933	2165	2319	6540	8990	10620	13070	
7 3/4	46.10	0.595	6.435	535	736	869	1070	1204	1271	1337	1471	1672	1872	2006	5370	7390	8730	10750
	47.60	0.625	6.375	560	769	909	1119	1259	1329	1399	1539	1749	1959	2098	5650	7760	9170	112

INTERNAL YIELD PRESSURE							COLLAPSE PRESSURE										
90 ksi	95 ksi	100 ksi	110 ksi	125 ksi	140 ksi	150 ksi	40 ksi	55 ksi	65 ksi	80 ksi	90 ksi	95 ksi	100 ksi	110 ksi	125 ksi	140 ksi	150 ksi
psi							psi										
7180	7570	7970	8770	9970	11160	11960	2760	3310	3600	3900	4080	4200	4300	4500	4720	4840	4870
7840	8280	8710	9580	10890	12200	13070	3260	4010	4430	4940	5200	5310	5410	5560	5830	6110	6240
8300	8760	9220	10140	11520	12900	13820	3600	4480	4730	5650	6010	6170	6320	6570	6830	6980	7180
8750	9240	9720	10690	12150	13610	14580	3940	4960	5560	6350	6820	7030	7230	7580	8000	8300	8430
10150	10710	11280	12410	14100	15790	16920	4820	6420	7310	8540	9300	9660	10020	10690	11600	12400	12880
11800	12450	13110	14420	16380	18350	19660	5540	7620	9010	11080	12220	12760	13310	14340	15830	17230	18120
13120	13850	14580	16040	18230	20420	21880	6110	8400	9930	12220	13750	14510	15280	16810	19100	21120	22330
14070	14850	15630	17200	19540	21890	23450	6510	8950	10580	13020	14640	15460	16270	17900	20340	22780	24410
6930	7320	7700	8470	9620	10780	11550	2580	3060	3290	3560	3790	3900	3990	4150	4310	4370	4380
7970	8410	8860	9740	11070	12400	13280	3360	4140	4590	5140	5430	5550	5670	5840	6050	6350	6510
9320	9840	10360	11400	12950	14500	15540	4370	5560	6280	7250	7830	8110	8370	8850	9480	9980	10260
11400	12040	12670	13940	15840	17740	19010	5370	7390	8730	10490	11520	12030	12520	13470	14820	16070	16860
12850	13570	14280	15710	17850	19990	21420	6000	8240	9740	11990	13490	14240	14990	16490	18550	20320	21460
13290	14030	14770	16250	18460	20680	22160	6180	8500	10050	12360	13910	14680	15460	17000	19320	21610	22870
13770	14530	15300	16820	19120	21410	22940	6380	8770	10370	12760	14360	15150	15950	17550	19940	22330	23930
15060	15890	16730	18400	20910	23420	25100	6920	9510	11240	13830	15560	16430	17290	19020	21620	24210	25940
15750	16630	17500	19250	21880	24500	26250	7200	9900	11700	14400	16200	17100	18000	19800	22500	25200	27000
6990	7380	7760	8540	9700	10870	11650	2620	3120	3360	3620	3860	3970	4060	4230	4400	4480	4490
7880	8310	8750	9630	10940	12250	13120	3290	4040	4470	4990	5260	5380	5480	5630	5890	6170	6310
8710	9190	9670	10640	12090	13540	14510	3910	4910	5500	6290	6740	6940	7140	7480	7890	8170	8290
10340	10910	11490	12640	14360	16080	17230	4910	6620	7540	8830	9630	10020	10400	11100	12090	12950	13480
11880	12540	13200	14530	16510	18490	19810	5580	7670	9070	11160	12380	12930	13480	14540	16060	17480	18390
13630	14390	15150	16660	18930	21200	22720	6320	8700	10280	12650	14230	15020	15810	17390	19760	22140	23720
14320	15110	15910	17500	19890	22270	23860	6610	9090	10740	13220	14880	15700	16530	18180	20660	23140	24790
15180	16020	16860	18550	21080	23610	25300	6970	9580	11320	13930	15670	16540	17420	19160	21770	24380	26120
16090	16990	17880	19670	22350	25030	26820	7340	10090	11930	14680	16510	17430	18350	20180	22940	25690	27520
17530	18500	19470	21420	24340	27260	29210	7910	10880	12860	15820	17800	18790	19780	21760	24720	27690	29670
17900	18890	19890	21880	24860	27840	29830	8060	11080	13090	16120	18130	19140	20140	22160	25180	28200	30220
19670	20770	21860	24040	27320	30600	32790	8740	12020	14210	17490	19680	20770	21860	24050	27330	30610	32790
21480	22670	23860	26250	29830	33410	35800	9420	12950	15310	18840	21200	22380	23550	25910	29440	32980	35330
6850	7230	7610	8370	9510	10650	11410	2520	2970	3190	3480	3700	3800	3880	4030	4170	4220	4220
7850	8280	8720	9590	10900	12200	13080	3260	4010	4170	4950	5210	5320	5420	5570	5840	6120	6250
8370	8830	9300	10230	11620	13020	13950	3660	4560	5080	5760	6140	6310	6470	6730	7020	7180	7340
9910	10460	11020	12120	13770	15420	16520	4720	6170	7010	8170	8880	9220	9550	10160	11000	11710	12130
10270	10840	11410	12550	14260	15980	17120	4880	6550	7210	8730	9510	9890	10260	10960	11910	12750	13260
11290	11920	12550	13800	15680	17570	18820	5320	7320	8652	10320	11330	11820	12300	13230	14540	15750	16510
12480	13170	13870	15250	17330	19420	20800	5840	8030	9490	11670	13130	13860	14590	15870	17600	19230	20290
5200	5490	5780	6350	7220	8080	8660	1420	1630	1730	1800	1800	1800	1800	1800	1800	1800	1800
6120	6460	6800	7480	8500	9520	10200	1970	2270	2480	2740	2860	2910	2940	2980	2980	2980	2980
7130	7530	7920	8720	9910	11100	11890	2730	3270	3540	3830	4030	4140	4250	4440	4650	4760	4780
7720	8150	8580	9430	10720	12010	12860	3170	3880	4010	4750	4980	5080	5170	5280	5620	5870	6000
8140	8600	9050	9960	11310	12670	13580	3490	4330	4810	5410	5740	5890	6020	6230	6450	6690	6870
9180	9690	10200	11220	12750	14280	15300	4260	5410	6100	7030	7580	7840	8090	8530	9110	9560	9800
10190	10760	11320	12460	14160	15860	16990	4840	6460	7360	8600	9380	9740	10110	10780	11710	12530	13020
11210	11830	12450	13700	15560	17430	18680	5290	7270	8590	10180	11170	11650	12130	13030	14310	15490	16230
12150	12830	13500	14850	16880	18900	20250	5700	7830	9250	11390	12810	13430	14010	15130	16740	18260	19230
13280	14010	14750	16220	18440	20650	22120	6170	8490	10030	12350	13890	14660	15440	16980	19300	21560	22810
14080	14870	15650	17220	19560	21910	23480	6510	8960	10590	13030	14660	15470	16290	17910	20360	22800	24430
14400	15200	16000	17600	20000	22400	24000	6650	9140	10800	13290	14950	15780	16610	18280	20770	23260	24920
15080	15910	16750	18420	20940	23450	25120	6920	9520	11250	13850	15580	16450	17310	19040	21640	24230	25970
15460	16320	17180	18890	21470	24050	25760	7080	9740	11510	14160	15930	16820	17700	19470	22130	24780	26550
16420	17340	18250	20080	22810	25550	27380	7470	10280	12140	14950	16810	17750	18680	20550	23350	26150	28020
6200	6540	6890	7570	8610	9640	10330	2030	2320	2550	2820	2950	3000	3040	3090	3100	3100	3100
6780	7150	7530	8280	9410	10540	11290	2460	2900	3100	3400	3610	3710	3790	3920	4050	4080	4080
7750	8180	8610	9470	10760	12050	12910	3190	3910	4310	4790	5030	5130	5220	5350	5670	5930	6050
8880	9380	9870	10860	12340	13820	14800	4040	5100	5720	6560	7050	7280	7490	7870	8340	8690	8850
9600	10140	10670	11740	13340	14940	16010	4580	5850	6625	7690	8330	8640	8930	9480	10200	10800	11150
10330	10900	11480	12620	14340	16070	17210	4900	6610	7530	8820	9620	10000	10380	11080	12060	12920	13450
11610	12250	12900	14190	16120	18060	19350	5460	7510	8880	10810	11890	12410	12930	13930	15350	16680	17510
12290	12970	13660	15020	17070	19120	20480	5760	7910	9350	11510	12950	13670	14290	15440	17100	18670	19680
12910	13630	14340	15780	17930	20080	21520	6020	8280	9780	12040	13540	14300	15050	16550	18700	20490	21650
14190	14980	15770	17340	19710	22070	23650	6560	9020	10660	13120	14760	15580	16400	18040	20500	22950	24590
14710	15520	16340	17980	20430	22880	24510	6770	9310	11010	13550	15240	16080	16930	18620	21160	23700	25400
12090	12760	13440	14780	16790	18810	20150	5670	7800	9210	11340	12750	13320	13900	15000	16590	18090	19050
12700	13410	14110	15520	17640	19760	21170	5930	8160	9640	11860	13350	14090	14830	16310	18160	19880	20990
13010	13730	14450	15900	18060	20230	21680	6060	8330	9850	12120	13640	14390	15150	16670	18940	20770	21960

CASING PERFORMANCE RATINGS

LABELS				PIPE BODY YIELD STRENGTH														
OD	NOMINAL WEIGHT	WALL THICKNESS	DRIFT DIAMETER	40 ksi	55 ksi	65 ksi	80 ksi	90 ksi	95 ksi	100 ksi	110 ksi	125 ksi	140 ksi	150 ksi	40 ksi	55 ksi	65 ksi	80 ksi
in	lb/ft	in	in	x 1000 lb														
8 5/8	24.00	0.264	7.972	277	381	451	555	624	659	693	763	867	971	1040	2140	2950	3480	4290
	28.00	0.304	7.892	318	437	517	636	715	755	795	874	993	1113	1192	2470	3390	4010	4930
	32.00	0.352	7.796	366	503	595	732	823	869	915	1006	1144	1281	1372	2860	3930	4640	5710
	36.00	0.400	7.700	413	568	672	827	930	982	1034	1137	1292	1447	1550	3250	4460	5280	6490
	40.00	0.450	7.600	462	636	751	925	1040	1098	1156	1271	1445	1618	1734	3650	5020	5930	7300
	44.00	0.500	7.500	511	702	830	1021	1149	1212	1276	1404	1595	1787	1914	4060	5580	6590	8120
	49.00	0.557	7.386	565	776	918	1129	1271	1341	1412	1553	1765	1977	2118	4520	6220	7350	9040
	52.00	0.595	7.310	600	826	976	1201	1351	1426	1501	1651	1876	2101	2252	4830	6640	7850	9660
	54.00	0.625	7.250	628	864	1021	1257	1414	1492	1571	1728	1964	2199	2356	5070	6970	8240	10140
	58.70	0.687	7.126	685	942	1114	1371	1542	1628	1713	1885	2142	2399	2570	5580	7670	9060	11150
9 5/8	32.30	0.312	8.845	365	502	593	730	822	867	913	1004	1141	1278	1369	2270	3120	3690	4540
	36.00	0.352	8.765	410	564	667	820	923	974	1025	1128	1282	1436	1538	2560	3520	4160	5120
	40.00	0.395	8.679	458	630	744	916	1031	1088	1145	1260	1432	1604	1718	2870	3950	4670	5750
	43.50	0.435	8.599	502	691	816	1005	1130	1193	1256	1381	1570	1758	1884	3160	4350	5140	6330
	47.00	0.472	8.525	543	746	882	1086	1222	1289	1357	1493	1697	1900	2036	3430	4720	5580	6870
	53.50	0.545	8.379	622	855	1011	1244	1399	1477	1555	1710	1943	2177	2332	3960	5450	6440	7930
	58.40	0.595	8.279	675	928	1097	1350	1519	1604	1688	1857	2110	2363	2532	4330	5950	7030	8650
	59.40	0.609	8.251	690	949	1121	1380	1552	1639	1725	1897	2156	2415	2587	4430	6090	7200	8860
	61.10	0.625	8.219	707	972	1149	1414	1590	1679	1767	1944	2209	2474	2651	4550	6250	7390	9090
	64.90	0.672	8.125	756	1040	1229	1512	1701	1796	1890	2079	2363	2646	2835	4890	6720	7940	9770
70.30	0.734	8.001	820	1128	1333	1640	1845	1948	2050	2255	2563	2870	3075	5340	7340	8670	10680	
9 7/8	62.80	0.625	8.469	726	999	1181	1453	1635	1725	1816	1998	2270	2543	2724	4430	6090	7200	8860
	67.30	0.668	8.383	773	1063	1256	1546	1739	1836	1932	2125	2415	2705	2898	4740	6510	7690	9470
	68.80	0.700	8.319	807	1110	1312	1614	1816	1917	2018	2219	2522	2825	3027	4960	6820	8060	9920
	70.40	0.707	8.305	815	1120	1324	1629	1833	1934	2036	2240	2545	2851	3054	5010	6890	8140	10020
	72.10	0.725	8.269	834	1146	1355	1667	1876	1980	2084	2292	2605	2918	3126	5140	7070	8350	10280
10 3/4	32.75	0.279	10.036	367	505	597	734	826	872	918	1010	1147	1285	1377	1820	2500	2950	3630
	40.50	0.350	9.894	457	629	743	915	1029	1086	1144	1258	1429	1601	1715	2280	3130	3700	4560
	45.50	0.400	9.794	520	715	845	1040	1171	1236	1301	1431	1626	1821	1951	2600	3580	4230	5210
	51.00	0.450	9.694	582	801	946	1165	1311	1383	1456	1602	1820	2039	2184	2930	4030	4760	5860
	55.50	0.495	9.604	638	877	1037	1276	1435	1515	1595	1754	1993	2233	2392	3220	4430	5240	6450
	60.70	0.545	9.504	699	961	1136	1398	1573	1660	1747	1922	2184	2446	2621	3550	4880	5770	7100
	65.70	0.595	9.404	759	1044	1234	1519	1708	1803	1898	2088	2373	2658	2847	3870	5330	6300	7750
	68.80	0.636	9.322	808	1111	1314	1617	1819	1920	2021	2223	2526	2829	3031	4140	5690	6730	8280
	71.10	0.650	9.294	825	1134	1341	1650	1856	1959	2062	2269	2578	2887	3094	4230	5820	6880	8470
	73.20	0.672	9.250	851	1170	1383	1702	1915	2021	2128	2340	2660	2979	3191	4380	6020	7110	8750
	76.60	0.700	9.194	884	1216	1437	1768	1989	2100	2210	2431	2763	3094	3315	4560	6270	7410	9120
	79.20	0.734	9.126	924	1270	1501	1848	2079	2194	2310	2541	2887	3233	3464	4780	6570	7770	9560
85.30	0.797	9.000	997	1371	1620	1994	2243	2367	2492	2741	3115	3489	3738	5190	7140	8430	10380	
11 3/4	42.00	0.333	10.928	478	657	776	956	1075	1135	1194	1314	1493	1672	1792	1980	2730	3220	3970
	47.00	0.375	10.844	536	737	871	1072	1206	1273	1340	1474	1675	1876	2010	2230	3070	3630	4470
	54.00	0.435	10.724	619	850	1005	1237	1392	1469	1546	1701	1933	2165	2319	2590	3560	4210	5180
	60.00	0.489	10.616	692	951	1124	1384	1557	1643	1730	1903	2162	2422	2595	2910	4010	4730	5830
	65.00	0.534	10.526	753	1035	1223	1505	1693	1788	1882	2070	2352	2634	2822	3180	4370	5170	6360
	71.00	0.582	10.430	817	1123	1327	1634	1838	1940	2042	2246	2552	2859	3063	3470	4770	5630	6930
	75.00	0.618	10.358	865	1189	1405	1729	1945	2053	2161	2377	2702	3026	3242	3680	5060	5980	7360
	79.00	0.656	10.282	915	1257	1486	1829	2058	2172	2286	2515	2858	3201	3430	3910	5370	6350	7820
11 7/8	71.80	0.582	10.555	826	1136	1342	1652	1858	1962	2065	2271	2581	2891	3097	3430	4720	5570	6860
12 3/4	57.60	0.433	11.728	670	922	1089	1340	1508	1592	1675	1843	2094	2513	2380	3270	3860	4750	
	65.10	0.492	11.610	758	1042	1232	1516	1705	1800	1895	2084	2368	2842	2700	3710	4390	5400	
	70.10	0.531	11.532	815	1121	1325	1631	1835	1936	2038	2242	2548	3058	2920	4010	4740	5830	
13 3/8	48.00	0.330	12.559	541	744	879	1082	1217	1285	1352	1488	1691	1893	2029	1730	2370	2810	3450
	54.50	0.380	12.459	621	853	1008	1241	1396	1474	1551	1706	1939	2172	2327	1990	2730	3230	3980
	61.00	0.430	12.359	699	962	1137	1399	1574	1661	1749	1924	2186	2448	2623	2250	3090	3660	4500
	68.00	0.480	12.259	778	1069	1264	1556	1750	1847	1945	2139	2431	2722	2917	2510	3450	4080	5020
	72.00	0.514	12.191	831	1142	1350	1661	1869	1973	2077	2284	2596	2907	3115	2690	3700	4370	5380
	77.00	0.550	12.119	886	1219	1440	1773	1994	2105	2216	2438	2770	3102	3324	2880	3960	4680	5760
	80.70	0.580	12.059	933	1282	1515	1865	2098	2215	2331	2565	2914	3264	3497	3040	4170	4930	6070
	85.00	0.608	12.003	975	1341	1585	1951	2195	2317	2439	2682	3048	3414	3658	3180	4380	5170	6360
	86.00	0.625	11.969	1001	1377	1627	2003	2253	2378	2503	2754	3129	3505	3755	3270	4500	5320	6540
	98.00	0.719	11.781	1144	1572	1858	2287	2573	2716	2859	3145	3573	4002	4288	3760	5170	6110	7530
13 1/2	80.40	0.576	12.161	935	1286	1520	1871	2105	2222	2339	2573	2923	3274	3508	2990	4110	4850	5970
	81.40	0.580	12.153	942	1295	1530	1883	2119	2236	2354	2590	2943	3296	3531	3010	4140	4890	6010

INTERNAL YIELD PRESSURE							COLLAPSE PRESSURE										
90 ksi	95 ksi	100 ksi	110 ksi	125 ksi	140 ksi	150 ksi	40 ksi	55 ksi	65 ksi	80 ksi	90 ksi	95 ksi	100 ksi	110 ksi	125 ksi	140 ksi	150 ksi
psi							psi										
4820	5090	5360	5890	6700	7500	8030	1230	1370	1420	1430	1430	1430	1430	1430	1430	1430	1430
5550	5860	6170	6780	7710	8640	9250	1610	1880	2020	2160	2200	2210	2210	2210	2210	2210	2210
6430	6780	7140	7860	8930	10000	10710	2200	2530	2740	3050	3210	3290	3340	3420	3470	3470	3470
7300	7710	8120	8930	10140	11360	12170	2860	3450	3760	4100	4250	4350	4470	4690	4930	5090	5130
8220	8670	9130	10040	11410	12780	13700	3540	4400	4900	5520	5870	6020	6170	6390	6640	6830	7020
9130	9640	10140	11160	12680	14200	15220	4230	5360	6030	6950	7490	7740	7990	8420	8980	9410	9640
10170	10740	11300	12430	14130	15820	16950	4830	6440	7330	8570	9340	9700	10060	10730	11660	12460	12950
10870	11470	12070	13280	15090	16900	18110	5140	7060	8200	9660	10570	11010	11450	12280	13440	14500	15150
11410	12050	12680	13950	15850	17750	19020	5380	7390	8740	10510	11540	12040	12540	13490	14850	16100	16890
12550	13240	13940	15330	17420	19510	20910	5860	8060	9530	11730	13200	13930	14660	16010	17760	19420	20490
5110	5390	5670	6240	7090	7940	8510	1370	1570	1560	1710	1710	1710	1710	1710	1710	1710	1710
5760	6080	6400	7040	8000	8960	9600	1720	2020	2190	2370	2440	2470	2470	2470	2470	2470	2470
6460	6820	7180	7900	8980	10050	10770	2230	2570	2770	3090	3260	3330	3380	3470	3530	3530	3530
7120	7510	7910	8700	9890	11070	11860	2720	3250	3530	3810	4010	4130	4230	4420	4620	4730	4750
7720	8150	8580	9440	10730	12010	12870	3170	3890	4280	4750	4990	5090	5180	5300	5630	5890	6000
8920	9410	9910	10900	12390	13870	14860	4070	5130	5770	6620	7110	7340	7560	7950	8440	8790	8970
9740	10280	10820	11900	13520	15150	16230	4640	5990	6790	7890	8570	8890	9200	9770	10540	11190	11570
9970	10520	11070	12180	13840	15500	16610	4740	6230	7070	8250	8970	9320	9650	10280	11130	11860	12290
10230	10800	11360	12500	14200	15910	17050	4860	6500	7400	8660	9440	9810	10180	10860	11800	12630	13130
11000	11610	12220	13440	15270	17110	18330	5200	7140	8360	9860	10800	11260	11710	12570	13780	14880	15570
12010	12680	13350	14680	16680	18680	20020	5640	7750	9160	11270	12600	13170	13740	14820	16390	17850	18790
9970	10520	11080	12180	13840	15510	16610	4740	6230	6830	8260	8980	9320	9660	10290	11140	11870	12300
10650	11250	11840	13020	14800	16570	17760	5050	6940	7690	9330	10190	10610	11030	11810	12900	13880	14480
11160	11780	12410	13650	15510	17370	18610	5270	7240	8330	10120	11100	11580	12050	12940	14210	15370	16100
11280	11900	12530	13780	15660	17540	18790	5320	7310	8470	10300	11300	11790	12270	13190	14500	15700	16460
11560	12210	12850	14130	16060	17990	19270	5440	7480	8840	10750	11810	12330	12840	13830	15240	16540	17370
4090	4310	4540	5000	5680	6360	6810	840	870	870	870	870	870	870	870	870	870	870
5130	5410	5700	6270	7120	7980	8550	1390	1580	1670	1730	1730	1730	1730	1730	1730	1730	1730
5860	6190	6510	7160	8140	9120	9770	1780	2090	2270	2480	2560	2590	2600	2610	2610	2610	2610
6590	6960	7330	8060	9160	10260	10990	2330	2710	2870	3220	3400	3480	3550	3660	3740	3750	3750
7250	7660	8060	8860	10070	11280	12090	2820	3390	3690	4020	4160	4290	4400	4610	4850	4990	5030
7980	8430	8870	9760	11090	12420	13310	3370	4160	4540	5160	5460	5580	5700	5880	6070	6380	6540
8720	9200	9690	10650	12110	13560	14530	3920	4920	5518	6310	6760	6970	7160	7500	7920	8200	8330
9320	9840	10350	11390	12940	14490	15530	4370	5550	6010	7240	7820	8100	8360	8840	9470	9960	10240
9520	10050	10580	11640	13230	14810	15870	4520	5770	6520	7560	8190	8480	8770	9300	9990	10560	10890
9850	10390	10940	12030	13670	15320	16410	4690	6100	6930	8070	8760	9090	9410	10010	10820	11510	11910
10260	10830	11440	12530	14240	15950	17090	4870	6530	7430	8710	9490	9860	10230	10920	11880	12710	13220
10750	11350	11950	13140	14940	16730	17920	5090	7000	8050	9480	10370	10800	11230	12030	13160	14170	14800
11680	12330	12970	14270	16220	18160	19460	5490	7550	8920	10920	12010	12540	13070	14080	15530	16880	17730
4460	4710	4960	5460	6200	6940	7440	1040	1120	1130	1130	1130	1130	1130	1130	1130	1130	1130
5030	5310	5590	6140	6980	7820	8380	1330	1510	1590	1630	1630	1630	1630	1630	1630	1630	1630
5830	6150	6480	7130	8100	9070	9720	1750	2070	2250	2450	2530	2560	2560	2570	2570	2570	2570
6550	6920	7280	8010	9100	10200	10920	2300	2670	2840	3180	3360	3440	3500	3610	3680	3680	3680
7160	7560	7950	8750	9940	11130	11930	2750	3290	3570	3870	4060	4170	4280	4480	4690	4810	4830
7800	8230	8670	9530	10840	12140	13000	3230	3970	4376	4880	5130	5240	5330	5470	5760	6030	6160
8280	8740	9200	10120	11510	12890	13810	3590	4470	4720	5630	5990	6150	6300	6540	6810	6950	7160
8790	9280	9770	10750	12210	13680	14660	3970	5000	5350	6430	6890	7110	7310	7670	8120	8430	8570
7720	8150	8580	9430	10720	12010	12870	3170	3880	4010	4750	4980	5080	5170	5290	5630	5880	5990
5350	5650	5940	6540	7430		8910	1500	1740	1760	1960	1970	1970	1970	1970	1970	1970	1970
6080	6420	6750	7430	8440		10130	1940	2240	2360	2700	2810	2860	2880	2920	2920	2920	2920
6560	6920	7290	8020	9110		10930	2300	2670	2750	3180	3370	3450	3510	3610	3690	2920	3690
3890	4100	4320	4750	5400	6040	6480	740	740	740	740	740	740	740	740	740	740	740
4470	4720	4970	5470	6210	6960	7460	1040	1130	1140	1140	1140	1140	1140	1140	1140	1140	1140
5060	5340	5630	6190	7030	7880	8440	1350	1540	1620	1670	1670	1670	1670	1670	1670	1670	1670
5650	5970	6280	6910	7850	8790	9420	1660	1950	2100	2260	2320	2330	2330	2330	2330	2330	2330
6050	6390	6730	7400	8410	9420	10090	1920	2220	2430	2670	2780	2820	2850	2880	2880	2880	2880
6480	6840	7200	7920	9000	10070	10790	2240	2580	2780	3100	3270	3350	3400	3490	3550	3550	3550
6830	7210	7590	8350	9490	10620	11380	2500	2950	3160	3460	3680	3780	3860	4000	4140	4180	4180
7160	7560	7960	8750	9940	11140	11930	2750	3300	3310	3880	4060	4180	4280	4480	4690	4810	4830
7360	7770	8180	9000	10220	11450	12270	2900	3510	3560	4190	4350	4430	4540	4770	5030	5190	5250
8470	8940	9410	10350	11760	13170	14110	3730	4660	4950	5920	6310	6490	6660	6950	7280	7470	7540
6720	7090	7470	8210	9330	10450	11200	2420	2840	2880	3350	3550	3650	3710	3840	3960	3980	3980
6770	7140	7520	8270	9400	10530	11280	2460	2890	3010	3400	3610	3700	3770	3910	4030	4060	4060
7220	7630	8030	8830	10030	11240	12040	2800	3360	3590	3980	4130	4260	4370	4570	4800	4930	4970
8790	9270	9760	10740	12200	13670	14640	3970	4990	5340	6410	6880	7090	7300	7660	8100	8400	8540

CASING PERFORMANCE RATINGS

LABELS				PIPE BODY YIELD STRENGTH														
OD	NOMINAL WEIGHT	WALL THICKNESS	DRIFT DIAMETER	40 ksi	55 ksi	65 ksi	80 ksi	90 ksi	95 ksi	100 ksi	110 ksi	125 ksi	140 ksi	150 ksi	40 ksi	55 ksi	65 ksi	80 ksi
in	lb/ft	in	in	x 1000 lb														
14	82.50	0.562	12.689	949	1305	1542	1898	2135	2254	2373	2610	2966	3322	3559	2810	3860	4570	5620
	94.80	0.656	12.501	1100	1513	1788	2200	2475	2613	2750	3025	3438	3850	4125	3280	4510	5330	6560
	99.30	0.688	12.437	1151	1583	1870	2302	2590	2733	2877	3165	3597	4028	4316	3440	4730	5590	6880
	110.00	0.772	12.269	1283	1765	2085	2567	2887	3048	3208	3529	4010	4491	4812	3860	5310	6270	7720
	111.00	0.779	12.255	1294	1780	2103	2588	2912	3074	3236	3559	4044	4853	3900	5360	6330	7790	
16	65.00	0.375	15.063	736	1012	1197	1473	1657	1749	1841	2025				1640	2260	2670	3280
	75.00	0.438	14.937	857	1178	1392	1713	1927	2034	2141	2355				1920	2630	3110	3830
	84.00	0.495	14.823	964	1326	1567	1929	2170	2291	2411	2652				2170	2980	3520	4330
	94.50	0.562	14.689	1090	1499	1772	2181	2453	2589	2726	2998				2460	3380	4000	4920
	109.00	0.656	14.501	1265	1739	2055	2530	2846	3004	3162	3478				2870	3950	4660	5740
	118.00	0.715	14.383	1373	1888	2232	2747	3090	3262	3433	3777				3130	4300	5080	6260
	128.00	0.781	14.251	1494	2054	2427	2987	3361	3547	3734	4108				3420	4700	5550	6830
	139.00	0.850	14.119	1629	2244	2643	3243	3643	3848	4053	4458				3710	5000	5900	7200
18 5/8	87.50	0.435	17.568	994	1367	1616	1989	2237	2362	2486	2734				1630	2250	2660	3270
	94.50	0.468	17.502	1068	1468	1735	2136	2403	2536	2670	2937				1760	2420	2860	3520
	96.50	0.485	17.468	1106	1520	1797	2211	2488	2626	2764	3040				1820	2510	2960	3650
	99.00	0.500	17.438	1139	1566	1851	2278	2562	2705		3132				1880	2580	3050	3760
	114.00	0.579	17.280	1313	1805	2134	2626	2954	3118	3283	3611				2180	2990	3540	4350
	115.00	0.594	17.250	1346	1851	2187	2692	3028	3197	3365	3701				2230	3070	3630	4460
	126.00	0.636	17.166	1438	1977	2336	2875	3235	3415	3594	3954				2390	3290	3880	4780
	136.00	0.693	17.052	1562	2147	2538	3123	3514	3709	3904	4294				2600	3580	4230	5210
	139.00	0.720	16.998	1620	2228	2633	3240	3645	3848	4050	4455				2710	3720	4400	5410
	149.00	0.787	16.884	1759	2429	2853	3483	3899	4109	4319	4734				2920	3950	4650	5680
20	94.00	0.438	18.937	1077	1480	1750	2153	2423	2557	2692	2961				1530	2110	2490	3070
	106.50	0.500	18.813	1225	1685	1991	2450	2757	2910	3063	3369				1750	2410	2840	3500
	118.50	0.563	18.687	1375	1891	2235	2750	3094	3266	3438	3782				1970	2710	3200	3940
	131.50	0.625	18.563	1522	2092	2473	3043	3424	3614		4185				2190	3010	3550	4380
	133.00	0.635	18.543	1545	2125	2511	3091	3477	3670	3863	4249				2220	3060	3610	4440
	147.00	0.709	18.395	1719	2363	2793	3437	3867	4082	4297	4727				2480	3410	4030	4960
	169.00	0.812	18.189	1958	2692	3182	3916	4405	4650	4895	5384				2840	3910	4620	5680
	184.00	0.880	18.084	2197	2961	3513	4247	4746	4991	5236	5725				3100	4190	4920	5980
24 1/2	133.00	0.500	23.313	1508	2073	2450	3016								1430	1960	2320	2860
	140.00	0.531	23.251	1599	2199	2599	3199								1520	2090	2470	3030
	162.00	0.625	23.063	1875	2578	3047	3750								1790	2460	2900	3570
	165.00	0.635	23.043	1904	2618	3095	3809								1810	2490	2950	3630
	182.00	0.709	22.895	2120	2915	3444	4239								2030	2790	3290	4050
	207.00	0.812	22.689	2417	3324	3928	4834								2320	3190	3770	4640

NOTES: 1. Pipe body properties were calculated according to API Bulletin 5C3
 2. Other sizes and wall thickness values are available upon request. Contact oilfield@tenaris.com

SPECIAL DRIFT DIMENSIONS

DESIGNATION		DRIFT MANDREL DIMENSION				NOTES
OD	NOMINAL WEIGHT	LENGTH (Min)		DIAMETER (Min)		
in	lb/ft	in	mm	in	mm	
7	23.00	6	152	6.250	158.75	API* + Tenaris
	32.00	6	152	6.000	152.40	API* + Tenaris
7 3/4	46.10	6	152	6.500	165.10	API* + Tenaris
8 5/8	32.00	6	152	7.875	200.02	API* + Tenaris
	40.00	6	152	7.625	193.68	API* + Tenaris
9 5/8	40.00	12	305	8.750	222.25	API* + Tenaris
	43.50	12	305	8.625	219.07	Tenaris Special Drift
	53.50	12	305	8.500	215.90	API* + Tenaris
	58.40	12	305	8.375	212.72	API* + Tenaris
9 7/8**	62.80	12	305	8.500	215.90	Tenaris Special Drift
	72.10	12	305	8.375	212.72	Tenaris Special Drift
10 3/4	45.50	12	305	9.875	250.82	API* + Tenaris
	55.50	12	305	9.625	244.48	API* + Tenaris
	65.70	12	305	9.504	241.40	Tenaris Special Drift
11 3/4	42.00	12	305	11.000	279.40	API* + Tenaris
	60.00	12	305	10.625	269.88	API* + Tenaris
	65.00	12	305	10.625	269.88	API* + Tenaris
13 3/8	72.00	12	305	12.250	311.15	API* + Tenaris
13 1/2**	80.40	12	305	12.250	311.15	Tenaris Special Drift
13 5/8**	88.20	12	305	12.250	311.15	Tenaris Special Drift
14**	111.00	12	305	12.250	311.15	Tenaris Special Drift
18 5/8	96.50	12	305	17.500	444.50	Tenaris Special Drift

* API Special Drift according to ISO 11960:2001 - API 5CT Seventh Edition, October 2001.
 ** Non API dimension.

INTERNAL YIELD PRESSURE							COLLAPSE PRESSURE										
90 ksi	95 ksi	100 ksi	110 ksi	125 ksi	140 ksi	150 ksi	40 ksi	55 ksi	65 ksi	80 ksi	90 ksi	95 ksi	100 ksi	110 ksi	125 ksi	140 ksi	150 ksi
psi							psi										
6320	6670	7030	7730	8780	9840	10540	2120	2420	2560	2940	3090	3160	3200	3270	3300	3300	3300
7380	7790	8200	9020	10250	11480	12300	2920	3530	3580	4220	4380	4450	4570	4800	5060	5230	5290
7740	8170	8600	9460	10750	12040	12900	3180	3900	4030	4780	5020	5120	5210	5330	5660	5920	6040
8680	9170	9650	10620	12060	13510	14470	3890	4890	5220	6260	6700	6900	7100	7430	7840	8110	8230
8760	9250	9740	10710	12170		14610	3950	4970	5320	6380	6840	7050	7260	7610	8040	8040	8480
3690	3900	4100	4510				630	630	630	630	630	630	630	630			
4310	4550	4790	5270				960	1020	1020	1020	1020	1020	1020	1020			
4870	5140	5410	5960				1250	1410	1460	1480	1480	1480	1480	1480			
5530	5840	6150	6760				1600	1860	1910	2140	2180	2190	2190	2190			
6460	6820	7180	7890				2220	2560	2670	3080	3250	3320	3370	3470			
7040	7430	7820	8600				2660	3170	3160	3690	3920	4030	4130	4300			
7690	8120	8540	9400				3150	3850	3970	4700	4930	5020	5110	5240			
3680	3880	4090	4500				630	630	630	630	630	630	630	630			
3960	4180	4400	4840				770	780	780	780	780	780	780	780			
4100	4330	4560	5010				850	870	870	870	870	870	870	870			
4230	4460		5170				920	960	960	960	960	960	960	960			
4900	5170	5440	5980				1270	1420	1420	1500	1500	1500	1500	1500			
5020	5300	5580	6140				1330	1510	1510	1630	1630	1630	1630	1630			
5380	5680	5980	6570				1520	1760	1780	1990	2000	2000	2000	2000			
5860	6190	6510	7160				1780	2090	2180	2480	2560	2590	2600	2610			
6090	6430	6770	7440				1950	2250	2370	2710	2820	2870	2900	2930			
3450	3640	3830	4220				520	520	520	520	520	520	520	520			
3940	4160	4380	4810				760	770	770	770	770	770	770	770			
4430	4680	4930	5420				1020	1100	1110	1110	1110	1110	1110	1110			
4920	5200		6020				1280	1440	1440	1530	1530	1530	1530	1530			
5000	5280	5560	6110				1320	1500	1500	1600	1600	1600	1600	1600			
5580	5890	6200	6820				1630	1900	1950	2190	2240	2250	2250	2250			
6390	6750	7100	7820				2180	2500	2620	3020	3180	3250	3290	3370			
							420	420	420	420							
							500	500	500	500							
							810	820	820	820							
							840	860	860	860							
							1090	1190	1210	1210							
							1430	1650	1650	1830							

Steel Grades

Tenaris has developed a broad range of proprietary steel grades to meet the most demanding well conditions, from severe sour environments to high external pressure conditions and deep wells.

Sour Service

Designed for severe sour environments, with higher resistance to sulfide stress corrosion cracking.

High Collapse Service

Designed for wells where high external pressures are anticipated, through the optimization of tubular collapse performance.

High Collapse and Sour Service

Designed for oil and gas wells, where high external pressures in sour environments are anticipated.

Deep Well Service

Designed for deep wells, where added strength with good ductility and fracture toughness is required.

Critical Service

Designed for specific mild CO₂ environments, giving a cost effective alternative as an optional carbon steel for sweet corrosion, where CRA is not economically justified.

Low Temperature Service

Proprietary grades with improved fracture toughness designed to be used in low temperatures (arctic regions).

HIGH COLLAPSE RATINGS

LABELS				COLLAPSE PRESSURE			
OD	NOMINAL WEIGHT	WALL THICKNESS	D/t	80 ksi	95 ksi	110 ksi	140 ksi
in	lb/ft	in		x 1000 lb			
4 1/2	11.60	0.250	18.00	7.930	9.070	10.130	11.390
	13.50	0.290	15.51	10.040	11.390	13.410	14.820
	15.10	0.337	13.35	12.350	14.100	16.180	18.880
5	15.00	0.296	16.89	8.790	10.020	11.490	12.790
	18.00	0.362	13.82	11.830	13.440	15.540	17.750
	21.40	0.437	11.44	14.540	17.130	18.820	22.330
	23.20	0.478	10.46	16.000	18.680	20.400	24.200
	24.10	0.500	10.00	16.960	19.440	21.240	25.120
5 1/2	17.00	0.304	18.10	7.860	8.990	10.030	11.220
	20.00	0.361	15.23	10.320	11.690	13.840	15.290
	23.00	0.415	13.25	12.440	14.250	16.330	19.090
6 5/8	24.00	0.352	18.83	7.350	8.480	9.240	10.020
	28.00	0.417	15.89	9.680	10.980	12.850	14.240
	32.00	0.475	13.96	11.760	13.250	15.360	17.640
7	26.00	0.362	19.35	7.020	8.090	8.710	9.280
	29.00	0.408	17.16	8.580	9.780	11.140	12.430
	32.00	0.453	15.45	10.100	11.450	13.510	14.930
	35.00	0.498	14.06	11.640	13.120	15.230	17.420
	38.00	0.540	12.96	12.700	14.840	16.770	19.750
7 5/8	26.40	0.328	23.25	4.950	5.220	5.510	5.510
	29.70	0.375	20.35	6.420	7.300	7.780	8.060
	33.70	0.430	17.74	8.130	9.280	10.440	11.700
	39.00	0.500	15.25	10.310	11.670	13.810	15.260
	42.80	0.562	13.57	12.170	13.790	15.870	18.420
	45.30	0.595	12.82	12.830	15.040	16.980	20.090
	47.10	0.624	12.21	13.500	15.930	17.730	21.030
	51.20	0.687	11.10	15.030	17.706	19.345	22.900
	55.30	0.750	10.17	16.550	19.144	20.927	24.770
7 3/4	46.10	0.595	13.03	12.640	14.740	16.660	19.610
8 5/8	36.00	0.400	21.56	5.750	6.310	6.740	6.860
	40.00	0.450	19.17	7.130	8.230	8.890	9.520
	44.00	0.500	17.25	8.500	9.700	11.020	12.310
	49.00	0.557	15.48	10.070	11.410	13.450	14.880
9 5/8	40.00	0.395	24.38	4.480	4.550	4.770	4.770
	43.50	0.435	22.13	5.470	5.870	6.320	6.420
	47.00	0.472	20.39	6.380	7.270	7.740	8.000
	53.50	0.545	17.67	8.180	9.340	10.520	11.400*
	58.40	0.595	16.18	9.410	10.690	12.440	13.800
	59.40	0.609	15.80	9.760	11.070	12.990	14.370
	64.90	0.672	14.32	11.317	12.810	14.880	16.880
70.30	0.734	13.12	12.564	14.509	16.530	19.290	
9 7/8	62.80	0.625	15.79	9.670	11.080	12.980	14.380
10 3/4	51.00	0.450	23.89	4.680	4.830	5.070	5.070
	55.50	0.495	21.72	5.670	6.190	6.620	6.730
	60.70	0.545	19.73	6.780	7.800	8.340	8.780
	65.70	0.595	18.07	7.880	9.010	10.050	11.270
	73.20	0.672	16.00	9.580	10.870	12.690	14.070
	79.20	0.734	14.65	10.950	12.390	14.490	16.310
11 3/4	60.00	0.489	24.03	4.620	4.740	4.980	4.980
	65.00	0.534	22.01	5.530	5.960	6.403	6.490
	69.50	0.582	20.19	6.504	7.430	7.920	8.230
11 7/8	70.00	0.580	20.48	6.337	7.260	7.740	7.910
13 3/8	54.50	0.380	35.20	1.540	1.540	1.540	1.540
	61.00	0.430	31.11	2.250	2.250	2.250	2.250
	68.00	0.480	27.87	3.200	3.150	3.150	3.150
	72.00	0.514	26.01	3.580	3.600	3.890	3.890
	77.00	0.550	24.32	4.500	4.500	4.802	4.802
	79.30	0.580	23.06	5.041	5.414	5.657	5.657
	85.00	0.608	22.00	5.536	6.069	6.411	6.500

NOTE: **Special Drift** For other dimensions, minimum guaranteed collapse pressure will be agreed between Tenaris and Customer.

Full Product Range

At our state-of-the-art fully-integrated manufacturing facilities we can produce seamless steel pipes from 1 1/3" to 28" (outside

diameters). We also produce most steel grades including 13 chrome and other high alloy grades and our own proprietary steel grades.

OCTG DIMENSIONAL RANGE

OD (in.)		1.315	1.660	1.900	2.063	2 3/8	2 7/8	3 1/2	4	4 1/2	5	5 1/2	6 5/8	7	7 5/8	7 3/4
Nominal weights (lb/ft)	From	1.70	2.30	2.75	3.24	4.00	6.40	6.50	8.20	9.50	11.50	14.00	20.00	17.00	24.00	46.10
	To	2.19	3.03	2.75	4.50	7.45	11.65	17.05	22.50	26.50	24.10	43.10	35.00	57.10	55.30	48.60
		8 5/8	9 5/8	9 7/8	10 3/4	11 3/4	11 7/8	12 3/4	13 3/8	13 1/2	13 5/8	14	16	18 5/8	20	24 1/2
	From	24.00	32.30	62.80	32.75	42.00	71.80	57.60	48.00	80.40	88.20	82.50	65.00	87.50	94.00	133.00
	To	58.70	75.60	72.10	85.30	83.00	71.80	70.10	91.00	81.40	105.00	111.00	128.00	139.00	169.00	207.00

TENARIS PROPRIETARY STEEL GRADES

SMYS (ksi)	55	70	75	80	90	95	100	110	125	140	150
Sour Service				TN 80 SS	TN 90 SS	TN 95 SS	TN 100 SS	TN 110 SS			
High Collapse Service				TN 80 HC		TN 95 HC		TN 110 HC		TN 140 HC	
High Collapse & Sour Service				TN 80 HS		TN 95 HS		TN 110 HS			
Deep Well Service										TN 140 DW	TN 150 DW
Critical Service	TN 55 CS	TN 70 CS	TN 75 CS	TN 80 CR3		TN 95 CR3		TN 110 CR3			
Low Temperature Service	TN 55 LT			TN 80 LT		TN 95 LT		TN 110 LT	TN 125 LT		
Sweet corrosion						CR 13 S 95		CR 13 S 110			

API GRADES MANUFACTURED BY TENARIS

SMYS (ksi)	40	55	65	80	90	95	110	125
Group 1	H40	J55 K55		N80				
Group 2			M65	L80, 13CR	C90	C95, T95		
Group 3							P110	
Group 4								Q125

Find more information at: www.tenaris.com/oilfield

Tenaris and its member companies have produced this brochure for general information only. Tenaris does not assume any responsibility or liability for any loss, damage or injury resulting from the use of information and data herein. Warranties, indemnities and any other obligations will result only from the respective contracts of license or sale as the case may be. Please contact a Tenaris representative for more complete information.

© Tenaris 2003. All rights reserved.

www.tenaris.com/oilfield

ARGENTINA

Buenos Aires
Rubén Fidalgo
rfidalgo@siderca.com
(54) 11 4018 2582 tel
(54) 11 4313 9280 fax

BOLIVIA

Santa Cruz de la Sierra
Richard Mariaca
rmariaca@tenaris.com
(591) 3 312 0603 tel
(591) 3 312 0602 fax

BRAZIL

São Paulo
José Rey Mendez
jreymendez@confab.com.br
(55) 12 244 9001 tel
(55) 12 244 9004 fax

CANADA

Calgary
Lorne Vaugeois
lvaugeois@tenaris.com
(1) 403 514 2289 tel
(1) 403 290 0619 fax

CASPIAN SEA

Baku & Atyrau
Claudio Casais
ccasais@tenaris.com
(994) 1292 1411 tel
(994) 1297 1023 fax

CHINA

Beijing
Alejandro de la Serna
adelaserne@tenaris.com
(86) 10 6437 6744 tel
(86) 10 6437 6746 fax

COLOMBIA

Bogotá
Edgard Aguado
eaguado@tenaris.com
(57) 1 636 2920 tel
(57) 1 623 4780 fax

ECUADOR

Quito
Roberto Amuchástegui
ramuchastegui@tenaris.com
(593) 2 298 6240 tel
(593) 2 298 6250 fax

EGYPT

Cairo
Khalil Hesham Reda
kheshamreda@tenaris.com
(20) 2 2686 991 tel
(20) 2 2686 990 fax

ITALY

Bergamo
Antonio Zizzo
dalazi@dalmine.it
(39) 035 560 3416 tel
(39) 035 561 048 fax

JAPAN

Kanto
Kyoichi Nagata
knagata@tenaris.com
(81) 44 328 3430 tel
(81) 44 328 0343 fax

MALAYSIA

Kuala Lumpur
Amanugan Manno
amanno@tenaris.com
(603) 216 48115 tel
(603) 216 48117 fax

MEXICO

Veracruz
Pablo Gómez
pgomezr@tamsa.com.mx
(52) 229 989 1122 tel
(52) 229 989 1119 fax

NIGERIA

Port Harcourt
Valerio Maussier
vmaussier@tenaris.com
(234) 8461 0299 tel
(234) 8461 1859 fax

NORWAY

Stavanger
Arnt Oxaas
aoxaas@tenaris.com
(47) 51 44 3440 tel
(47) 51 44 3441 fax

RUSSIA

Moscow
Fernando Cadena
fcadena@tenaris.com
(7) 095 502 1630 tel
(7) 095 937 7713 fax

SINGAPORE

Singapore
Soon Tee Sia
stsia@tenaris.com
(65) 6395 9000 tel
(65) 6222 4090 fax

UAE

Dubai
Luis Acevedo
lacevedo@tenaris.com
(971) 4 2725 394 tel
(971) 4 2725 392 fax

UK

Aberdeen
Derek Smith
dsmith@tenaris.com
(44) 1224 587 889 tel
(44) 1224 587 422 fax

USA

Houston
Marcelo Ranieri
mranieri@tenaris.com
(1) 713 767 4400 tel
(1) 713 767 4444 fax

VENEZUELA

Caracas
Alejandro Cassullo
acassullo@tenaris.com
(58) 212 902 3969 tel
(58) 212 902 3937 fax