



VAM[®] HWST

The Heavy Weight champion

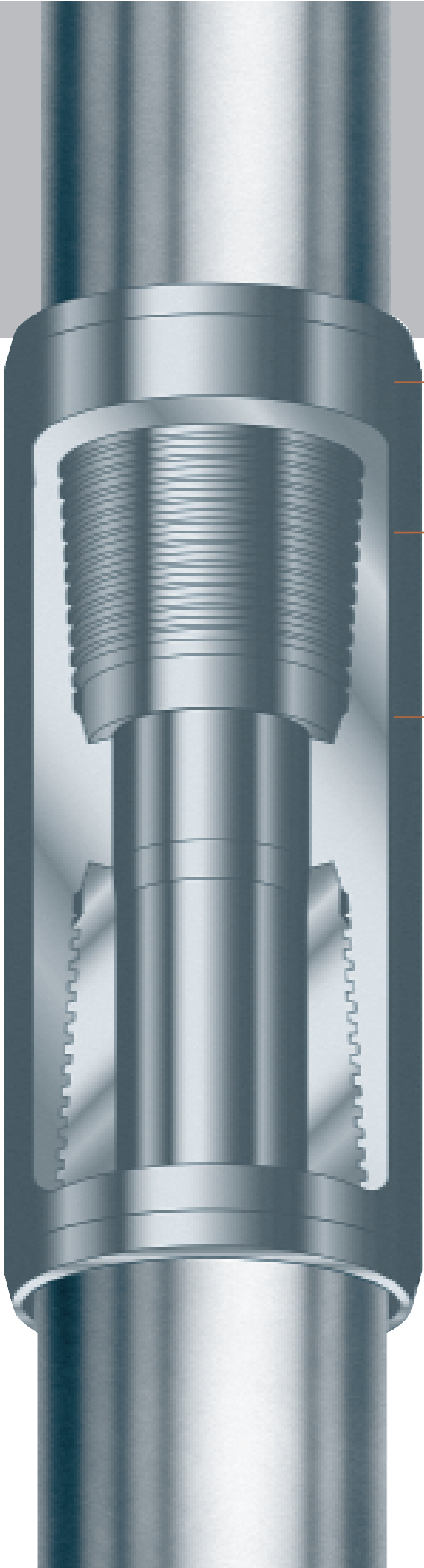


VAM TOP
VAM TOP HC
VAM TOP HT
VAM TOP FE
NEW VAM
VAM ACE
VAM PRO
■ *VAM HW ST*
VAM SLIJ II
VAM FJL
VAM MUST
DINO VAM
BIG OMEGA

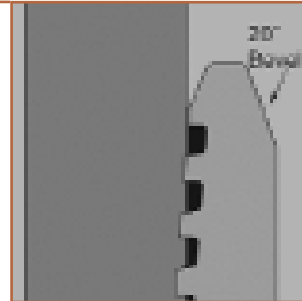


VALLOUREC & MANNESMANN TUBES
OCTG DIVISION

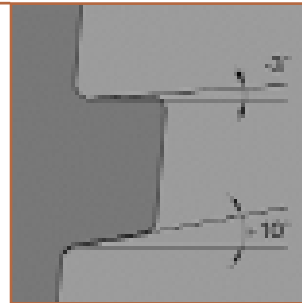
VAM® HWST



Thread run-out

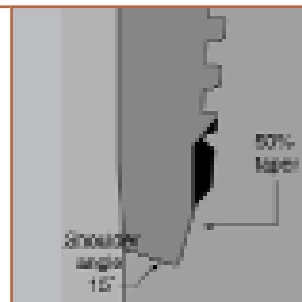


Thread form



4 TPI
5" to 14"
Wt < 1.000"
Taper 1:8
Wt ≥ 1.000"
Taper 1:5.5

Seal geometry



Joint yield strengths are calculated from the minimum specified material yield stress and the critical joint cross sectional area, pipe or coupling, as appropriate.

Size (OD)	Wall thickness		Drift diameter	Coupling (OD) reg.	Make-up loss	Coupling length	Pipe body section	Coupling CCS*	VAM HW ST regular yield strength (1000 lb.)															
	inch	mm							55	65	75	80	85	90	95	100	110	120	125	135	140	55	65	
mm	inch	mm	inch	inch	inch	inch	sq. in.	sq. in.	ksi	ksi	ksi	ksi	ksi	ksi	ksi	ksi	ksi	ksi	ksi	ksi	ksi	ksi		
5 127.00	0.600	15.24	3.675	5.791	4.382	10.732	8.294	8.474	456	539	622	664	705	746	788	829	912	995	1037	1120	1161	8130	9610	
	0.650	16.51	3.575	5.839	4.568	11.105	8.883	9.078	489	577	666	711	755	799	844	888	977	1066	1110	1199	1244	8710	10290	
	0.700	17.78	3.475	5.882	4.754	11.477	9.456	9.650	520	615	709	756	804	851	898	946	1040	1135	1182	1277	1324	9270	10960	
	0.750	19.05	3.375	5.925	4.941	11.850	10.014	10.224	551	651	751	801	851	901	951	1001	1102	1202	1252	1352	1402	9820	11610	
	0.800	20.32	3.275	5.969	5.126	12.221	10.556	10.800	581	686	792	844	897	950	1003	1056	1161	1267	1320	1425	1478	10350	12230	
	0.850	21.59	3.175	6.004	5.313	12.594	11.082	11.304	610	720	831	887	942	997	1053	1108	1219	1330	1385	1495	1551	10860	12840	
	0.900	22.86	3.075	6.043	5.499	12.966	11.592	11.845	638	753	869	927	985	1043	1101	1159	1275	1391	1449	1565	1623	11370	13430	
0.950	24.13	2.975	6.079	5.685	13.339	12.087	12.352	665	786	907	967	1027	1088	1148	1209	1330	1450	1511	1632	1692	11850	14010		
5 1/2 139.70	0.600	15.24	4.175	6.276	4.706	11.380	9.236	9.455	508	600	693	739	785	831	877	924	1016	1108	1155	1247	1293	7480	8840	
	0.625	15.88	4.125	6.307	4.706	11.380	9.572	9.765	526	622	718	766	814	861	909	957	1053	1149	1197	1292	1340	7760	9160	
	0.650	16.51	4.075	6.343	4.706	11.380	9.904	10.118	545	644	743	792	842	891	941	990	1089	1188	1238	1337	1387	8020	9490	
	0.687	17.45	4.001	6.394	4.706	11.380	10.388	10.630	571	675	779	831	883	935	987	1039	1143	1247	1299	1402	1454	8410	9950	
	0.700	17.78	3.975	6.406	4.754	11.477	10.556	10.797	581	686	792	844	897	950	1003	1056	1161	1267	1320	1425	1478	8550	10110	
	0.750	19.05	3.875	6.449	4.941	11.850	11.192	11.425	616	727	839	895	951	1007	1063	1119	1231	1343	1399	1511	1567	9070	10720	
	0.800	20.32	3.775	6.492	5.126	12.221	11.812	12.054	650	768	886	945	1004	1063	1122	1181	1299	1417	1477	1595	1654	9570	11310	
	0.812	20.62	3.751	6.504	5.170	12.309	11.959	12.200	658	777	897	957	1017	1076	1136	1196	1315	1435	1495	1614	1674	9690	11450	
	0.850	21.59	3.675	6.535	5.313	12.594	12.417	12.687	683	807	931	993	1055	1118	1180	1242	1366	1490	1552	1676	1738	10060	11890	
	0.875	22.23	3.625	6.555	5.406	12.781	12.714	12.983	699	826	954	1017	1081	1144	1208	1271	1399	1526	1589	1716	1780	10300	12170	
	0.900	22.86	3.575	6.575	5.499	12.966	13.006	13.280	715	845	975	1040	1106	1171	1236	1301	1431	1561	1626	1756	1821	10540	12450	
	0.925	23.50	3.525	6.594	5.593	13.154	13.295	13.578	731	864	997	1064	1130	1197	1263	1330	1462	1595	1662	1795	1861	10770	12730	
	0.950	24.13	3.475	6.614	5.685	13.339	13.580	13.876	747	883	1019	1086	1154	1222	1290	1358	1494	1630	1698	1833	1901	11000	13010	
	6 5/8 168.28	0.650	16.51	5.200	7.516	4.754	11.477	12.201	12.481	671	793	915	976	1037	1098	1159	1220	1342	1464	1525	1647	1708	6810	8050
0.700		17.78	5.100	7.567	4.754	11.477	13.030	13.319	717	847	977	1042	1108	1173	1238	1303	1433	1564	1629	1759	1824	7270	8600	
0.750		19.05	5.000	7.618	4.941	11.850	13.843	14.161	761	900	1038	1107	1177	1246	1315	1384	1523	1661	1730	1869	1938	7730	9140	
0.800		20.32	4.900	7.665	5.126	12.221	14.640	14.958	805	952	1098	1171	1244	1318	1391	1464	1610	1757	1830	1976	2050	8180	9660	
0.850		21.59	4.800	7.681	5.628	13.225	15.421	15.767	848	1002	1157	1234	1311	1388	1465	1542	1696	1851	1928	2082	2159	8610	10180	
0.900		22.86	4.700	7.744	5.628	13.225	16.187	16.529	890	1052	1214	1295	1376	1457	1538	1619	1781	1942	2023	2185	2266	9040	10680	
0.950		24.13	4.600	7.807	5.628	13.225	16.937	17.300	932	1101	1270	1355	1440	1524	1609	1694	1863	2032	2117	2286	2371	9460	11180	
1.000		25.40	4.500	7.728	5.552	13.072	17.671	18.053	972	1149	1325	1414	1502	1590	1679	1767	1944	2121	2209	2386	2474	9870	11660	
1.050		26.67	4.400	7.764	5.727	13.423	18.390	18.788	1011	1195	1379	1471	1563	1655	1747	1839	2023	2207	2299	2483	2575	10270	12140	
1.100		27.94	4.300	7.799	5.902	13.772	19.093	19.521	1050	1241	1432	1527	1623	1718	1814	1909	2100	2291	2387	2578	2673	10660	12600	
1.125		28.58	4.250	7.815	5.990	13.949	19.439	19.865	1069	1264	1458	1555	1652	1750	1847	1944	2138	2333	2430	2624	2721	10860	12830	
1.150		29.21	4.200	7.831	6.077	14.123	19.780	20.207	1088	1286	1484	1582	1681	1780	1879	1978	2176	2374	2473	2670	2769	11050	13060	
1.200		30.48	4.100	7.862	6.252	14.472	20.452	20.891	1125	1329	1534	1636	1738	1841	1943	2045	2250	2454	2557	2761	2863	11420	13500	
7 177.80		0.650	16.51	5.575	7.850	5.009	11.986	12.967	13.235	713	843	973	1037	1102	1167	1232	1297	1426	1556	1621	1751	1815	6490	7670
	0.687	17.45	5.501	7.890	5.171	12.311	13.625	13.936	749	886	1022	1090	1158	1226	1294	1363	1499	1635	1703	1839	1908	6820	8060	
	0.700	17.78	5.475	7.902	5.228	12.425	13.854	14.158	762	901	1039	1108	1178	1247	1316	1385	1524	1662	1732	1870	1940	6930	8190	
	0.730	18.54	5.415	7.929	5.360	12.689	14.379	14.672	791	935	1078	1150	1222	1294	1366	1438	1582	1725	1797	1941	2013	7200	8500	
	0.750	19.05	5.375	7.949	5.448	12.865	14.726	15.033	810	957	1104	1178	1252	1325	1399	1473	1620	1767	1841	1988	2062	7360	8710	
	0.800	20.32	5.275	7.996	5.669	13.306	15.582	15.911	857	1013	1169	1247	1324	1402	1480	1558	1714	1870	1948	2104	2181	7790	9210	
	0.812	20.62	5.251	8.008	5.720	13.409	15.785	16.126	868	1026	1184	1263	1342	1421	1500	1579	1736	1894	1973	2131	2210	7900	9330	
	0.850	21.59	5.175	8.043	5.889	13.746	16.423	16.791	903	1067	1232	1314	1396	1478	1560	1642	1807	1971	2053	2217	2299	8220	9710	
	0.875	22.23	5.125	8.063	5.999	13.967	16.837	17.182	926	1094	1263	1347	1431	1515	1600	1684	1852	2020	2105	2273	2357	8420	9950	
	0.900	22.86	5.075	8.087	6.109	14.186	17.247	17.624	949	1121	1294	1380	1466	1552	1638	1725	1897	2070	2156	2328	2415	8620	10200	
	0.937	23.80	5.001	8.118	6.271	14.511	17.847	18.233	982	1160	1339	1428	1517	1606	1695	1785	1963	2142	2231	2409	2499	8930	10550	
	0.950	24.13	4.975	8.130	6.328	14.625	18.056	18.457	993	1174	1354	1444	1535	1625	1715	1806	1986	2167	2257	2438	2528	9030	10680	
	1.000	25.40	4.875	8.091	5.752	13.472	18.850	19.239	1037	1225	1414	1508	1602	1697	1791	1885	2074	2262	2356	2545	2639	9340	11140	
	1.050	26.67	4.775	8.126	5.937	13.843	19.627	20.029	1079	1276	1472	1570	1668	1766	1865	1963								

External pressure equal to 70% of collapse pressure calculated from API Bul. 5 C 3, section 1. Minimum internal yield pressure are calculated from API Bul. 5 C 3 section 3, formula 3.1.1.

External pressure resistance (psi)														Minimum internal yield pressure (psi)														Wall thickness		Size (OD)
75	80	85	90	95	100	110	120	125	135	140	55	65	75	80	85	90	95	100	110	120	125	135	140	inch	mm	inch				
ksi	ksi	ksi	ksi	ksi	ksi	ksi	ksi	ksi	ksi	ksi	ksi	ksi	ksi	ksi	ksi	ksi	ksi	ksi	ksi	ksi	ksi	ksi	ksi			mm				
11090	11830	12570	13310	14040	14780	16260	17740	18480	19960	20700	11550	13650	15750	16800	17850	18900	19950	21000	23100	25200	26250	28350	29400	0.600	15.24	5				
11880	12670	13460	14250	15040	15830	17420	19000	19800	21380	22170	12510	14790	17060	18200	19340	20480	21620	22750	25030	27300	28440	30710	31850	0.650	16.51	127.00				
12640	13480	14330	15170	16020	16860	18540	20230	21070	22760	23600	13480	15930	18380	19600	20830	22050	23280	24500	26950	29400	30630	33080	34300	0.700	17.78					
13390	14280	15180	16070	16960	17850	19640	21420	22320	24100	24990	14440	17060	19690	21000	22310	23630	24940	26250	28880	31500	32810	35440	36750	0.750	19.05					
14110	15050	16000	16930	17880	18820	20700	22580	23520	25400	26340	15400	18200	21000	22400	23800	25200	26600	28000	30800	33600	35000	37000	39200	0.800	20.32					
14820	15810	16790	17780	18770	19750	21730	23700	24700	26670	27660	16360	19340	22310	23800	25290	26780	28260	29750	32730	35700	37190	40160	41650	0.850	21.59					
15500	16530	17560	18600	19630	20660	22730	24790	25830	27900	28930	17330	20480	23630	25200	26780	28350	29930	31500	34650	37800	39380	42530	44100	0.900	22.86					
16160	17230	18310	19390	20470	21550	23700	25860	26940	29090	30160	18290	21610	24940	26600	28260	29930	31590	33250	36580	39900	41560	44890	46550	0.950	24.13					
10210	10890	11560	12240	12930	13610	14970	16330	17010	18370	19050	10500	12410	14320	15270	16230	17180	18140	19090	21000	22910	23860	25770	26730	0.600	15.24	5 1/2				
10580	11280	11980	12680	13400	14110	15510	16920	17630	19040	19740	10940	12930	14910	15910	16900	17900	18890	19890	21880	23860	24860	26850	27840	0.625	15.88	139.70				
10940	11670	12400	13130	13860	14590	16050	17510	18240	19700	20430	11380	13440	15510	16550	17580	18610	19650	20680	22750	24820	25850	27920	28950	0.650	16.51					
11480	12240	13010	13780	14540	15300	16840	18360	19130	20660	21430	12020	14210	16390	17490	18580	19670	20770	21860	24050	26230	27320	29510	30600	0.687	17.45					
11660	12440	13220	13990	14770	15550	17110	18660	19440	20990	21770	12250	14480	16780	17820	18930	20050	21160	22270	24500	26730	27840	30070	31180	0.700	17.78					
12370	13190	14010	14840	15670	16490	18140	19780	20610	22260	23090	13130	15510	17900	19090	20280	21480	22670	23860	26250	28640	29830	32220	33410	0.750	19.05					
13050	13920	14790	15660	16530	17400	19150	20880	21750	23490	24360	14000	16550	19090	20360	21640	22910	24180	25450	28000	30550	31820	34360	35640	0.800	20.32					
13220	14090	14970	15860	16740	17620	19380	21140	22020	23790	24670	14210	16790	19380	20670	21960	23250	24540	25840	28420	31000	32300	34880	36170	0.812	20.62					
13720	14640	15550	16460	17380	18290	20130	21950	22870	24700	25610	14880	17580	20280	21640	22990	24340	25690	27050	29750	32450	33810	36510	37860	0.850	21.59					
14050	14980	15920	16860	17790	18730	20600	22480	23420	25280	26220	15310	18100	20880	22270	23660	25060	26450	27840	30630	33410	34800	37590	38980	0.875	22.23					
14370	15330	16290	17240	18200	19160	21080	23000	23950	25870	26820	15750	18610	21480	22910	24340	25770	27200	28640	31500	34360	35800	38660	40090	0.900	22.86					
14690	15670	16650	17630	18610	19590	21550	23510	24480	26440	27420	16190	19130	22070	23550	25020	26490	27960	29430	32380	35320	36790	39300	41200	0.925	23.50					
15000	16000	17000	18000	19010	20010	22010	24000	25000	27010	28010	16630	19650	22670	24180	25690	27200	28720	30230	33250	36270	37780	40810	42320	0.950	24.13					
9290	9910	10530	11150	11770	12390	13630	14870	15480	16720	17350	9440	11160	12880	13740	14590	15450	16310	17170	18890	20600	21460	23180	24040	0.650	16.51	6 5/8				
9920	10580	11240	11910	12570	13230	14550	15880	16530	17860	18520	10170	12020	13870	14790	15720	16640	17570	18490	20340	22190	23110	24960	25890	0.700	17.78	168.28				
10540	11240	11950	12650	13350	14060	15660	16860	17570	18980	19680	10900	12880	14860	15850	16840	17830	18820	19810	21790	23770	24760	26750	27740	0.750	19.05					
11150	11890	12640	13380	14120	14860	16350	17840	18580	20070	20810	11620	13740	15850	16910	17960	19020	20080	21130	23250	25360	26420	28530	29580	0.800	20.32					
11750	1250	13310	14090	14880	15660	17220	18790	19570	21140	21920	12350	14590	16840	17960	19080	20210	21330	22450	24700	26940	28070	30310	31430	0.850	21.59					
12330	13150	13970	14790	15610	16440	18080	19720	20550	22190	23010	13080	15450	17830	19020	20210	21400	22580	23770	26150	28530	29720	32090	33280	0.900	22.86					
12900	13760	14620	15480	16340	17200	18910	20640	21500	23220	24070	13800	16310	18820	20080	21330	22580	23840	25090	27600	30110	31370	33880	35130	0.950	24.13					
13450	14360	15250	16150	17050	17940	19740	21530	22430	24220	25120	14530	17170	19810	21130	22450	23770	25090	26420	29060	31700	33020	35660	36980	1.000	25.40					
14010	14940	15870	16810	17740	18670	20540	22410	23340	25210	26140	15250	18030	20800	22190	23580	24960	26350	27740	30510	33280	34670	37400	38830	1.050	26.67					
14540	15510	16480	17440	18420	19380	21320	23260	24230	26170	27140	15980	18890	21790	23250	24700	26150	27600	29060	31960	34870	36320	39230	40680	1.100	27.94					
14810	15790	16780	17770	18750	19740	21710	23680	24670	26640	27630	16340	19320	22290	23770	25260	26750	28230	29720	32690	35660	37150	40120	41600	1.125	28.58					
15060	16070	17070	18070	19080	20080	22090	24100	25100	27110	28120	16710	19750	22780	24300	25820	27340	28860	30380	33420	36450	37970	40910	42530	1.150	29.21					
15580	16610	17650	18690	19730	20760	22840	24920	25960	28040	29070	17430	20600	23770	25360	26940	28530	30110	31700	34870	38040	39620	42700	44380	1.200	30.48					
8850	9440	10020	10610	11200	11800	12970	14150	14740	15920	16510	8940	10560	12190	13000	13810	14630	15440	16250	17880	19500	20310	21940	22750	0.650	16.51	7				
9300	9910	10540	11150	11770	12390	13630	14870	15490	16730	17350	9450	11160	12880	13740	14600	15460	16320	17180	18890	20610	21470	23190	24050	0.687	17.45	177.80				
9450	10080	10710	11340	11970	12600	13860	15120	15750	17010	17640	9630	11380	13130	14000	14880	15750	16630	17500	19250	21010	21880	23630	24500	0.700	17.78					
9810	10470	11120	11770	12430	13080	14390	15690	16350	17650	18310	10040	11860	13690	14600	15510	16430	17340	18250	20080	21900	22810	24640	25550	0.730	18.54					
10050	10720	11380	11980	12730	13390	14740	16070	16740	18080	18750	10310	12190	14060	15000	15940	16880	17810	18750	20630	22500	23440	25310	26250	0.750	19.05					
10630	11340	12050	12750	13460	14170	15590	17000	17720	19130	19840	11000	13000	15000	16000	17000	18000	19000	20000	22000	24000	25000	27000	28000	0.800	20.32					
10770	11490	12200	12920	13640	14360	15790	17230	17950	19380	20100	11170	13200	15230	16240	17260	18270	19290	20300	22330	24360	25380	27410	28420	0.812	20.62					
11200	11950	12700	13440	14190	14940	16430	17920	18670	20160	20910	11690	13810	15940	17000	18060	19130	20190	21250	23380	25500	26560	28690	29750	0.850	21.59					
11490	12250	13010	13780	14550	15320	16840	18380	19140	20670	21440	12030	14220	16410	17500	18590	19690	20780	21880	24060	26250	27340	29530	30630	0.875	22.23					
11770	12550	13340	14120	14900	15690	17260	18820	19610	21180	21960	12380	14630	16880	18000	19130	20250	21380	22500	24750	27000	28130</									



Joint yield strengths are calculated from the minimum specified material yield stress and the critical joint cross sectional area, pipe or coupling, as appropriate.

Size (OD)	Wall thickness		Drift diameter	Coupling (OD) reg.	Make-up loss	Coupling length	Pipe body section	Coupling CCS*	VAM HW ST regular yield strength (1000 lb.)															
	inch	mm							55	65	75	80	85	90	95	100	110	120	125	135	140	55	65	
mm	inch	mm	inch	inch	inch	inch	sq. in.	sq. in.	ksi	ksi	ksi	ksi	ksi	ksi	ksi	ksi	ksi	ksi	ksi	ksi	ksi	ksi	ksi	
8 5/8 219.08	1.000	25.40	6.500	9.776	5.752	13.472	23.955	24.473	1318	1557	1797	1916	2036	2156	2276	2396	2635	2875	2994	3234	3354	7890	9320	
	1.050	26.67	6.400	9.815	5.937	13.843	24.987	25.502	1374	1624	1874	1999	2124	2249	2374	2499	2749	2998	3123	3373	3498	8230	9730	
	1.100	27.94	6.300	9.854	6.122	14.213	26.005	26.531	1430	1690	1950	2080	2210	2340	2470	2601	2861	3121	3251	3511	3641	8570	10130	
	1.150	29.21	6.200	9.894	6.307	14.583	27.006	27.562	1485	1755	2025	2160	2296	2431	2566	2701	2971	3241	3376	3646	3781	8900	10510	
	1.200	30.48	6.100	9.933	6.492	14.953	27.992	28.593	1540	1819	2099	2239	2379	2519	2659	2799	3079	3359	3499	3779	3919	9230	10900	
9 5/8 244.48	1.250	31.75	6.000	9.969	6.677	15.323	28.962	29.563	1593	1883	2172	2312	2462	2607	2751	2896	3186	3475	3620	3910	4055	9540	11280	
	0.672	17.07	8.125	10.551	5.424	12.816	18.901	19.341	1040	1229	1418	1517	1607	1701	1796	1890	2079	2268	2363	2552	2646	5000	5850	
	0.700	17.78	8.069	10.579	5.546	13.061	19.627	20.023	1079	1276	1472	1570	1668	1766	1865	1963	2159	2355	2453	2650	2748	5190	6140	
	0.734	18.64	8.001	10.618	5.696	13.360	20.502	20.951	1128	1333	1538	1640	1743	1845	1948	2050	2255	2460	2562	2768	2870	5430	6410	
	0.750	19.05	7.969	10.634	5.767	13.502	20.911	21.342	1150	1359	1568	1673	1777	1882	1987	2091	2300	2509	2614	2823	2928	5530	6540	
	0.797	20.24	7.875	10.685	5.973	13.914	22.104	22.576	1216	1437	1658	1768	1879	1989	2100	2210	2431	2652	2763	2984	3095	5850	6910	
	0.800	20.32	7.869	10.689	5.987	13.942	22.180	22.666	1220	1442	1664	1774	1885	1996	2107	2218	2440	2662	2773	2994	3105	5870	6940	
	0.850	21.59	7.769	10.740	6.207	14.382	23.432	23.926	1289	1523	1757	1875	1992	2109	2226	2343	2578	2812	2929	3163	3280	6200	7330	
	0.900	22.86	7.669	10.791	6.427	14.822	24.669	25.188	1357	1603	1850	1974	2097	2220	2344	2467	2714	2960	3084	3330	3454	6520	7710	
	0.950	24.13	7.569	10.843	6.646	15.261	25.891	26.454	1424	1683	1942	2071	2201	2330	2460	2589	2848	3107	3236	3495	3625	6850	8090	
	1.000	25.40	7.469	10.803	6.872	15.697	27.096	27.691	1490	1761	2032	2168	2303	2439	2574	2710	2981	3252	3387	3658	3793	7170	8470	
	1.050	26.67	7.369	10.846	7.109	16.133	28.286	28.903	1556	1839	2121	2263	2404	2546	2687	2829	3111	3394	3536	3819	3960	7480	8840	
	1.100	27.94	7.269	10.886	7.346	16.568	29.460	29.960	1624	1919	2206	2352	2496	2640	2784	2929	3224	3511	3654	3947	4088	7790	9210	
	1.150	29.21	7.169	10.929	7.583	17.000	30.619	31.164	1694	1999	2296	2446	2593	2739	2884	3031	3336	3624	3767	4064	4204	8100	9580	
	1.200	30.48	7.069	10.969	7.820	17.432	31.761	32.412	1764	2074	2372	2524	2673	2820	2967	3076	3394	3681	3819	4124	4264	8410	9930	
1.250	31.75	6.969	11.008	8.057	17.864	32.889	33.559	1834	2138	2447	2601	2752	2900	3047	3156	3494	3781	3919	4234	4374	8720	10280		
10 254.00	0.688	17.48	8.468	10.949	5.494	12.957	20.127	20.595	1107	1308	1510	1610	1711	1811	1912	2013	2214	2415	2516	2717	2818	4940	5710	
	0.700	17.78	8.444	10.961	5.546	13.061	20.452	20.897	1125	1329	1534	1636	1738	1841	1943	2045	2250	2454	2557	2761	2863	5010	5880	
	0.732	18.59	8.380	10.996	5.687	13.343	21.313	21.774	1172	1385	1598	1705	1812	1918	2025	2131	2344	2558	2664	2877	2984	5220	6170	
	0.750	19.05	8.344	11.016	5.767	13.502	21.795	22.267	1199	1417	1635	1744	1853	1962	2071	2180	2397	2615	2724	2942	3051	5340	6310	
	0.800	20.32	8.244	11.071	5.987	13.942	23.122	23.639	1272	1503	1734	1850	1965	2081	2197	2312	2543	2775	2890	3121	3237	5670	6700	
	0.850	21.59	8.144	11.122	6.207	14.382	24.434	24.946	1344	1588	1833	1955	2077	2199	2321	2443	2688	2922	3054	3299	3421	5990	7080	
	0.900	22.86	8.044	11.173	6.427	14.822	25.730	26.257	1415	1672	1930	2058	2187	2316	2444	2573	2830	3088	3216	3474	3602	6310	7460	
	0.950	24.13	7.944	11.224	6.646	15.261	27.010	27.568	1486	1756	2026	2161	2296	2431	2566	2701	2971	3241	3376	3646	3781	6620	7830	
	1.000	25.40	7.844	11.185	6.872	15.697	28.274	28.858	1555	1838	2121	2262	2403	2545	2686	2827	3110	3393	3534	3817	3958	6930	8190	
	1.050	26.67	7.744	11.228	7.109	16.133	29.523	30.118	1624	1919	2214	2362	2509	2657	2805	2952	3248	3543	3690	3986	4133	7240	8550	
	1.100	27.94	7.644	11.272	7.346	16.568	30.756	31.375	1692	1999	2307	2460	2614	2768	2922	3076	3383	3691	3845	4152	4306	7540	8910	
	1.150	29.21	7.544	11.315	7.583	17.000	31.974	32.638	1759	2078	2398	2558	2718	2878	3038	3197	3517	3837	3997	4316	4476	7840	9260	
	1.200	30.48	7.444	11.358	7.820	17.432	33.175	33.899	1825	2156	2488	2654	2820	2986	3152	3318	3649	3981	4147	4479	4645	8130	9610	
	1.250	31.75	7.344	11.398	8.057	17.864	34.361	35.094	1890	2233	2577	2749	2921	3092	3264	3436	3780	4123	4295	4639	4811	8420	9950	
	10 3/4 273.05	0.595	15.11	9.404	11.579	5.263	12.494	18.982	19.423	1044	1234	1424	1519	1613	1708	1803	1898	2088	2278	2373	2563	2657	3440	3860
0.650		16.51	9.294	11.642	5.522	13.012	20.625	21.103	1134	1341	1547	1650	1753	1856	1959	2063	2269	2475	2578	2784	2888	4040	4570	
0.700		17.78	9.194	11.697	5.757	13.482	22.101	22.593	1216	1437	1658	1768	1879	1989	2100	2210	2431	2652	2763	2984	3094	4570	5210	
0.734		18.64	9.126	11.732	5.916	13.800	23.096	23.569	1270	1501	1732	1848	1963	2079	2194	2310	2541	2772	2887	3118	3233	4900	5640	
0.750		19.05	9.094	11.752	5.992	13.952	23.562	24.087	1296	1532	1767	1885	2003	2121	2238	2356	2592	2827	2945	3181	3299	5000	5850	
0.797		20.24	9.000	11.803	6.212	14.392	24.921	25.482	1371	1620	1869	1994	2118	2243	2367	2492	2991	3115	3364	3489	5290	6240		
0.800		20.32	8.994	11.803	6.227	14.422	25.007	25.513	1375	1625	1876	2001	2126	2251	2376	2501	2751	3001	3126	3376	3501	5310	6270	
0.850		21.59	8.894	11.858	6.461	14.891	26.436	27.012	1454	1718	1983	2115	2247	2379	2511	2644	2908	3172	3305	3569	3701	5610	6630	
0.859		21.82	8.876	11.866	6.504	14.977	26.692	27.246	1468	1735	2002	2135	2269	2402	2536	2669	2936	3203	3337	3603	3737	5660	6690	
0.900		22.86	8.794	11.909	6.696	15.361	27.850	28.444	1532	1810	2089	2228	2367	2507	2646	2785	3064	3342	3481	3760	3899	5910	6980	
0.950		24.13	8.694	11.961	6.931	15.831	29.248	29.876	1609	1901	2194	2340	2486	2632	2779	2925	3217	3510	3656	3948	4095	6200	7330	
0.960		24.38	8.674	11.969	6.978	15.924	29.526	30.118	1624	1919	2214	2362	2510	2657	2805	2953	3248	3543	3691	3986	4134	6270	7400	

External pressure equal to 70% of collapse pressure calculated from API Bul. 5 C 3, section 1. Minimum internal yield pressure are calculated from API Bul 5 C 3 section 3, formula 3.1.1.

External pressure resistance (psi)														Minimum internal yield pressure (psi)														Wall thickness		Size (OD)
75	80	85	90	95	100	110	120	125	135	140	55	65	75	80	85	90	95	100	110	120	125	135	140	inch	mm	inch				
ksi	ksi	ksi	ksi	ksi	ksi	ksi	ksi	ksi	ksi	ksi	ksi	ksi	ksi	ksi	ksi	ksi	ksi	ksi	ksi	ksi	ksi	ksi	ksi			mm				
10760	11480	12190	12920	13630	14350	15790	17220	17930	19370	20090	11160	13190	15220	16230	17250	18260	19280	20290	22320	24350	25360	27390	28410	1.000	25.40	8 5/8				
11230	11980	12730	13480	14220	14970	16460	17960	18710	20210	20960	11720	13850	15980	17040	18110	19170	20240	21300	23430	25570	26630	28760	29830	1.050	26.67	219.08				
11680	12460	13240	14020	14800	15580	17140	18690	19440	21030	21810	12280	14510	16740	17860	18970	20090	21200	22320	24550	26780	27900	30130	31250	1.100	27.94					
12130	12940	13750	14560	15370	16180	17790	19410	20220	21840	22650	12830	15170	17500	18670	19830	21000	22170	23330	25670	28000	29170	31500	32670	1.150	29.21					
12580	13410	14250	15090	15930	16770	18450	20130	20960	22640	23480	13390	15830	18260	19480	20700	21910	23130	24350	26780	29220	30430	32870	34090	1.200	30.48					
13010	13880	14750	15620	16490	17350	19080	20820	21690	23420	24300	13950	16490	19020	20290	21560	22830	24090	25360	27900	30430	31700	34240	35510	1.250	31.75					
6560	6900	7230	7560	7880	8200	8800	9370	10910	10160	10420	6720	7940	9160	9770	10390	11000	11610	12220	13440	14660	15270	16490	17110	0.672	17.07	9 5/8				
7030	7410	7760	8130	8480	8840	9510	10150	10470	11070	11350	7000	8270	9550	10180	10820	11450	12090	12730	14000	15270	15910	17180	17820	0.700	17.78	244.48				
7400	7890	8390	8820	9220	9620	10370	11110	11470	12170	12500	7340	8670	10010	10680	11340	12010	12680	13350	14680	16010	16680	18020	18680	0.734	18.64					
7550	8050	8550	9050	9560	9980	10780	11560	11940	12680	13030	7500	8860	10230	10910	11590	12270	12950	13640	15000	16360	17050	18410	19090	0.750	19.05					
7970	8510	9040	9570	10100	10630	11700	12760	13290	14190	14620	7970	9420	10870	11590	12320	13040	13770	14490	15940	17390	18110	19560	20290	0.797	20.24					
8000	8530	9070	9600	10140	10670	11740	12800	13340	14290	14710	8000	9450	10910	11640	12360	13090	13820	14550	16000	17450	18180	19640	20360	0.800	20.32					
8460	9020	9580	10140	10710	11270	12400	13520	14090	15270	15780	8500	10050	11590	12360	13140	13910	14680	15450	17000	18550	19320	20860	21640	0.850	21.59					
8900	9490	10090	10680	11270	11870	13060	14240	14830	16020	16610	9000	10640	12270	13090	13910	14730	15550	16360	18000	19640	20450	22090	22910	0.900	22.86					
9340	9960	10580	11210	11830	12450	13700	14950	15570	16810	17440	9500	11230	12950	13820	14680	15550	16410	17270	19000	20730	21590	23320	24180	0.950	24.13					
9780	10430	11080	11730	12380	13030	14340	15640	16300	17600	18250	10000	11820	13640	14550	15450	16360	17270	18180	20000	21820	22730	24550	25450	1.000	25.40					
10210	10890	11560	12240	12930	13610	14970	16330	17010	18370	19050	10500	12410	14320	15270	16230	17180	18140	19090	21000	22910	23860	25770	26730	1.050	26.67					
10630	11340	12050	12750	13460	14170	15590	17000	17720	19130	19840	11000	13000	15000	16000	17000	18000	19000	20000	22000	24000	25000	27000	28000	1.100	27.94					
11050	11780	12520	13260	13990	14730	16210	17680	18410	19890	20620	11500	13590	15680	16730	17770	18820	19860	20910	23000	25090	26140	28230	29270	1.150	29.21					
11460	12220	12990	13750	14510	15280	16810	18330	19100	20630	21390	12000	14180	16360	17450	18550	19640	20730	21820	24000	26180	27270	29450	30550	1.200	30.48					
11870	12660	13450	14240	15030	15820	17400	18980	19780	21360	22150	12500	14770	17050	18180	19320	20450	21590	22730	25000	27270	28410	30680	31820	1.250	31.75					
6400	6730	7040	7360	7670	7970	8550	9090	9360	9850	10090	6620	7830	9030	9630	10230	10840	11440	12040	13240	14450	15050	16250	16860	0.688	17.48	10				
6590	8060	7270	8060	7920	8240	8840	9420	9700	10230	10480	6740	7960	9190	9800	10410	11030	11640	12250	13480	14700	15310	16540	17150	0.700	17.78	254.00				
7110	7480	7850	8230	8580	8940	9630	10280	10610	11210	11510	7050	8330	9610	10250	10890	11530	12170	12810	14090	15370	16010	17290	17930	0.732	18.59					
7290	7770	8180	8580	8960	9340	10070	10770	11120	11770	12090	7220	8530	9840	10500	11160	11810	12470	13130	14440	15750	16410	17720	18380	0.750	19.05					
7730	8250	8760	9280	9790	10300	11290	12120	12530	13320	13710	7700	9100	10500	11200	11900	12600	13300	14000	15400	16800	17500	18900	19600	0.800	20.32					
8170	8710	9250	9800	10350	10890	11980	13070	13610	14400	14790	8180	9670	11160	11900	12640	13390	14130	14880	16360	17850	18590	20080	20830	0.850	21.59					
8600	9170	9740	10320	10890	11470	12610	13760	14340	15480	16050	8660	10240	11810	12600	13390	14180	14960	15750	17330	18900	19690	21260	22050	0.900	22.86					
9030	9630	10230	10840	11440	12040	13240	14440	15040	16250	16850	9140	10810	12470	13300	14130	14960	15790	16630	18290	19950	20780	22440	23280	0.950	24.13					
9450	10080	10710	11340	11970	12600	13860	15120	15750	17010	17640	9630	11380	13130	14000	14880	15750	16630	17500	19250	21000	21880	23630	24500	1.000	25.40					
9870	10530	11190	11840	12500	13160	14470	15790	17760	18420	19110	11190	13780	15570	16540	17460	18380	19300	20220	22050	23880	24700	26530	27350	1.050	26.67					
10280	10960	11650	12330	13020	13710	15080	16450	17140	18500	19190	11090	13680	15440	16400	17320	18240	19160	20080	21910	23740	24560	26390	27210	1.100	27.94					
10690	11400	12110	12820	13540	14250	15670	17100	17810	19240	19950	11070	13680	15490	16400	17320	18240	19160	20080	21910	23740	24560	26390	27210	1.150	29.21					
11090	11810	12530	13310	14040	14780	16260	17740	18480	19960	20700	11550	13650	15750	16800	17710	18620	19530	20440	22370	24300	25120	27050	27870	1.200	30.48					
11490	12250	13010	13780	14550	15320	16840	18380	19140	20670	21440	12030	14220	16410	17500	18590	19690	20780	21880	24060	26250	27340	29530	30630	1.250	31.75					
4240	5720	4570	5720	4870	5010	5260	5450	5540	5680	5740	5330	6300	7260	7750	8230	8720	9200	9690	10650	11620	12110	13080	13560	0.595	15.11	10 3/4				
5060	5290	5520	5730	5940	6140	6510	6840	8780	7270	7390	5820	6880	7940	8470	8950	9520	10050	10580	11640	12620	13230	14280	14810	0.650	16.51	273.05				
5800	6100	6370	7280	6900	7160	7640	8090	8260	8710	8900	6270	7410	8550	9120	9690	10260	10830	11400	12530	13670	14240	15380	15950	0.700	17.78					
6310	7770	6950	7770	7560	7860	8420	8950	9210	9690	9920	6570	7770	8960	9560	10160	10750	11350	11950	13140	14340	14940	16130	16730	0.734	18.64					
6550	6900	7220	8020	7870	8180	8790	9350	9630	10150	10400	6720	7940	9160	9770	10380	10990	11600	12210	13430	14650	15260	16480	17090	0.750	19.05					
7210	7640	8020	8410	8780	9150	9860	10540	10870	11510	11820	7140	8430	9730	10380	11030	11680	12330	12970	14270	15570	16220	17520	18160	0.797	20.24					
7230	7690	8080	8460	8830	9210	9930	10610	10950	11590	11910	7160	8470	9770	10420	11070	11720	12370	13020	14330	15630	16280	17580	18230	0.800	20.32					
7640	8160	8670	9180	9690	10190	11060	11870	12260	13030	13410	7610	8990	10380	11070	11760	12450	13150	13840	15220	16600	17300	18680	19370	0.850	21.59					
7720	8230	8570	9260	9780	10290	11270	12100	12500	13290	13680	7690	9090	10480	11190	11890	12590	13280	1												

VAM® HW ST is a rugged T&C connection for heavy wall casing when maximum tension strength is required. It is especially suited for surface casing and production casing in high-pressure high-temperature wells.

BENEFITS

- **Excellent gas-tight sealing**
- **Extra-high strength**
- **Low hoop stress**
- **Easy to use and repair**

Metal to metal seal and reverse angle torque shoulder

- A 50% taper metal-to-metal seal is energized by a reverse angle torque shoulder, and is self-energized by internal pressure.
- The rugged design of the pin nose makes this connection able to withstand the high combined loads that are encountered in deep, high-pressure wells.
- VAM® HW ST is the solution for a connection to withstand pressures as high as the burst and the collapse ratings of the heavy wall casing.

Hook thread design

- A coarse thread pitch with a 3° reverse load flank angle gives the connection superior tension strength and eliminates the risk of jump-out.
- Precision machining in the threads contributes to reduce hoop stresses in the coupling.
- A steep thread taper allows for easy stabbing and fast make-up. Making up heavy wall casing with VAM® HW ST is as easy as with standard wall casing, with virtually no danger of cross-threading.

Extra strength coupling

- The coupling size is calculated to provide in excess of 100% tensile efficiency on heavy-weight casing.
- The coupling design minimizes hoop stresses, and is ideal for use with controlled yield materials in high-pressure high-temperature wells where sour gas or other corrosive environments may be encountered.

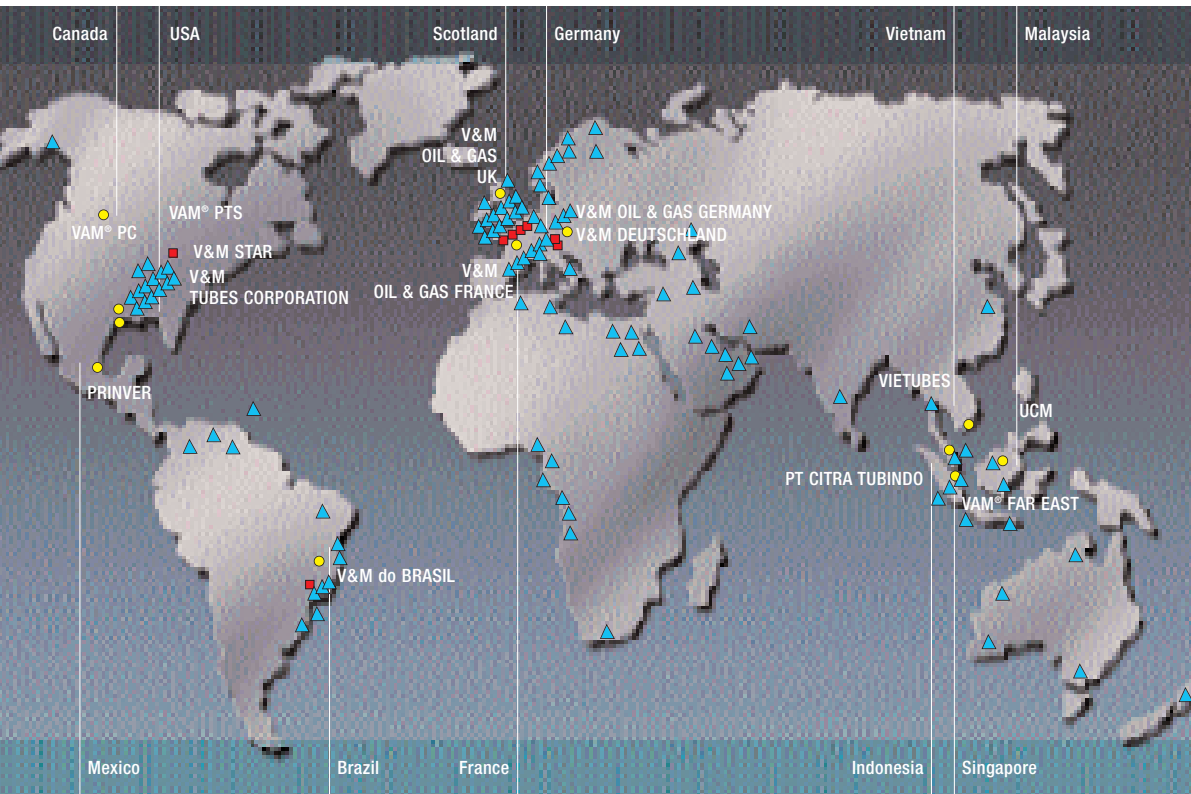
Streamlined internal profile

- The ID is recess-free, with 6° mating chamfers at the end of the long coupling shoulder. This smooth bore allows the safe running of tools and minimizes turbulence and energy loss when high-velocity gas flows are encountered.

Options

- VAM® HW ST SC70 and SC80 (special clearance): for extra clearance applications, as when annular space is a limiting factor.

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