



Premium Connections – VAGT®





TUBING DESIGN

1.9 – 4.5 inches
30° seal taper
20° shoulder
1.9" to 2 7/8" 8 threads
per inch
3 1/2" to 4 1/2" 6 threads
per inch



CASING DESIGN

5 – 7 inches
10% seal taper
15° shoulder
5 threads per inch

VAGT® and VA-Series



METAL TO METAL SEAL

The high contact pressure in the seal area is reinforced by the internal shoulder and ensures gas tightness at tensile loads up to the joint tensile strength.

ROBUST INTERNAL SHOULDER

The internal shoulder reinforces the contact pressure in the seal area and acts as a positive make-up stop.

IMPROVED BUTTRESS

The tapered buttress thread ensures a high stress performance and allows easy make-up even under severe conditions.

SMOOTH INTERNAL PROFILE

The flush internal profile minimizes turbulence. It also provides good conditions for internal plastic coating.

VA SERIES									
MINIMUM YIELD STRENGTH	GRADE API SPEC 5CT	HIGH COLLAPSE	SOUR SERVICE		DEEP WELL		LOW TEMPERATURE	MILD SWEET GAS	SEA WATER
				WITH HIGH COLLAPSE		WITH HIGH COLLAPSE			
psi									
40,000	H 40								
55,000	J 55	VA-HC-J55					VA-LT-J55	VA-FP-55-1CR	
	K 55	VA-HC-K55					VA-LT-K55		
65,000	M 65								
75,000								VA-FP-75-1CR	
80,000	N 80	VA-HC-N80					VA-LT-N80	VA-FP-80-1CR	
	L 80	VA-HC-L80	VA-S-80	VA-S-80-HC			VA-LT-L80		VA-L80-1CR
90,000	C 90	VA-HC-C90	VA-S-90	VA-S-90-HC			VA-LT-C90		
			VA-SS-90	VA-SS-90-HC					
95,000	C (R) 95	VA-HC-C95					VA-LT-C95		
	T 95	VA-HC-T95	VA-S-95	VA-S-95-HC			VA-LT-T95		
			VA-SS-95	VA-SS-95-HC					
110,000	P 110	VA-HC-P110	VA-S-110	VA-S-110-HC			VA-LT-P110		
125,000	Q 125	VA-HC-Q125			VA-D-125	VA-D-125-HC	VA-LT-Q125		
140,000					VA-D-140	VA-D-140-HC			
150,000					VA-D-150	VA-D-150-HC			

On request in combination with:

Low temperature

High collapse

DIMENSIONS

PIPE OUTSIDE DIAMETER	NOMINAL WEIGHT T & C		WALL		INSIDE		DRIFT		COUPLING		OUTSIDE DIAMETER COUPLING			
			THICKNESS		DIAMETER		DIAMETER		LENGTH		REGULAR		ALTERNATIVE	
	inch/mm	lb/ft	kg/m	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
1.9"	2.75	4.11	0.145	3.68	1.610	40.89	1.516	38.51	4.016	102.00	2.201	55.90	2.374	60.30
48.26	3.65	5.47	0.200	5.08	1.500	38.10	1.406	35.72	4.016	102.00	2.217	56.30	2.374	60.30
2 3/8"	4.60	6.69	0.190	4.83	1.995	50.67	1.901	48.29	5.000	127.00	2.697	68.50	2.874	73.01
60.32	5.10	7.57	0.218	5.54	1.939	49.25	1.845	46.87	5.000	127.00	2.697	68.50	2.874	73.01
	5.80	8.67	0.254	6.45	1.867	47.43	1.774	45.05	5.000	127.00	2.776	70.50	2.874	73.01
2 7/8"	6.40	9.29	0.217	5.51	2.441	62.01	2.348	59.63	5.630	143.00	3.197	81.20	3.500	88.90
73.02	7.80	11.57	0.276	7.01	2.323	59.01	2.230	56.63	5.630	143.00	3.327	84.50	3.500	88.90
	8.60	12.74	0.308	7.82	2.259	57.39	2.166	55.01	5.630	143.00	3.327	84.50	3.500	88.90
3 1/2"	7.70	11.28	0.216	5.49	3.068	77.92	2.943	74.74	6.575	167.00	3.862	98.10	4.252	108.00
88.90	9.20	13.29	0.254	6.45	2.992	76.00	2.867	72.82	6.575	167.00	3.862	98.10	4.252	108.00
	10.20	14.97	0.289	7.34	2.922	74.22	2.797	71.04	6.575	167.00	3.917	99.50	4.252	108.00
	12.70	18.90	0.375	9.52	2.750	69.86	2.625	66.68	6.575	167.00	4.035	102.50	4.252	108.00
	13.70	20.62	0.413	10.50	2.673	67.90	2.548	64.72	6.575	167.00	4.138	105.10	4.252	108.00
	14.70	22.16	0.450	11.43	2.600	66.04	2.475	62.86	6.575	167.00	4.138	105.10	4.252	108.00
4"	9.50	13.82	0.226	5.74	3.548	90.12	3.423	86.94	7.126	181.00	4.390	111.50	4.748	120.60
101.60	10.70	15.86	0.262	6.65	3.476	88.30	3.351	85.12	7.126	181.00	4.390	111.50	4.748	120.60
	13.20	19.63	0.330	8.38	3.340	84.84	3.215	81.66	7.126	181.00	4.500	114.30	4.748	120.60
4 1/2"	10.50	15.51	0.224	5.69	4.052	102.92	3.927	99.74	7.913	201.00	4.862	123.50	5.201	132.10
114.30	11.60	17.18	0.250	6.35	4.000	101.60	3.875	98.42	7.913	201.00	4.862	123.50	5.201	132.10
	12.60	18.50	0.271	6.88	3.958	100.54	3.833	97.36	7.913	201.00	4.862	123.50	5.201	132.10
	13.50	19.78	0.290	7.37	3.920	99.56	3.794	96.38	7.913	201.00	4.961	126.00	5.201	132.10
	15.20	22.67	0.337	8.56	3.826	97.18	3.701	94.00	7.913	201.00	4.961	126.00	5.201	132.10
	17.00	25.37	0.380	9.65	3.740	95.00	3.615	91.82	7.913	201.00	5.106	129.70	5.252	133.40
	18.90	28.31	0.430	10.92	3.640	92.46	3.515	89.28	7.913	201.00	5.106	129.70	5.252	133.40
5"	13.00	19.67	0.253	6.43	4.494	114.14	4.369	110.96	9.173	233.00	5.563	141.30	-	-
127.00	15.00	22.71	0.296	7.52	4.408	111.96	4.283	108.78	9.173	233.00	5.563	141.30	-	-
	18.00	27.25	0.362	9.19	4.276	108.62	4.151	105.44	9.173	233.00	5.563	141.30	-	-
	21.40	32.30	0.437	11.10	4.125	104.80	4.000	101.62	9.173	233.00	5.563	141.30	-	-
	23.20	34.94	0.478	12.14	4.044	102.72	3.919	99.54	9.173	233.00	5.563	141.30	-	-
	24.10	36.35	0.500	12.70	4.000	101.60	3.875	98.42	9.173	233.00	5.563	141.30	-	-
5 1/2"	15.50	23.45	0.275	6.98	4.950	125.74	4.825	122.56	9.331	237.00	6.051	153.70	-	-
139.70	17.00	25.73	0.304	7.72	4.892	124.26	4.767	121.08	9.331	237.00	6.051	153.70	-	-
	20.00	30.12	0.361	9.17	4.778	121.36	4.653	118.18	9.331	237.00	6.051	153.70	-	-
	23.00	34.17	0.415	10.54	4.670	118.62	4.545	115.44	9.331	237.00	6.051	153.70	-	-
	26.00	38.65	0.476	12.09	4.548	115.52	4.423	112.34	9.331	237.00	6.051	153.70	-	-
5 3/4"	16.40	24.95	0.276	7.00	5.199	132.05	5.074	128.87	9.659	245.35	6.535	166.00	-	-
146.05	17.90	27.21	0.303	7.70	5.144	130.65	5.019	127.47	9.659	245.35	6.535	166.00	-	-
	19.70	29.78	0.335	8.50	5.081	129.05	4.956	125.87	9.659	245.35	6.535	166.00	-	-
	20.40	31.40	0.354	9.00	5.039	128.00	4.914	124.82	9.659	245.35	6.535	166.00	-	-
6 5/8"	20.00	30.11	0.288	7.32	6.050	153.66	5.924	150.48	9.724	247.00	7.390	187.70	-	-
168.28	24.00	36.19	0.352	8.94	5.922	150.42	5.797	147.24	9.724	247.00	7.390	187.70	-	-
	28.00	42.24	0.417	10.59	5.792	147.12	5.667	143.94	9.724	247.00	7.390	187.70	-	-
	32.00	47.52	0.475	12.06	5.676	144.18	5.551	141.00	9.724	247.00	7.390	187.70	-	-
7"	23.00	34.68	0.317	8.05	6.366	161.70	6.241	158.52	10.118	257.00	7.657	194.50	-	-
177.80	26.00	39.20	0.362	9.19	6.276	159.42	6.151	156.24	10.118	257.00	7.657	194.50	-	-
	29.00	43.77	0.408	10.36	6.184	157.08	6.059	153.90	10.118	257.00	7.657	194.50	-	-
	32.00	48.19	0.453	11.51	6.094	154.78	5.969	151.60	10.118	257.00	7.657	194.50	-	-
	35.00	52.51	0.498	12.65	6.004	152.50	5.879	149.32	10.118	257.00	7.657	194.50	-	-
	38.00	56.50	0.540	13.72	5.920	150.36	5.794	147.18	10.118	257.00	7.657	194.50	-	-

All VAGT® accessories are available on request. The shown values are based on T & C pipe lengths of L = 10.0m (32.81ft). Special clearance couplings and 20° beveled couplings have a lower load on coupling face. Special clearance couplings with reduced outside diameters on request. Couplings with alternative outside diameters for casing on request. 20° beveled couplings on request (standard chamfer of 45°).

VOLUME (REGULAR)				LENGTH	
DISPLACEMENT		PRODUCTION		MAKE UP LOSS	
us gal/ft	lit/m	us gal/ft	lit/m	inch	mm
0.148	1.84	0.106	1.31	1.732	44.0
0.148	1.84	0.092	1.14	1.732	44.0
0.231	2.87	0.162	2.02	2.205	56.0
0.231	2.87	0.153	1.91	2.205	56.0
0.231	2.87	0.142	1.77	2.205	56.0
0.338	4.20	0.243	3.02	2.520	64.0
0.339	4.21	0.220	2.73	2.520	64.0
0.339	4.21	0.208	2.59	2.520	64.0
0.502	6.23	0.384	4.77	3.000	76.2
0.502	6.23	0.365	4.54	3.000	76.2
0.502	6.23	0.348	4.33	3.000	76.2
0.503	6.24	0.309	3.83	3.000	76.2
0.503	6.25	0.292	3.62	3.000	76.2
0.503	6.25	0.276	3.43	3.000	76.2
0.655	8.14	0.514	6.38	3.272	83.1
0.655	8.14	0.493	6.12	3.272	83.1
0.656	8.15	0.455	5.65	3.272	83.1
0.829	10.30	0.670	8.32	3.665	93.1
0.829	10.30	0.653	8.11	3.665	93.1
0.829	10.30	0.639	7.94	3.665	93.1
0.830	10.31	0.627	7.79	3.665	93.1
0.830	10.31	0.597	7.42	3.665	93.1
0.831	10.32	0.571	7.09	3.665	93.1
0.831	10.32	0.541	6.71	3.665	93.1
1.026	12.74	0.824	10.23	4.252	108.0
1.026	12.74	0.793	9.85	4.252	108.0
1.026	12.74	0.746	9.27	4.252	108.0
1.026	12.74	0.694	8.63	4.252	108.0
1.026	12.74	0.667	8.29	4.252	108.0
1.026	12.74	0.653	8.11	4.252	108.0
1.240	15.40	1.000	12.42	4.331	110.0
1.240	15.40	0.976	12.13	4.331	110.0
1.240	15.40	0.931	11.57	4.331	110.0
1.240	15.40	0.890	11.05	4.331	110.0
1.240	15.40	0.844	10.48	4.331	110.0
1.359	16.87	1.103	13.70	4.409	112.0
1.359	16.87	1.079	13.41	4.409	112.0
1.359	16.87	1.053	13.08	4.409	112.0
1.358	16.87	1.036	12.87	4.409	112.0
1.802	22.38	1.493	18.54	4.528	115.0
1.802	22.38	1.431	17.77	4.528	115.0
1.802	22.38	1.369	17.00	4.528	115.0
1.802	22.38	1.315	16.33	4.528	115.0
2.009	24.95	1.654	20.54	4.724	120.0
2.009	24.95	1.607	19.96	4.724	120.0
2.009	24.95	1.560	19.38	4.724	120.0
2.009	24.95	1.515	18.82	4.724	120.0
2.009	24.95	1.471	18.27	4.724	120.0
2.009	24.95	1.430	17.76	4.724	120.0

Blanking dimensions for accessories are available as a download on our web page www.vatubulars.com



PERFORMANCE PROPERTIES TUBING (METRIC-UNITS)

PIPE OUTSIDE DIAMETER	NOMI- NAL WEIGHT	WALL THICK- NESS	GRADE 55				GRADE 65				GRADE 70			
			Pi	Pc	Sy	L	Pi	Pc	Sy	L	Pi	Pc	Sy	L
inch/mm	lb/ft	mm	bar		kN		bar		kN		bar		kN	
1.9"	2.75	3.68	506	533	195	180	598	631	231	213	645	680	249	229
48.26	3.65	5.08	698	714	261	194	825	844	308	229	890	910	333	247
2 3/8"	4.60	4.83	531	558	319	242	628	660	377	286	677	710	407	308
60.32	5.10	5.54	609	632	354	242	720	747	419	286	776	805	451	308
higher coupling grade	(5.10)	(5.54)	grade:	80	361	353	grade:	80	427	353	grade:	80	461	353
	5.80	6.45	709	724	414	325	838	856	489	384	904	922	527	414
2 7/8"	6.40	5.51	500	529	443	289	592	625	524	342	638	673	565	368
73.02	7.80	7.01	637	658	551	452	753	778	651	534	811	839	702	576
	8.60	7.82	710	725	607	452	840	857	718	534	905	933	774	576
3 1/2"	7.70	5.49	410	411	545	403	484	467	644	476	522	493	695	513
88.90	9.20	6.45	481	510	633	406	569	603	748	480	613	650	807	517
	10.20	7.34	548	575	713	488	647	679	843	577	698	731	908	622
higher coupling grade	12.70	9.52	710	726	899	669	840	857	1063	791	905	923	1144	852
	(12.70)	(9.52)	grade:	80	900	900	grade:	80	1064	974	grade:	80	1147	974
	13.70	10.50	783	789	980	829	926	933	1159	980	998	1004	1249	1057
	14.70	11.43	853	850	1013	829	1008	1004	1198	980	1087	1081	1290	1057
4"	9.50	5.74	375	352	656	498	443	396	775	588	478	416	835	633
101.60	10.70	6.65	434	454	752	497	513	517	889	588	553	547	958	634
	13.20	8.38	547	573	930	685	646	678	1099	810	697	731	1185	878
4 1/2"	10.50	5.69	330	276	736	517	390	305	870	612	421	317	938	659
114.30	11.60	6.35	368	342	816	517	436	383	965	612	470	402	1040	659
	12.60	6.88	399	395	880	517	472	446	1040	612	509	471	1121	659
	13.50	7.37	428	443	938	703	506	504	1109	831	545	533	1196	896
higher coupling grade	15.20	8.56	497	525	1069	703	587	621	1264	831	633	669	1361	896
	(15.20)	(8.56)	grade:	80	1078	1024	grade:	80	1274	1024	grade:	80	1373	1024
	17.00	9.65	560	586	1202	985	662	693	1421	1164	714	746	1532	1255
	18.90	10.92	634	655	1274	985	749	775	1506	1164	808	834	1622	1255
			GRADE 85				GRADE 90				GRADE 95			
1.9"	2.75	3.68	782	825	302	279	829	875	320	296	874	923	338	312
48.26	3.65	5.08	1079	1104	404	300	1144	1169	428	318	1206	1233	451	335
2 3/8"	4.60	4.83	821	862	494	374	870	913	523	397	918	964	552	418
60.32	5.10	5.54	942	977	547	374	998	1035	580	397	1053	1092	612	418
higher coupling grade	(5.10)	(5.54)	grade:	95	559	418	grade:	110	592	484	grade:	110	625	484
	5.80	6.45	1096	1119	640	502	1162	1185	678	532	1225	1251	715	561
2 7/8"	6.40	5.51	774	815	685	447	820	854	726	474	865	892	766	500
73.02	7.80	7.01	984	1017	852	699	1043	1077	903	740	1100	1137	952	781
	8.60	7.82	1098	1121	939	699	1164	1187	995	740	1227	1253	1094	781
3 1/2"	7.70	5.49	633	566	843	623	671	589	893	660	708	611	942	696
88.90	9.20	6.45	744	762	978	628	788	798	1038	665	832	833	1094	702
	10.20	7.34	847	888	1102	755	897	940	1168	800	946	992	1232	844
higher coupling grade	12.70	9.52	1098	1121	1389	1034	1164	1187	1471	1096	1227	1253	1553	1156
	(12.70)	(9.52)	grade:	95	1391	1156	grade:	110	1474	1338	grade:	110	1555	1338
	13.70	10.50	1211	1220	1515	1282	1284	1292	1606	1359	1354	1363	1694	1433
	14.70	11.43	1319	1313	1566	1282	1397	1391	1658	1359	1474	1468	1750	1433
4"	9.50	5.74	580	472	1014	769	614	488	1073	814	648	504	1133	860
101.60	10.70	6.65	671	634	1162	769	711	660	1232	815	750	687	1299	859
	13.20	8.38	846	887	1438	1059	896	940	1524	1123	945	991	1607	1184
4 1/2"	10.50	5.69	511	350	1138	800	541	358	1206	848	571	366	1272	894
114.30	11.60	6.35	570	455	1262	800	604	470	1337	848	637	484	1411	894
	12.60	6.88	617	539	1361	800	654	560	1442	848	690	580	1521	894
	13.50	7.37	661	616	1451	1087	701	641	1537	1152	739	666	1622	1215
higher coupling grade	15.20	8.56	768	805	1653	1087	814	842	1750	1152	858	880	1847	1215
	(15.20)	(8.56)	grade:	95	1666	1215	grade:	110	1766	1406	grade:	110	1863	1406
	17.00	9.65	866	906	1859	1522	918	960	1970	1613	968	1013	2078	1702
	18.90	10.92	980	1013	1970	1522	1038	1073	2085	1613	1095	1132	2201	1702

GRADE 75				GRADE 80			
Pi	Pc	Sy	L	Pi	Pc	Sy	L
bar		kN		bar		kN	
690	728	267	246	737	778	285	263
952	974	356	265	1017	1040	380	282
724	761	435	330	773	811	465	353
831	862	483	330	887	920	515	353
grade: 95	95	493	418	grade: 95	95	526	418
967	988	564	443	1033	1054	603	473
683	722	604	396	729	770	645	421
868	898	752	616	927	957	803	658
969	989	828	616	1034	1055	884	658
559	518	744	550	597	543	794	587
656	690	864	554	701	727	922	591
747	783	972	666	798	836	1038	711
969	989	1226	912	1034	1055	1308	974
grade: 95	95	1227	1156	grade: 95	95	1311	1156
1069	1076	1337	1131	1141	1148	1428	1208
1163	1159	1382	1131	1242	1236	1474	1208
512	436	894	679	546	454	954	724
592	577	1025	678	632	606	1095	724
746	782	1269	935	797	835	1354	998
450	330	1004	706	481	341	1072	753
503	421	1113	706	537	438	1189	753
545	495	1200	706	581	517	1282	753
583	561	1280	959	623	589	1367	1024
678	717	1458	959	723	764	1556	1024
grade: 95	95	1470	1215	grade: 95	95	1570	1215
764	800	1640	1343	816	853	1751	1434
864	894	1738	1343	923	953	1853	1434

GRADE 110			
1012	1068	391	361
1396	1428	522	388
1062	1112	638	484
1218	1265	708	484
grade: 125	125	723	550
1418	1449	828	650
1001	1003	889	578
1273	1316	1102	904
1420	1451	1214	904
819	671	1090	806
962	933	1266	812
1095	1149	1426	977
1421	1451	1798	1338
grade: 125	125	1800	1520
1567	1579	1960	1659
1706	1700	2027	1659
750	545	1312	995
868	761	1504	994
1094	1147	1860	1370
660	383	1427	1035
737	523	1632	1035
798	635	1760	1035
855	737	1877	1406
993	989	2139	1406
grade: 125	125	2155	1598
1120	1173	2405	1969
1267	1311	2549	1969

Performance properties for other grades and for special clearance couplings on request.

Pi ... internal yield pressure

Pc ... collapse resistance (VA-HC-grades on request)

Sy ... yield strength (pipe or coupling)

L ... max. load on coupling face (on alternative coupling L is higher or equal to Sy)

Other grades on request



PERFORMANCE PROPERTIES CASING (METRIC-UNITS)

PIPE OUTSIDE DIAMETER	NOMI- NAL WEIGHT	WALL THICK- NESS	GRADE 55				hi.gr.: 80		GRADE 65				hi.gr.: 80		GRADE 70			
			Pi	Pc	Sy	L	Sy h	L h	Pi	Pc	Sy	L	Sy h	L h	Pi	Pc	Sy	L
inch/mm	lb/ft	mm	bar		kN		kN		bar		kN		kN		bar		kN	
5" 127.00	13.00	6.43	336	286	923	901	923	923	397	316	1091	1065	1091	1091	428	330	1176	1148
	15.00	7.52	393	383	1070	901	1070	1070	464	433	1265	1065	1265	1265	500	456	1363	1148
	18.00	9.19	480	509	1289	901	1289	1289	567	602	1524	1065	1524	1524	612	648	1643	1148
	21.40	11.10	580	605	1360	901	1533	1312	686	715	1607	1065	1812	1312	739	770	1730	1148
	23.20	12.14	634	656	1360	901	1660	1312	749	775	1607	1065	1963	1312	808	834	1730	1148
	24.10	12.70	663	683	1360	901	1728	1312	784	807	1607	1065	1978	1312	845	869	1730	1148
5 1/2" 139.70	15.50	6.98	331	279	1103	957	1103	1103	392	308	1304	1132	1304	1304	422	321	1406	1220
	17.00	7.72	367	339	1213	957	1213	1213	433	379	1434	1132	1434	1394	467	398	1546	1220
	20.00	9.17	435	456	1425	957	1425	1394	515	520	1685	1132	1685	1394	555	550	1816	1220
	23.00	10.54	500	529	1472	957	1621	1394	592	625	1740	1132	1916	1394	638	673	1873	1220
	26.00	12.09	574	600	1472	957	1837	1394	678	709	1740	1132	2141	1394	732	763	1873	1220
5 3/4" 146.05	16.40	7.00	318	256	1159	1159	1159	1159	376	281	1370	1370	1370	1370	405	291	1477	1477
	17.90	7.70	350	309	1268	1268	1268	1268	413	345	1499	1499	1499	1499	446	360	1616	1616
	19.70	8.50	386	373	1392	1392	1392	1392	456	420	1646	1646	1646	1646	492	442	1774	1774
	20.40	9.00	409	410	1470	1470	1470	1470	484	465	1737	1737	1737	1737	521	491	1870	1870
6 5/8" 168.28	20.00	7.32	288	205	1403	1403	1403	1403	341	220	1658	1658	1658	1658	368	225	1788	1788
	24.00	8.94	352	314	1696	1696	1696	1696	416	350	2005	2005	2005	2005	449	367	2162	2162
	28.00	10.59	417	426	1989	1739	1989	1989	493	483	2351	2055	2351	2351	532	510	2534	2216
	32.00	12.06	475	505	2244	1739	2244	2244	562	597	2652	2055	2652	2532	606	639	2859	2216
7" 177.80	23.00	8.05	300	225	1627	1514	1627	1627	355	244	1923	1789	1923	1923	383	252	2073	1929
	26.00	9.19	343	298	1845	1514	1845	1845	405	331	2181	1789	2181	2181	437	346	2351	1929
	29.00	10.36	386	373	2065	1514	2065	2065	457	420	2441	1789	2441	2205	493	442	2632	1929
	32.00	11.51	429	446	2234	1514	2279	2205	508	507	2640	1789	2694	2205	547	536	2843	1929
	35.00	12.65	472	501	2234	1514	2487	2205	558	592	2640	1789	2940	2205	601	631	2843	1929
	38.00	13.72	512	540	2234	1514	2680	2205	605	638	2640	1789	3168	2205	652	687	2843	1929
5" 127.00			GRADE 85				hi.gr.: 95		GRADE 90				hi.gr.: 110		GRADE 95			
	13.00	6.43	519	365	1427	1392	1427	1427	550	374	1512	1476	1512	1512	580	383	1595	1556
	15.00	7.52	607	521	1654	1392	1654	1556	643	540	1753	1476	1753	1753	679	559	1849	1556
	18.00	9.19	742	759	1993	1392	1993	1556	786	794	2112	1476	2112	1801	829	829	2228	1556
	21.40	11.10	897	935	2101	1392	2348	1556	951	990	2225	1476	2512	1801	1003	1045	2348	1556
	23.20	12.14	980	1013	2101	1392	2348	1556	1039	1073	2225	1476	2719	1801	1096	1133	2348	1556
5 1/2" 139.70	15.50	6.98	512	354	1705	1480	1705	1655	543	363	1807	1569	1807	1807	573	371	1906	1655
	17.00	7.72	567	450	1876	1480	1876	1655	601	464	1988	1569	1988	1915	633	479	2097	1655
	20.00	9.17	673	637	2204	1480	2204	1655	713	664	2335	1569	2335	1915	752	691	2463	1655
	23.00	10.54	774	815	2275	1480	2506	1655	820	853	2409	1569	2656	1915	865	892	2542	1655
	26.00	12.09	887	926	2275	1480	2542	1655	941	981	2409	1569	2944	1915	992	1036	2542	1655
5 3/4" 146.05	16.40	7.00	492	318	1792	1792	1792	1792	521	324	1899	1899	1899	1899	549	330	2003	2003
	17.90	7.70	541	403	1961	1961	1961	1961	573	415	2078	2078	2078	2078	604	426	2192	2192
	19.70	8.50	597	504	2152	2152	2152	2152	632	522	2281	2281	2281	2281	667	540	2406	2406
	20.40	9.00	632	565	2271	2271	2271	2271	670	587	2405	2405	2405	2405	707	609	2539	2539
6 5/8" 168.28	20.00	7.32	446	269	2169	2169	2169	2169	473	255	2299	2299	2299	2299	499	262	2425	2425
	24.00	8.94	545	411	2623	2623	2623	2623	577	423	2779	2779	2779	2779	609	435	2932	2932
	28.00	10.59	645	588	3075	2688	3075	3005	684	612	3258	2849	3258	3258	721	636	3437	3005
	32.00	12.06	735	747	3469	2688	3469	3005	779	781	3676	2849	3676	3478	821	815	3877	3005
7" 177.80	23.00	8.05	464	269	2516	2341	2516	2516	492	278	2666	2480	2666	2666	519	286	2812	2616
	26.00	9.19	530	385	2853	2341	2853	2616	562	396	3023	2480	3023	3023	592	406	3189	2616
	29.00	10.36	598	504	3194	2341	3194	2616	633	522	3384	2480	3384	3028	668	540	3570	2616
	32.00	11.51	664	620	3453	2341	3524	2616	704	646	3656	2480	3734	3028	742	672	3859	2616
	35.00	12.65	730	737	3453	2341	3846	2616	773	770	3656	2480	4076	3028	816	803	3859	2616
	38.00	13.72	791	834	3453	2341	3859	2616	839	884	3656	2480	4392	3028	885	926	3859	2616

hi.gr.: 80		GRADE 75				hi.gr.: 95		GRADE 80				hi.gr.: 95	
Sy h	L h	Pi	Pc	Sy	L	Sy h	L h	Pi	Pc	Sy	L	Sy h	L h
kN		bar		kN		kN		bar		kN		kN	
1176	1176	458	343	1259	1228	1259	1259	489	354	1344	1312	1344	1344
1363	1312	536	478	1459	1228	1459	1459	572	500	1558	1312	1558	1556
1643	1312	655	687	1758	1228	1758	1556	699	724	1878	1312	1878	1556
1954	1312	791	825	1854	1228	2091	1556	845	880	1878	1312	2233	1556
1978	1312	865	894	1854	1228	2265	1556	923	954	1978	1312	2348	1556
1978	1312	905	931	1854	1228	2348	1556	966	993	1978	1312	2348	1556
1406	1394	452	333	1505	1306	1505	1505	483	344	1607	1394	1607	1607
1546	1394	500	416	1655	1306	1655	1655	534	434	1767	1394	1767	1655
1816	1394	594	580	1944	1306	1944	1655	634	609	2076	1394	2076	1655
2066	1394	683	722	2007	1306	2211	1655	729	770	2141	1394	2361	1655
2141	1394	783	818	2007	1306	2506	1655	836	872	2141	1394	2542	1655
1477	1477	434	302	1581	1581	1581	1581	463	310	1688	1688	1688	1688
1616	1616	477	376	1730	1730	1730	1730	509	390	1847	1847	1847	1847
1774	1774	527	464	1899	1899	1899	1899	562	484	2028	2028	2028	2028
1870	1870	558	517	2004	2004	2004	2004	595	541	2138	2138	2138	2138
1788	1788	394	231	1914	1914	1914	1914	420	240	2043	2043	2043	2043
2162	2162	481	383	2314	2314	2314	2314	513	397	2471	2471	2471	2471
2534	2532	569	538	2713	2372	2713	2713	608	564	2896	2532	2896	2896
2859	2532	648	676	3060	2372	3060	3005	692	712	3268	2532	3268	3005
2073	2073	410	259	2219	2065	2219	2219	437	264	2370	2205	2370	2370
2351	2205	468	360	2517	2065	2517	2517	499	373	2687	2205	2687	2616
2632	2205	527	464	2817	2065	2817	2616	563	485	3008	2205	3008	2616
2904	2205	586	566	3047	2065	3109	2616	625	594	3250	2205	3319	2616
3170	2205	644	667	3047	2065	3393	2616	687	702	3250	2205	3623	2616
3250	2205	698	736	3047	2065	3656	2616	745	785	3250	2205	3859	2616
hi.gr.: 110		GRADE 110				hi.gr.: 125		GRADE 125				hi.gr.: 150	
1595	1595	672	403	1846	1801	1846	1846	764	414	2099	2048	2099	2099
1845	1801	785	610	2140	1801	2140	2048	893	654	2433	2048	2433	2433
2228	1801	960	929	2578	1801	2578	2048	1092	1022	2932	2048	2932	2458
2649	1801	1160	1210	2719	1801	3066	2048	1320	1375	3090	2048	3487	2458
2719	1801	1268	1312	2719	1801	3090	2048	1442	1490	3090	2048	3708	2458
2719	1801	1327	1365	2719	1801	3090	2048	1509	1551	3090	2048	3708	2458
1906	1906	663	388	2206	1915	2206	2177	754	406	2509	2177	2509	2509
2097	1915	733	516	2426	1915	2426	2177	834	544	2759	2177	2759	2612
2463	1915	871	766	2850	1915	2850	2177	990	833	3241	2177	3241	2612
2801	1915	1001	1003	2944	1915	3242	2177	1138	1107	3345	2177	3687	2612
2944	1915	1148	1199	2944	1915	3345	2177	1305	1363	3345	2177	4014	2612
2003	2003	636	349	2318	2318	2318	2318	723	370	2636	2636	2636	2636
2192	2192	699	454	2537	2537	2537	2537	795	472	2885	2885	2885	2885
2406	2406	772	588	2784	2784	2784	2784	878	627	3166	3166	3166	3166
2539	2539	818	669	2939	2939	2939	2939	930	721	3340	3340	3340	3340
2425	2425	577	278	2806	2806	2806	2806	656	287	3191	3191	3191	3191
2932	2932	705	464	3393	3393	3393	3393	801	484	3858	3858	3858	3858
3437	3437	835	701	3977	3478	3977	3955	949	758	4523	3955	4523	4523
3877	3478	951	912	4487	3478	4487	3955	1081	1003	5103	3955	5103	4746
2812	2812	601	306	3254	3028	3254	3254	683	320	3701	3443	3701	3701
3189	3028	686	430	3690	3028	3690	3443	780	445	4196	3443	4196	4132
3570	3028	773	588	4131	3028	4131	3443	879	628	4698	3443	4698	4132
3939	3028	859	743	4468	3028	4558	3443	977	808	5078	3443	5183	4132
4299	3028	944	899	4468	3028	4975	3443	1073	987	5078	3443	5658	4132
4468	3028	1024	1043	4468	3028	5078	3443	1164	1155	5078	3443	6094	4132

Pi ... internal yield pressure

Pc ... collapse resistance (VA-HC-grades on request)

Sy ... yield strength (pipe or coupling)

L ... max. load on coupling face

hi.gr. ... higher grade coupling

Sy h ... yield strength (pipe or coupling with higher grade)

L h ... max. load on coupling face with higher grade

PERFORMANCE PROPERTIES TUBING (US CUSTOMARY-UNITS)

PIPE OUTSIDE DIAMETER	NOMI- NAL WEIGHT	WALL THICK- NESS	GRADE 55				GRADE 65				GRADE 70			
			Pi	Pc	Sy	L	Pi	Pc	Sy	L	Pi	Pc	Sy	L
inch/mm	lb/ft	inch	psi		1000*lb		psi		1000*lb		psi		1000*lb	
1.9"	2.75	0.145	7335	7744	44	41	8670	9153	52	48	9348	9868	56	52
48.26	3.65	0.200	10125	10354	59	43	11969	12239	69	51	12904	13195	75	55
2 3/8"	4.60	0.190	7701	8093	72	54	9103	9572	85	64	9814	10297	91	69
60.32	5.10	0.218	8833	9166	80	54	10441	10834	94	64	11257	11675	101	69
higher coupling grade	(5.10)	(0.218)	grade:	80	81	79	grade:	80	96	79	grade:	80	104	79
	5.80	0.254	10284	10500	93	73	12156	12415	110	86	13106	13372	119	93
2 7/8"	6.40	0.217	7258	7672	100	65	8579	9065	118	77	9249	9761	127	83
73.02	7.80	0.276	9233	9543	124	102	10914	11284	146	120	11767	12168	158	129
	8.60	0.308	10300	10515	136	102	12176	12429	161	120	13127	13532	174	129
3 1/2"	7.70	0.216	5940	5968	122	90	7022	6766	145	107	7570	7154	156	115
88.90	9.20	0.254	6979	7397	142	91	8250	8745	168	108	8894	9427	181	116
	10.20	0.289	7942	8339	160	110	9388	9848	189	130	10122	10602	204	140
higher coupling grade	12.70	0.375	10301	10529	202	150	12176	12429	239	178	13128	13387	257	192
	(12.70)	(0.375)	grade:	80	202	202	grade:	80	239	219	grade:	80	258	219
	13.70	0.413	11361	11443	220	186	13430	13532	260	220	14479	14561	281	238
	14.70	0.450	12368	12328	228	186	14619	14561	269	220	15761	15678	290	238
4"	9.50	0.226	5435	5105	147	112	6431	5743	174	132	6926	6033	187	142
101.60	10.70	0.262	6296	6586	169	112	7442	7501	199	132	8024	7939	215	142
	13.20	0.330	7934	8319	209	154	9378	9834	247	182	10111	10602	266	197
4 1/2"	10.50	0.224	4789	4003	165	116	5660	4423	196	137	6103	4598	211	148
114.30	11.60	0.250	5344	4960	183	116	6317	5555	217	137	6810	5830	234	148
	12.60	0.271	5790	5729	198	116	6844	6468	234	137	7379	6831	252	148
	13.50	0.290	6202	6425	211	158	7332	7310	249	187	7904	7730	269	201
higher coupling grade	15.20	0.337	7204	7614	240	158	8515	9007	284	187	9181	9703	306	201
	(15.20)	(0.337)	grade:	80	242	230	grade:	80	286	230	grade:	80	309	230
	17.00	0.380	8121	8499	270	221	9600	10051	320	262	10350	10819	344	282
	18.90	0.430	9190	9500	286	221	10863	11240	339	262	11712	12096	365	282
			GRADE 85				GRADE 90				GRADE 95			
1.9"	2.75	0.145	11341	11973	68	63	12019	12688	72	66	12677	13383	76	70
48.26	3.65	0.200	15656	16009	90	67	16591	16965	96	71	17499	17894	101	75
2 3/8"	4.60	0.190	11907	12502	111	84	12619	13241	118	89	13309	13981	124	94
60.32	5.10	0.218	13658	14170	123	84	14473	15011	130	89	15266	15838	138	94
higher coupling grade	(5.10)	(0.218)	grade:	95	126	94	grade:	110	133	109	grade:	110	140	109
	5.80	0.254	15901	16229	144	113	16851	17186	152	120	17773	18144	161	126
2 7/8"	6.40	0.217	11222	11820	154	100	11892	12386	163	106	12543	12937	172	112
73.02	7.80	0.276	14276	14750	192	157	15129	15620	203	166	15957	16490	214	176
	8.60	0.308	15926	16258	211	157	16877	17215	224	166	17801	18173	236	176
3 1/2"	7.70	0.216	9185	8215	189	140	9733	8547	201	148	10266	8857	212	156
88.90	9.20	0.254	10791	11051	220	141	11435	11574	233	150	12062	12081	246	158
	10.20	0.289	12280	12879	248	170	13013	13633	263	180	13726	14387	277	190
higher coupling grade	12.70	0.375	15927	16258	312	232	16878	17215	331	246	17802	18173	349	260
	(12.70)	(0.375)	grade:	95	313	260	grade:	110	331	301	grade:	110	350	301
	13.70	0.413	17567	17694	341	288	18616	18738	361	306	19635	19768	381	322
	14.70	0.450	19123	19043	352	288	20265	20174	373	306	21374	21291	394	322
4"	9.50	0.226	8410	6846	228	173	8905	7078	241	183	9399	7310	254	193
101.60	10.70	0.262	9735	9194	261	173	10316	9581	276	183	10881	9962	292	193
	13.20	0.330	12267	12863	323	238	13000	13632	342	252	13712	14378	361	266
4 1/2"	10.50	0.224	7404	5076	256	180	7846	5192	271	191	8276	5308	286	201
114.30	11.60	0.250	8263	6599	284	180	8756	6817	301	191	9236	7020	317	201
	12.60	0.271	8952	7817	306	180	9487	8122	324	191	10007	8412	342	201
	13.50	0.290	9590	8934	326	244	10163	9297	346	259	10719	9659	365	273
higher coupling grade	15.20	0.337	11139	11675	372	244	11804	12212	393	259	12450	12763	415	273
	(15.20)	(0.337)	grade:	95	375	273	grade:	110	397	316	grade:	110	419	316
	17.00	0.380	12557	13140	418	342	13307	13923	443	363	14035	14692	467	383
	18.90	0.430	14209	14692	443	342	15058	15562	469	363	15883	16418	495	383

GRADE 75				GRADE 80			
Pi	Pc	Sy	L	Pi	Pc	Sy	L
psi		1000*lb		psi		1000*lb	
10006	10563	60	55	10683	11278	64	59
13812	14124	80	59	14747	15080	85	63
10505	11037	98	74	11216	11762	105	79
12050	12502	109	74	12865	13343	116	79
grade:	95	111	94	grade:	95	118	94
14029	14329	127	100	14979	15286	135	106
9900	10471	136	89	10570	11168	145	95
12595	13024	169	139	13448	13880	180	148
14051	14344	186	139	15002	15301	199	148
8103	7515	167	123	8652	7881	178	132
9520	10007	194	125	10165	10544	207	133
10834	11356	219	150	11567	12125	233	160
14052	14344	276	205	15003	15301	294	219
grade:	95	276	260	grade:	95	295	260
15498	15606	301	254	16547	16650	321	272
16871	16809	311	254	18013	17926	331	272
7420	6323	201	152	7915	6584	214	163
8588	8371	230	152	9170	8789	246	163
10823	11349	285	210	11555	12117	304	224
6532	4786	226	159	6974	4946	241	169
7290	6106	250	159	7783	6352	267	169
7898	7179	270	159	8433	7498	288	169
8461	8136	288	216	9034	8542	307	230
9827	10399	328	216	10492	11080	350	230
grade:	95	330	273	grade:	95	353	273
11078	11603	369	302	11828	12371	394	322
12536	12966	391	302	13385	13822	417	322

GRADE 110			
14670	15487	88	81
20251	20708	117	87
15402	16128	144	109
17666	18347	159	109
grade:	125	162	124
20568	21015	186	146
14515	14547	199	130
18467	19068	248	203
20601	21044	273	203
11881	9731	245	181
13958	13532	285	183
15884	16664	320	220
20602	21044	404	301
grade:	125	405	342
22723	22901	441	373
24735	24656	456	373
10883	7904	295	223
12592	11041	337	223
15868	16639	417	307
9577	5555	331	233
10688	7585	367	233
11580	9210	396	233
12405	10689	422	316
14408	14344	481	316
grade:	125	485	359
16243	17012	541	443
18380	19014	573	443

Performance properties for other grades and for special clearance couplings on request.

Pi ... internal yield pressure

Pc ... collapse resistance (VA-HC-grades on request)

Sy ... yield strength (pipe or coupling)

L ... max. load on coupling face (on alternative coupling L is higher or equal to Sy)

Other grades on request



PERFORMANCE PROPERTIES CASING (US CUSTOMARY-UNITS)

PIPE OUTSIDE DIAMETER	NOMI- NAL WEIGHT	WALL THICK- NESS	GRADE 55				hi.gr.: 80		GRADE 65				hi.gr.: 80		GRADE 70			
			Pi	Pc	Sy	L	Sy h	L h	Pi	Pc	Sy	L	Sy h	L h	Pi	Pc	Sy	L
inch/mm	lb/ft	inch	psi		1000*lb		1000*lb		psi		1000*lb		1000*lb		psi		1000*lb	
5" 127.00	13.00	0.253	4870	4148	208	202	208	208	5757	4583	245	239	245	245	6207	4786	264	258
	15.00	0.296	5696	5555	241	202	241	241	6733	6280	284	239	284	284	7259	6613	306	258
	18.00	0.362	6961	7382	290	202	290	290	8228	8713	343	239	343	295	8871	9398	369	258
	21.40	0.437	8415	8774	306	202	345	295	9947	10370	361	239	407	295	10724	11168	389	258
	23.20	0.478	9195	9514	306	202	373	295	10869	11240	361	239	441	295	11718	12096	389	258
	24.10	0.500	9619	9906	306	202	389	295	11371	11704	361	239	445	295	12259	12603	389	258
5 1/2" 139.70	15.50	0.275	4806	4046	248	215	248	248	5681	4467	293	254	293	293	6125	4656	316	274
	17.00	0.304	5316	4917	273	215	273	273	6284	5497	322	254	322	313	6774	5772	348	274
	20.00	0.361	6314	6613	320	215	320	313	7464	7542	379	254	379	313	8047	7977	408	274
	23.00	0.415	7258	7672	331	215	364	313	8579	9065	391	254	431	313	9249	9761	421	274
	26.00	0.476	8325	8702	331	215	413	313	9840	10283	391	254	481	313	10609	11066	421	274
5 3/4" 146.05	16.40	0.276	4610	3713	261	261	261	261	5450	4075	308	308	308	308	5876	4220	332	332
	17.90	0.303	5071	4482	285	285	285	285	5995	5004	337	337	337	337	6463	5221	363	363
	19.70	0.335	5598	5410	313	313	313	313	6618	6091	370	370	370	370	7135	6410	399	399
	20.40	0.354	5932	5946	330	330	330	330	7020	6744	390	390	390	390	7556	7121	420	420
6 5/8" 168.28	20.00	0.288	4184	2973	315	315	315	315	4945	3191	373	373	373	373	5332	3263	402	402
	24.00	0.352	5110	4554	381	381	381	381	6040	5076	451	451	451	451	6512	5323	486	486
	28.00	0.417	6053	6178	447	391	447	447	7155	7005	528	462	528	528	7714	7397	570	498
	32.00	0.475	6893	7324	504	391	504	504	8148	8658	596	462	596	569	8784	9268	643	498
7" 177.80	23.00	0.317	4355	3263	366	340	366	366	5148	3539	432	402	432	432	5550	3655	466	434
	26.00	0.362	4972	4322	415	340	415	415	5877	4801	490	402	490	490	6336	5018	529	434
	29.00	0.408	5605	5410	464	340	464	464	6625	6091	549	402	549	496	7143	6410	592	434
	32.00	0.453	6227	6468	502	340	512	496	7361	7353	594	402	606	496	7936	7774	639	434
	35.00	0.498	6844	7266	502	340	559	496	8090	8586	594	402	661	496	8722	9152	639	434
	38.00	0.540	7423	7832	502	340	603	496	8774	9253	594	402	712	496	9460	9964	639	434
			GRADE 85				hi.gr.: 95		GRADE 90				hi.gr.: 110		GRADE 95			
5" 127.00	13.00	0.253	7530	5294	321	313	321	321	7980	5424	340	332	340	340	8417	5555	359	350
	15.00	0.296	8807	7556	372	313	372	350	9333	7832	394	332	394	394	9844	8107	416	350
	18.00	0.362	10763	11008	448	313	448	350	11405	11516	475	332	475	405	12030	12023	501	350
	21.40	0.437	13011	13561	472	313	528	350	13788	14358	500	332	565	405	14543	15156	528	350
	23.20	0.478	14217	14692	472	313	528	350	15066	15562	500	332	611	405	15891	16432	528	350
24.10	0.500	14873	15301	472	313	528	350	15761	16200	500	332	611	405	16624	17099	528	350	
5 1/2" 139.70	15.50	0.275	7431	5134	383	333	383	372	7875	5265	406	353	406	406	8306	5381	429	372
	17.00	0.304	8219	6526	422	333	422	372	8710	6730	447	353	447	430	9187	6947	471	372
	20.00	0.361	9763	9239	495	333	495	372	10346	9630	525	353	525	430	10912	10022	554	372
	23.00	0.415	11221	11820	511	333	563	372	11892	12371	541	353	597	430	12543	12937	572	372
	26.00	0.476	12872	13430	511	333	572	372	13640	14228	541	353	662	430	14387	15025	572	372
5 3/4" 146.05	16.40	0.276	7128	4612	403	403	403	403	7554	4699	427	427	427	427	7968	4786	450	450
	17.90	0.303	7841	5845	441	441	441	441	8310	6019	467	467	467	467	8765	6178	493	493
	19.70	0.335	8656	7310	484	484	484	484	9173	7571	513	513	513	513	9675	7832	541	541
	20.40	0.354	9166	8194	510	510	510	510	9717	8513	540	540	540	540	10254	8832	570	570
6 5/8" 168.28	20.00	0.288	6469	3901	488	488	488	488	6855	3698	517	517	517	517	7231	3800	545	545
	24.00	0.352	7901	5961	590	590	590	590	8372	6135	625	625	625	625	8831	6309	659	659
	28.00	0.417	9359	8528	691	604	691	676	9918	8876	733	640	733	733	10461	9224	773	676
	32.00	0.475	10658	10834	780	604	780	676	11294	11327	826	640	826	782	11913	11820	872	676
7" 177.80	23.00	0.317	6734	3901	566	526	566	566	7136	4032	599	558	599	599	7527	4148	632	588
	26.00	0.362	7688	5584	641	526	641	588	8147	5743	680	558	680	680	8593	5888	717	588
	29.00	0.408	8666	7310	718	526	718	588	9184	7571	761	558	802	681	9687	7832	802	588
	32.00	0.453	9628	8992	776	526	792	588	10203	9369	822	558	839	681	10762	9746	868	588
	35.00	0.498	10582	10689	776	526	865	588	11214	11168	822	558	916	681	11828	11646	868	588
	38.00	0.540	11477	12096	776	526	868	588	12162	12821	822	558	987	681	12828	13430	868	588

hi.gr.: 80		GRADE 75				hi.gr.: 95		GRADE 80				hi.gr.: 95	
Sy h	L h	Pi	Pc	Sy	L	Sy h	L h	Pi	Pc	Sy	L	Sy h	L h
1000*lb		psi		1000*lb		1000*lb		psi		1000*lb		1000*lb	
264	264	6644	4975	283	276	283	283	7093	5134	302	295	302	302
306	295	7770	6933	328	276	328	328	8296	7252	350	295	350	350
369	295	9495	9964	395	276	395	350	10138	10500	422	295	422	350
439	295	11479	11965	417	276	470	350	12256	12763	445	295	502	350
445	295	12543	12966	417	276	509	350	13392	13836	445	295	528	350
445	295	13122	13503	417	276	528	350	14010	14402	445	295	528	350
316	313	6556	4830	338	294	338	338	7000	4989	361	313	361	361
348	313	7251	6033	372	294	372	372	7742	6294	397	313	397	372
408	313	8613	8412	437	294	437	372	9196	8832	467	313	467	372
464	313	9900	10471	451	294	497	372	10570	11168	481	313	531	372
481	313	11356	11864	451	294	563	372	12125	12647	481	313	572	372
332	332	6289	4380	355	355	355	355	6715	4496	379	379	379	379
363	363	6918	5453	389	389	389	389	7386	5656	415	415	415	415
399	399	7637	6730	427	427	427	427	8154	7020	456	456	456	456
420	420	8093	7498	450	450	450	450	8629	7846	480	480	480	480
402	402	5707	3350	430	430	430	430	6094	3481	459	459	459	459
486	486	6970	5555	520	520	520	520	7442	5758	555	555	555	555
570	569	8257	7803	610	533	610	610	8816	8180	651	569	651	651
643	569	9403	9804	688	533	688	676	10039	10326	735	569	735	676
466	466	5941	3756	499	464	499	499	6343	3829	533	496	533	533
529	496	6782	5221	566	464	566	566	7241	5410	604	496	604	588
592	496	7646	6730	633	464	633	588	8163	7034	676	496	676	588
653	496	8495	8209	685	464	699	588	9070	8615	731	496	746	588
713	496	9336	9674	685	464	763	588	9968	10181	731	496	814	588
731	496	10126	10674	685	464	822	588	10811	11385	731	496	868	588
hi.gr.: 110		GRADE 110				hi.gr.: 125		GRADE 125				hi.gr.: 150	
359	359	9740	5845	415	405	415	415	11077	6004	472	460	472	472
416	405	11392	8847	481	405	481	460	12955	9485	547	460	547	547
501	405	13921	13474	580	405	580	460	15832	14822	659	460	659	552
596	405	16830	17549	611	405	689	460	19139	19942	695	460	784	552
611	405	18390	19028	611	405	695	460	20913	21610	695	460	834	552
611	405	19239	19797	611	405	695	460	21878	22495	695	460	834	552
429	429	9612	5627	496	430	496	489	10931	5888	564	489	564	564
471	430	10631	7484	545	430	545	489	12090	7890	620	489	620	587
554	430	12628	11109	641	430	641	489	14361	12081	729	489	729	587
630	430	14515	14547	662	430	729	489	16507	16055	752	489	829	587
662	430	16650	17389	662	430	752	489	18934	19768	752	489	902	587
450	450	9221	5062	521	521	521	521	10486	5366	593	593	593	593
493	493	10143	6584	570	570	570	570	11535	6846	649	649	649	649
541	541	11197	8528	626	626	626	626	12733	9094	712	712	712	712
570	570	11864	9703	660	660	660	660	13488	10457	750	750	750	750
545	545	8368	4032	631	631	631	631	9516	4162	717	717	717	717
659	659	10219	6730	763	763	763	763	11622	7020	867	867	867	867
773	773	12106	10167	894	782	894	889	13766	10993	1017	889	1017	1017
872	782	13786	13227	1009	782	1009	889	15677	14547	1147	889	1147	1067
632	632	8710	4438	732	681	732	732	9905	4641	832	774	832	832
717	681	9944	6236	830	681	830	774	11308	6454	943	774	943	929
802	681	11210	8528	929	681	929	774	12748	9108	1056	774	1056	929
885	681	12454	10776	1005	681	1025	774	14163	11719	1141	774	1165	929
966	681	13688	13038	1005	681	1118	774	15566	14315	1141	774	1272	929
1005	681	14846	15127	1005	681	1141	774	16882	16751	1141	774	1369	929

Pi ... internal yield pressure

Pc ... collapse resistance
(VA-HC-grades
on request)

Sy ... yield strength
(pipe or coupling)

L ... max. load on coupling face

hi.gr. ... higher grade coupling

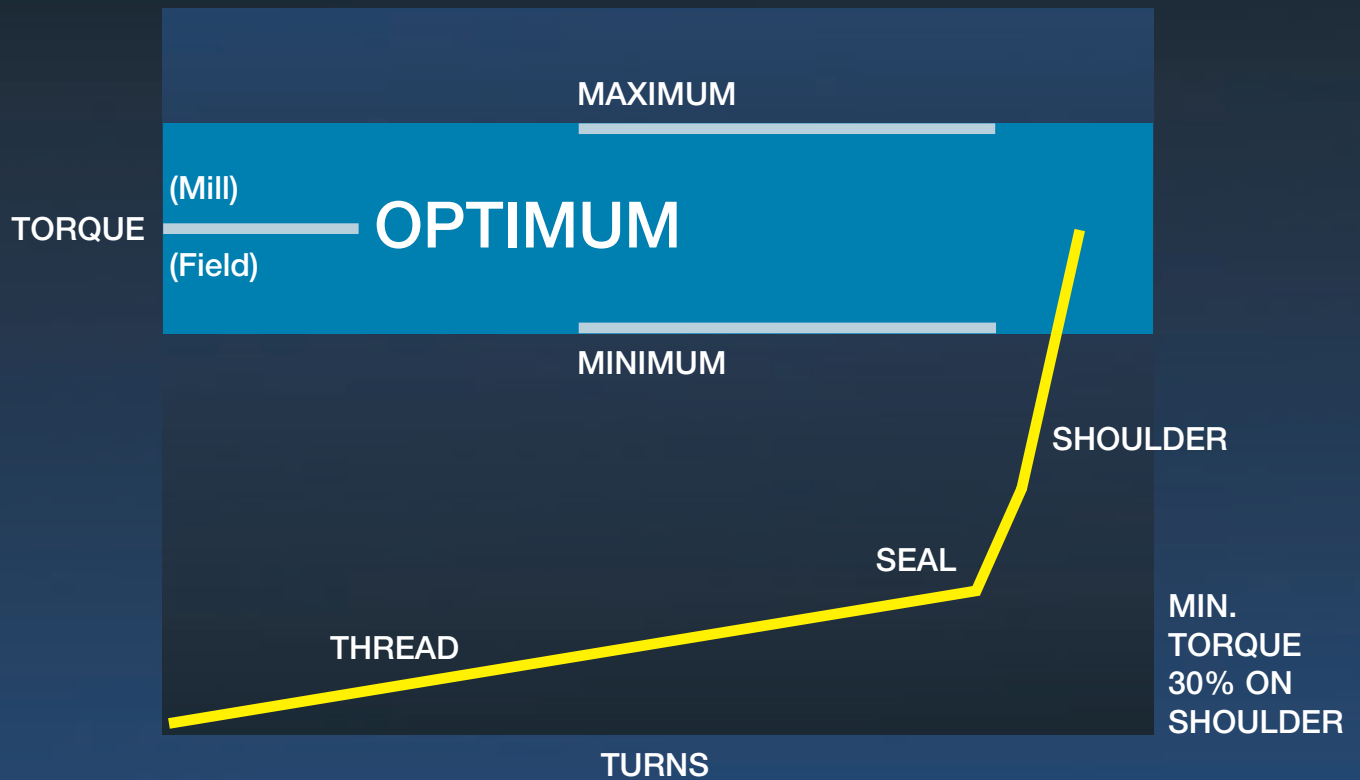
Sy h ... yield strength
(pipe or coupling
with higher grade)

L h ... max. load on coupling face
with higher grade

MAKE UP TORQUE

		RECOMMENDED OPTIMUM MAKE-UP TORQUE FOR REGULAR COUPLINGS									
PIPE OUTSIDE DIAMETER	NOMINAL WEIGHT	GRADE 55	GRADE 65	GRADE 70	GRADE 75	GRADE 80	GRADE 85	GRADE 90	GRADE 95	GRADE 110	GRADE 125
inch/mm	lb/ft	ft.lbs (1 lbft = 1.3558 Nm)									
1.9"	2.75	560	610	630	650	670	700	720	740	800	870
48.26	3.65	710	760	780	810	830	860	880	910	990	1060
2 3/8"	4.60	1180	1270	1320	1360	1410	1450	1500	1540	1680	1810
60.32	5.10	1260	1350	1390	1440	1480	1530	1570	1620	1760	1890
	5.80	1510	1620	1670	1730	1780	1840	1890	1950	2110	2270
2 7/8"	6.40	1770	1900	1970	2040	2100	2170	2240	2300	2500	2700
73.02	7.80	2240	2390	2470	2550	2630	2700	2780	2860	3090	3320
	8.60	2330	2490	2560	2640	2720	2790	2870	2950	3180	3410
3 1/2"	7.70	2010	2170	3360	2330	2420	2500	2580	2660	2910	n/a
88.90	9.20	2320	2520	2620	2720	2820	2920	3020	3120	3420	3720
	10.20	2600	2820	2930	3030	3140	3250	3360	3460	3790	4110
	12.70	3170	3410	3540	3660	3780	3900	4020	4140	4510	4870
	13.70	3720	4010	4160	4300	4450	4600	4750	4890	5340	5770
	14.70	4140	4490	4670	4840	5020	5190	5370	5540	4050	6600
4"	9.50	2110	2320	2430	2540	2650	2750	2860	2960	3290	3610
101.60	10.70	2540	2820	2950	3090	3230	3360	3500	3630	4050	4450
	13.20	2870	3150	3290	3420	3560	3700	3840	3980	4400	4810
4 1/2"	10.50	3210	3480	3620	3750	3890	4030	4170	4300	4720	5120
114.30	11.60	3590	3910	4070	4230	4390	4550	4710	4870	5350	5830
	12.60	3670	3990	4160	4310	4480	4630	4800	4950	5440	5910
	13.50	4210	4570	4760	4930	5120	5300	5480	5660	6210	6740
	15.20	4410	4770	4950	5130	5310	5490	5680	5860	6410	6940
	17.00	4930	5290	5470	5650	5840	6010	6200	6380	6930	7460
	18.90	5130	5490	5680	5860	6040	6220	6400	6580	7130	7670
5"	13.00	3980	4310	4470	4630	4800	4960	5130	5290	5780	6260
127.00	15.00	4520	4900	5090	5280	5480	5670	5860	6050	6630	7200
	18.00	5060	5490	5710	5920	6140	6350	6570	6780	7440	8070
	21.40	5900	6440	6710	6980	7250	7510	7780	8050	8870	9660
	23.20	6020	6560	6830	7100	7370	7630	7900	8170	8980	9780
	24.10	6080	6620	6890	7160	7430	7690	7960	8230	9040	9840
5 1/2"	15.50	4800	5250	5480	5700	5930	6150	6380	6600	7290	7950
139.70	17.00	5420	5950	6220	6490	6760	7030	7300	7560	8380	9170
	20.00	5970	6560	6860	7150	7460	7750	8050	8340	9240	10120
	23.00	6160	6750	7050	7350	7620	7940	8240	8530	9440	10310
	26.00	6340	6940	7240	7530	7830	8120	8420	8720	9620	10500
5 3/4"	16.40	5820	6310	6560	6810	7060	7300	7550	7790	8540	9270
146.05	17.90	6460	7040	7340	7620	7920	8210	8500	8790	9670	10530
	19.70	6870	7490	7810	8120	8430	8740	9060	9370	10320	11240
	20.40	6990	7680	8020	8360	8710	9050	9400	9730	10780	11800
6 5/8"	20.00	6570	7250	7590	7920	8270	8600	8940	9270	10300	11300
168.28	24.00	8210	9110	9570	10010	10310	10500	10690	10890	11470	12020
	28.00	8540	9450	9900	10250	10450	10650	10860	11040	11650	12220
	32.00	8800	9700	10160	10510	10700	10890	11070	11260	11830	12380
7"	23.00	7760	8620	9060	9490	9870	10300	10730	11000	11730	12260
177.80	26.00	8510	9470	9960	10250	10550	10850	11140	11390	11940	12500
	29.00	8720	9680	10170	10460	10750	11040	11330	11580	12130	12680
	32.00	8910	9870	10360	10650	10940	11220	11510	11750	12310	12830
	35.00	9070	10040	10520	10860	11210	11380	11630	11870	12390	12900
	38.00	9210	10180	10610	11140	11380	11510	11750	11920	12480	12980

Recommended make-up torque using a thread compound with a friction factor of 1.0. Maximum torque: optimum + 15%. Minimum torque: optimum - 10%. Recommended torques for regular and alternative couplings are identical. Recommended torques for special clearance couplings on request. Higher coupling grades: use recommended torques for the pipe grades. Special clearance couplings and 20° beveled couplings have a lower load on coupling face.



FIELD SERVICE DURING THE INSTALLATION
CAN BE PROVIDED UPON REQUEST

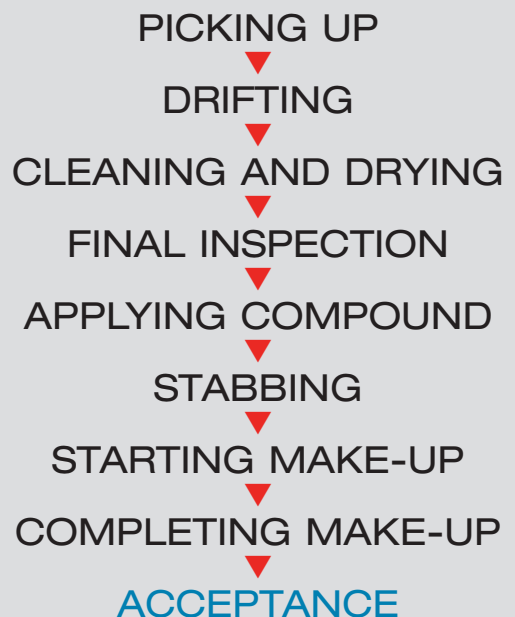
RUNNING PROCEDURE

Before applying thread compound and after final cleaning and drying inspect the seal area and shoulder visually (run with a finger over these areas). Repair is only permissible in the thread area. The compound should be applied on pin and box to obtain a thin uniform film including the seal area.

For stabbing use a stabbing guide and start make-up by hand before using the make-up tong. Once a torque increase is noted change to low gear (max. 5 rpm) up to the final torque.

The triangle stamp should be used for equipment set-up check only.

A more detailed running procedure is available as a download on our web page www.vatubulars.com



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