



Put an ACE in the hole



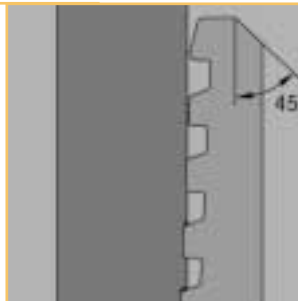
VAM TOP
VAM TOP HC
VAM TOP HT
VAM TOP FE
NEW VAM
| *VAM ACE*
VAM PRO
VAM HW ST
VAM SLIJ II
VAM FJL
VAM MUST
DINO VAM
BIG OMEGA



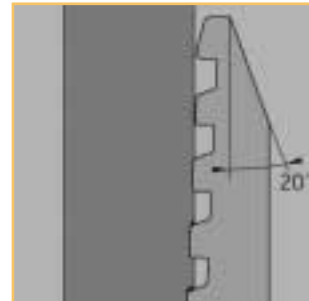
VALLOUREC & MANNESMANN TUBES
OCTG DIVISION

VAM[®] ACE[®]

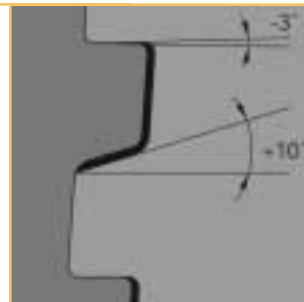
Thread run-out



Special bevel option

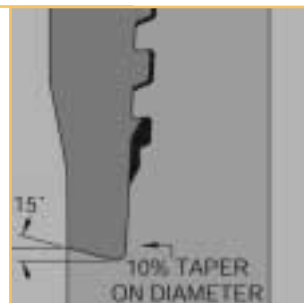


Thread form



Ø 2 3/8" to 2 7/8" – 8 TPI
Ø 3 1/2" to 4 1/2" – 6 TPI
Ø 5" to 7 5/8" – 5 TPI
Ø 8 5/8" and above – 4 TPI
Taper 1:16

Seal geometry



VAM® ACE is a T&C gas-tight connection specifically designed for severe applications and has been field-proven for more than 20 years in the most demanding environments throughout the world.

BENEFITS

- **Excellent gas-tight sealing under high tensile loads**
- **Internal flushness allowing maximum production flow**
- **Easy to run and repair**

Metal-to-metal seal

- The VAM® ACE metal-to-metal seal takes advantage of the “VAM® effect” design which has made the reputation of the VAM® joint throughout the world.
- The low taper seal (10% taper) provides gas-tightness under high tension loads, such as heavy string weight in deep wells.
- Sizes range from 2 3/8” to 13 3/8”.

Reverse angle torque shoulder

- The reverse angle torque shoulder provides a positive torque stop, which allows an accurate power-tight position minimizing hoop stresses in the connection.
- The wedge effect caused by the reverse angle gives the connection superior structural strength.

Hook thread design

- A 3° reverse angle on the load flank provides superior tension strength.
- 4 TPI on large ODs eliminates the risk of cross-threading.
- Combined with the reverse angle torque shoulder the 3° load flank creates a “wedge” effect which improves the structural strength of the connection.

Coupling design

- Critical cross section of the coupling is greater than that of the pipe body.
- Optimized internal counter bore length to allow good make-up stress distribution.
- Internal ID of the coupling matching the internal ID of nominal weight pipe.

Streamlined internal profile

- The taper of the internal bore in the pipe end is limited to only 6° for a flush junction with the coupling counter-bore to minimize turbulence and pressure loss.

Options

- VAM® ACE SC90 / VAM® ACE SC80 (special clearance): offer 90% and 80% tensile efficiency respectively with reduced coupling OD when extra clearance is requested.
- VAM® ACE SB (special bevel): coupling face has a 20° bevel to avoid hang-ups while running multiple string completions.

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)	Nominal weight	Wall thickness		Drift diameter	Coupling (OD) reg.	Coupling (OD) R.S.	Make-up loss	Coupling length	Pipe body section	Coupling CCS* reg.	Coupling CCS* R.S.	VAM ACE regular yield strength (1000 lb.)							
inch mm	lb./ft.	inch	mm	inch	inch	inch	inch	inch	sq. in.	sq. in.	sq. in.	55 ksi	80 ksi	90 ksi	95 ksi	110 ksi	125 ksi	135 ksi	140 ksi
2 3/8 60.33	4.60	0.190	4.830	1.901	2.697	2.776	2.630	7.260	1.304	1.420	1.536	72	104	117	124	143	163	176	183
	5.10	0.218	5.540	1.845	2.776	2.776	2.630	7.260	1.477	1.761	1.536	81	118	133	140	162	185	199	207
	5.80	0.254	6.450	1.773	2.776	2.820	2.630	7.260	1.692	1.761	1.730	93	135	152	161	186	212	228	237
	6.30	0.280	7.110	1.721	2.804	2.854	2.630	7.260	1.843	1.883	1.880	101	147	166	175	203	230	249	258
	6.60	0.295	7.490	1.691	2.823	2.878	2.630	7.260	1.928	1.967	1.989	106	154	174	183	212	241	260	270
2 7/8 73.03	7.35	0.336	8.530	1.609	2.874	2.923	2.630	7.260	2.152	2.195	2.193	118	172	194	204	237	269	291	301
	6.40	0.217	5.510	2.347	3.230	3.327	2.709	7.417	1.812	1.891	2.124	100	145	163	172	199	227	245	254
	7.80	0.276	7.010	2.229	3.327	3.405	2.709	7.417	2.254	2.392	2.536	124	180	203	214	248	282	304	316
	8.60	0.308	7.820	2.165	3.355	3.405	2.709	7.417	2.484	2.539	2.536	137	199	224	236	273	311	335	348
	9.35	0.340	8.640	2.101	3.397	3.449	2.709	7.417	2.708	2.762	2.771	149	217	244	257	298	339	366	379
	9.80	0.362	9.190	2.057	3.426	3.475	2.709	7.417	2.858	2.916	2.912	157	229	257	272	314	357	386	400
	10.50	0.392	9.960	1.997	3.463	3.520	2.709	7.417	3.058	3.119	3.159	168	245	275	291	336	382	413	428
	10.70	0.405	10.290	1.971	3.480	3.528	2.709	7.417	3.143	3.209	3.204	173	251	283	299	346	393	424	440
3 1/2 88.90	11.50	0.440	11.180	1.901	3.528	3.569	2.709	7.417	3.366	3.474	3.432	185	269	303	320	370	421	454	471
	6.50	0.170	4.320	3.035	3.830		3.091	8.181	1.778	2.266		98	142	160	169	196	222	240	249
	7.70	0.216	5.490	2.943	3.830	3.890	3.091	8.181	2.228	2.266	2.261	123	178	201	212	245	279	301	312
	9.20	0.254	6.450	2.867	3.890	3.950	3.091	7.182	2.590	2.629	2.633	142	207	233	246	285	324	350	363
	10.20	0.289	7.340	2.797	3.950	4.035	3.091	8.181	2.915	2.999	3.168	160	233	262	277	321	364	394	408
	12.70	0.375	9.530	2.625	4.069	4.138	3.091	8.181	3.682	3.748	3.825	203	295	331	350	405	460	497	515
	13.70	0.413	10.490	2.549	4.138	4.193	3.091	8.181	4.005	4.193	4.187	220	320	360	380	441	501	541	561
	14.30	0.430	10.920	2.515	4.204	4.205	3.091	8.181	4.147	4.628	4.264	228	332	373	394	456	518	560	581
	14.70	0.449	11.400	2.477	4.200	4.232	3.091	8.181	4.304	4.600	4.447	237	344	387	409	473	538	581	603
	15.50	0.476	12.090	2.423	4.200	4.257	3.091	8.181	4.522	4.600	4.613	249	362	407	430	497	565	610	633
4 101.60	16.70	0.510	12.950	2.355	4.250	4.298	3.091	8.181	4.791	4.932	4.886	264	383	431	455	527	599	647	671
	8.20	0.190	4.830	3.495	4.339		3.336	8.181	2.274	2.730		125	182	205	216	250	284	307	318
	9.50	0.226	5.740	3.423	4.339	4.398	3.336	8.673	2.680	2.730	2.765	147	214	241	255	295	335	362	375
	10.90	0.262	6.650	3.351	4.398	4.469	3.336	8.673	3.077	3.134	3.260	169	246	277	292	338	385	415	431
	11.60	0.286	7.260	3.303	4.505	4.606	3.336	8.673	3.337	3.883	4.236	184	267	300	317	367	417	450	467
	13.20	0.330	8.380	3.215	4.505	4.606	3.336	8.673	3.805	3.883	4.236	209	304	342	361	419	476	514	533
	14.80	0.380	9.650	3.115	4.606	4.646	3.336	8.673	4.322	4.605	4.528	238	346	389	411	475	540	583	605
	16.10	0.415	10.540	3.045	4.628	4.679	3.336	8.673	4.674	4.768	4.768	257	374	421	444	514	584	631	654
	16.50	0.430	10.920	3.015	4.646	4.725	3.336	8.673	4.823	4.896	5.107	265	386	434	458	531	603	651	675
	18.90	0.500	12.700	2.875	4.744	4.792	3.336	8.673	5.498	5.619	5.608	302	440	495	522	605	687	742	770
4 1/2 114.30	22.20	0.610	15.490	2.655	4.857	4.925	3.336	8.673	6.496	6.474	6.626	356	518	583	615	712	809	874	906
	10.50	0.224	5.690	3.927	4.862	4.961	3.662	9.323	3.009	3.382	3.661	165	241	271	286	331	376	406	421
	11.60	0.250	6.350	3.875	4.874	4.961	3.662	9.323	3.338	3.475	3.661	184	267	300	317	367	417	451	467
	12.60	0.271	6.880	3.833	4.961	4.961	3.662	9.323	3.600	4.146	3.661	198	288	324	342	396	450	486	504
	13.50	0.290	7.370	3.795	4.961	5.000	3.662	9.323	3.836	4.146	3.966	211	307	345	364	422	480	518	537
	14.50	0.320	8.130	3.735	5.000	5.073	3.662	9.323	4.202	4.452	4.501	231	336	378	399	462	525	567	588
	15.10	0.337	8.560	3.701	5.005	5.106	3.662	9.323	4.407	4.492	4.807	242	353	397	419	485	551	595	617
	17.00	0.380	9.650	3.615	5.106	5.201	3.662	9.323	4.918	5.292	5.578	270	393	443	467	541	615	664	689
	17.70	0.402	10.210	3.571	5.106	5.201	3.662	9.323	5.175	5.292	5.578	285	414	466	492	569	647	699	725
	18.90	0.430	10.920	3.515	5.201	5.205	3.662	9.323	5.498	6.064	5.611	302	440	495	522	605	687	742	770
5 127.00	21.50	0.500	12.700	3.375	5.280	5.315	3.662	9.323	6.283	6.712	6.518	346	503	565	597	691	785	848	880
	23.70	0.560	14.220	3.255	5.322	5.380	3.662	9.323	6.932	7.062	7.063	381	555	624	659	763	867	936	970
	13.00	0.253	6.430	4.369	5.563	5.563	4.191	11.382	3.773	5.299	4.729	208	302	340	358	415	472	509	528
	15.00	0.296	7.520	4.283	5.563	5.563	4.191	11.382	4.374	5.299	4.729	241	350	394	416	481	547	590	612
	18.00	0.362	9.190	4.151	5.572	5.650	4.191	11.382	5.275	5.379	5.496	290	422	475	501	580	659	712	739
	20.30	0.408	10.360	4.059	5.650	5.750	4.191	11.382	5.886	6.065	6.391	324	471	530	559	647	736	795	824
	20.80	0.422	10.720	4.031	5.750	5.750	4.191	11.382	6.069	6.961	6.391	334	486	546	577	668	759	819	850
	21.40	0.437	11.100	4.001	5.750	5.750	4.191	11.382	6.264	6.961	6.391	345	501	564	595	689	783	846	877
5 1/2 139.70	23.20	0.478	12.140	3.919	5.750	5.806	4.191	11.382	6.791	6.961	6.899	374	543	611	645	747	849	917	951
	24.10	0.500	12.700	3.875	5.806	5.840	4.191	11.382	7.069	7.468	7.212	389	566	636	672	778	884	954	990
	15.50	0.275	6.990	4.825	6.051	6.051	4.382	11.764	4.514	5.800	5.034	248	361	406	429	497	564	609	632
	17.00	0.304	7.720	4.767	6.051	6.054	4.382	11.764	4.962	5.800	5.061	273	397	447	471	546	620	670	695
	20.00	0.361	9.170	4.653	6.150	6.150	4.382	11.764	5.828	6.744	5.978	321	466	525	554	641	729	787	816
	23.00	0.415	10.540	4.545	6.150	6.244	4.382	11.764	6.630	6.744	6.898	365	530	597	63				

External pressure equal to 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 (psi)								Minimum internal yield pressure (psi)								Nominal weight	Size (OD)
55 ksi	80 ksi	90 ksi	95 ksi	110 ksi	125 ksi	135 ksi	140 ksi	55 ksi	80 ksi	90 ksi	95 ksi	110 ksi	125 ksi	135 ksi	140 ksi	lb./ft.	inch mm
8100	11780	13250	13980	16130	17900	19030	19580	7700	11200	12600	13300	15400	17500	18900	19600	4.60	2 3/8 60.33
9170	13340	15010	15840	18340	20840	22510	23340	8830	12850	14460	15260	17670	20080	21690	22490	5.10	
10510	15280	17190	18150	21010	23880	25790	26740	10290	14970	16840	17780	20590	23390	25270	26200	5.80	
11440	16640	18720	19760	22880	26000	28080	29120	11350	16510	18570	19600	22690	25790	27850	28880	6.30	
11970	17410	19580	20670	23930	27200	29370	30460	11960	17390	19560	20650	23910	27170	29340	30430	6.60	
13360	19430	21860	23080	26720	30360	32790	34010	13620	19810	22280	23520	27230	30950	33420	34660	7.35	
7680	11170	12380	12940	14550	16070	17030	17490	7260	10570	11890	12550	14530	16510	17830	18490	6.40	
9550	13890	15620	16490	19090	21700	23430	24300	9240	13440	15120	15960	18480	21000	22680	23520	7.80	2 7/8 73.03
10520	15300	17220	18170	21040	23910	25830	26780	10310	15000	16870	17810	20620	23430	25310	26250	8.60	
11470	16680	18770	19810	22940	26070	28150	29200	11380	16560	18630	19660	22770	25870	27940	28970	9.35	
12110	17610	19810	20910	24210	27510	29720	30820	12120	17630	19830	20930	24240	27540	29750	30850	9.80	
12950	18840	21200	22370	25910	29440	31790	32970	13120	19090	21470	22670	26250	29830	32210	33410	10.50	
13310	19360	21780	22990	26630	30260	32680	33890	13560	19720	22190	23420	27120	30820	33280	34510	10.70	
14260	20740	23330	24630	28520	32410	35000	36290	14730	21430	24100	25440	29460	33480	36160	37500	11.50	
3810	4640	4860	4950	5180	5510	5680	5740	4680	6800	7650	8080	9350	10630	11480	11900	6.50	3 1/2 88.90
5970	7870	8540	8850	9730	10500	10940	11140	5940	8640	9720	10260	11880	13500	14580	15120	7.70	
7400	10540	11570	12080	13530	14890	15740	16150	6990	10160	11430	12070	13970	15880	17150	17780	9.20	
8330	12120	13640	14390	16670	18940	20170	20770	7950	11560	13010	13730	15900	18060	19510	20230	10.20	
10520	15310	17220	18180	21050	23920	25830	26790	10310	15000	16880	17810	20630	23440	25310	26250	12.70	
11450	16650	18730	19770	22900	26020	28100	29140	11360	16520	18590	19620	22720	25810	27880	28910	13.70	
11850	17240	19400	20480	23710	26940	29100	30170	11830	17200	19350	20430	23650	26880	29030	30100	14.30	
12300	17890	20130	21250	24600	27960	30190	31310	12350	17960	20210	21330	24700	28060	30310	31430	14.70	
12930	18800	21150	22330	25850	29380	31730	32900	13090	19040	21420	22610	26180	29750	32130	33320	15.50	4 101.60
13690	19920	22410	23650	27390	31120	33610	34850	14030	20400	22950	24230	28050	31880	34430	35700	16.70	
3630	4380	4560	4630	4940	5230	5370	5420	4570	6650	7480	7900	9140	10390	11220	11640	8.20	
5110	6590	7080	7310	7910	8390	8630	8730	5440	7910	8900	9390	10880	12360	13350	13840	9.50	
6590	8800	9590	9980	11060	12030	12610	12890	6300	9170	10320	10890	12610	14330	15470	16050	10.90	
7300	10280	11270	11760	13160	14460	15270	15660	6880	10010	11260	11890	13760	15640	16890	17520	11.60	
8330	12110	13620	14380	16650	18910	20140	20740	7940	11550	12990	13720	15880	18050	19490	20210	13.20	
9460	13760	15480	16340	18910	21490	23210	24070	9140	13300	14960	15790	18290	20780	22440	23280	14.80	
10230	14880	16740	17670	20460	23250	25110	26040	9990	14530	16340	17250	19970	22700	24510	25420	16.10	4 1/2 114.30
10550	15350	17270	18230	21110	23990	25900	26860	10350	15050	16930	17870	20690	23520	25400	26340	16.50	
12030	17500	19690	20780	24060	27340	29530	30630	12030	17500	19690	20780	24060	27340	29530	30630	18.90	
14220	20680	23260	24560	28430	32310	34900	36190	14680	21350	24020	25350	29360	33360	36030	37360	22.20	
4010	4940	5200	5310	5560	5830	6030	6110	4790	6970	7840	8280	9580	10890	11760	12200	10.50	
4960	6360	6810	7030	7580	8000	8210	8300	5350	7780	8750	9240	10690	12150	13130	13610	11.60	
5730	7500	8120	8410	9210	9890	10280	10450	5800	8430	9490	10010	11590	13170	14230	14750	12.60	
6420	8540	9300	9660	10690	11600	12150	12400	6200	9020	10150	10710	12410	14100	15230	15790	13.50	
7270	10180	11160	11640	13020	14300	15100	15480	6840	9960	11200	11820	13690	15560	16800	17420	14.50	5 127.00
7620	11080	12220	12760	14340	15830	16770	17220	7210	10480	11800	12450	14420	16380	17690	18350	15.10	
8500	12370	13920	14690	17010	19330	20870	21630	8130	11820	13300	14040	16260	18470	19950	20690	17.00	
8950	13020	14640	15460	17900	20340	21970	22780	8600	12510	14070	14850	17200	19540	21110	21890	17.70	
9510	13830	15560	16420	19010	21610	23330	24200	9200	13380	15050	15890	18390	20900	22580	23410	18.90	
10860	15800	17780	18770	21730	24690	26670	27650	10690	15560	17500	18470	21390	24310	26250	27220	21.50	
11990	17430	19610	20700	23970	27240	29420	30510	11980	17420	19600	20690	23960	27220	29400	30490	23.70	
4140	5140	5430	5550	5840	6050	6270	6350	4870	7080	7970	8410	9740	11070	11950	12400	13.00	5 1/2 139.70
5560	7250	7830	8110	8850	9480	9830	9980	5700	8290	9320	9840	11400	12950	13990	14500	15.00	
7390	10500	11520	12020	13470	14820	15670	16070	6970	10140	11400	12040	13940	15840	17100	17740	18.00	
8240	11990	13490	14240	16490	18550	19740	20320	7850	11420	12850	13570	15710	17850	19280	19990	20.30	
8500	12360	13910	14680	17000	19320	20860	21610	8120	11820	13290	14030	16250	18460	19940	20680	20.80	
8770	12760	14360	15150	17550	19940	21540	22330	8410	12240	13770	14530	16820	19120	20650	21410	21.40	
9510	13830	15560	16430	19020	21620	23340	24210	9200	13380	15060	15890	18400	20910	22590	23420	23.20	
9900	14400	16200	17100	19800	22500	24300	25200	9630	14000	15750	16630	19250	21880	23630	24500	24.10	
4040	4990	5260	5380	5630	5890	6100	6170	4810	7000	7880	8310	9630	10940	11810	12250	15.50	6 5/8 168.28
4910	6290	6730	6940	7480	7890	8090	8170	5320	7740	8710	9190	10640	12090	13060	13540	17.00	
6620	8830	9630	10020	11110	12090	12670	12950	6320	9190	10340	10910	12640	14360	15510	16080	20.00	
7670	11160	12380	12930	14540	16060	17020	17480	7260	10560	11880	12540	14530	16510	17830	18490	23.00	
8700	12650	14230	15020	17390	19760	21340	22140	8330	12120	13630	14390	16660	18930	20450	21200	26.00	
9090	13220	14880	15700	18180	20660	22310	23140	8750	12730	14320	15110	17500	19890	21480	22270	26.80	
9580	13930	15670	16540	19160	21770	23510	24380	9280	13490	15180	16020	18550	21080	22770	23610	28.40	
10090	14680	16510	17430	20180	22940	24770	25690	9840	14310	16090	16990	19670	22350	24140	25030	29.70	
2970	3470	3700	3800	4020	4170	4210	4220	4180	6090	6850	7230	8370	9510	10270	10650	20.00	6 5/8 168.28
4560	5760	6140	6310	6730	7020	7140	7180	5110	7440	8370	8830	10230	11620	12550	13020	24.00	
6170	8170	8880	9220	10160	11000	11480	11710	6060	8810	9910	10460	12120	13770	14870	15420	28.00	
7320	10320	11330	11830	13230	14540	15360	15750	6900	10040	11290	11920	13800	15680	16940	17570	32.00	
8030	11670	13130	13860	15870	17600	18700	19230	7630	11090	12480	13170	15250	17330	18720	19420	35.00	

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)	Nominal weight	Wall thickness		Drift diameter	Coupling (OD) reg.	Coupling (OD) R.S.	Make-up loss	Coupling length	Pipe body section	Coupling CCS* reg.	Coupling CCS* R.S.	VAM ACE regular yield strength (1000 lb.)							
		inch	mm									55 ksi	80 ksi	90 ksi	95 ksi	110 ksi	125 ksi	135 ksi	140 ksi
inch mm	lb./ft.	inch	mm	inch	inch	inch	inch	inch	sq. in.	sq. in.	sq. in.								
7 177.80	23.00	0.317	8.050	6.250 A	7.657	7.657	4.776	12.551	6.655	8.857	7.871	366	532	599	632	732	832	898	932
	24.75	0.343	8.710	6.189	7.657	7.657	4.776	12.551	7.173	8.857	7.871	395	574	646	681	789	897	968	1004
	26.00	0.362	9.190	6.151	7.657	7.657	4.776	12.551	7.549	8.857	7.871	415	604	679	717	830	944	1019	1057
	29.00	0.408	10.360	6.059	7.657	7.909	4.776	12.551	8.449	8.857	10.952	465	676	760	803	929	1056	1141	1183
	32.00	0.453	11.510	6.000 A	7.909	7.909	4.776	12.551	9.317	11.937	10.952	512	745	839	885	1025	1165	1258	1304
	35.00	0.498	12.650	5.879	7.909	7.909	4.776	12.551	10.172	11.937	10.952	559	814	915	966	1119	1272	1373	1424
	38.00	0.540	13.720	5.795	7.909	7.928	4.776	12.551	10.959	11.937	11.182	603	877	986	1041	1205	1370	1479	1534
	41.00	0.590	14.990	5.695	7.940	8.000	4.776	12.551	11.881	12.319	12.084	653	950	1069	1129	1307	1485	1604	1663
7 5/8 193.68	42.70	0.625	15.880	5.625	7.984	8.055	4.776	12.551	12.517	12.871	12.767	688	1001	1127	1189	1377	1565	1690	1752
	26.40	0.328	8.330	6.844	8.500	8.500	4.868	12.736	7.519	12.543	11.676	414	602	677	714	827	940	1015	1053
	29.70	0.375	9.530	6.750	8.500	8.500	4.868	12.736	8.541	12.543	11.676	470	683	769	811	940	1068	1153	1196
	33.70	0.430	10.920	6.640	8.500	8.500	4.868	12.736	9.720	12.543	11.676	535	778	875	923	1069	1215	1312	1361
	35.80	0.465	11.810	6.570	8.500	8.500	4.868	12.736	10.460	12.543	11.676	575	837	941	994	1151	1308	1412	1464
	39.00	0.500	12.700	6.500	8.500	8.500	4.868	12.736	11.192	12.543	11.676	616	895	1007	1063	1231	1399	1511	1567
	42.80	0.562	14.270	6.376	8.513	8.600	4.868	12.736	12.470	12.716	13.018	686	998	1122	1185	1372	1559	1683	1746
	45.30	0.595	15.110	6.310	8.564	8.642	4.868	12.736	13.141	13.403	13.589	723	1051	1183	1248	1446	1643	1774	1840
7 3/4 196.85	46.10	0.595	15.110	6.500 A	8.691	8.756	4.868	12.736	13.374	13.635	13.642	736	1070	1204	1271	1471	1672	1805	1872
	47.60	0.625	15.880	6.375	8.737	8.801	4.868	12.736	13.990	14.272	14.271	769	1119	1259	1329	1539	1749	1889	1959
	48.60	0.640	16.260	6.345	8.760	8.824	4.868	12.736	14.295	14.581	14.587	786	1144	1287	1358	1572	1787	1930	2001
8 5/8 219.08	28.00	0.304	7.720	7.892	9.626	9.626	5.604	14.205	7.947	16.120	14.708	437	636	715	755	874	993	1073	1113
	32.00	0.352	8.940	7.875 A	9.626	9.626	5.604	14.205	9.149	16.120	14.708	503	732	823	869	1006	1144	1235	1281
	36.00	0.400	10.160	7.700	9.626	9.626	5.604	14.205	10.336	16.120	14.708	568	827	930	982	1137	1292	1395	1447
	40.00	0.450	11.430	7.625 A	9.626	9.626	5.604	14.205	11.557	16.120	14.708	636	925	1040	1098	1271	1445	1560	1618
	44.00	0.500	12.700	7.500	9.626	9.626	5.604	14.205	12.763	16.120	14.708	702	1021	1149	1212	1404	1595	1723	1787
	49.00	0.557	14.150	7.386	9.626	9.626	5.604	14.205	14.118	16.120	14.708	776	1129	1271	1341	1553	1765	1906	1977
	52.00	0.595	15.110	7.310	9.626	9.626	5.604	14.205	15.010	16.120	15.305	826	1201	1351	1426	1651	1876	2026	2101
	36.00	0.352	8.940	8.765	10.625	10.625	5.589	14.177	10.254	17.827	16.498	564	820	923	974	1128	1282	1384	1436
9 5/8 244.48	40.00	0.395	10.030	8.750 A	10.625	10.625	5.589	14.177	11.454	17.827	16.498	630	916	1031	1088	1260	1432	1546	1604
	43.50	0.435	11.050	8.599	10.625	10.625	5.589	14.177	12.559	17.827	16.498	691	1005	1130	1193	1381	1570	1695	1758
	47.00	0.472	11.990	8.525	10.625	10.625	5.589	14.177	13.572	17.827	16.498	746	1086	1221	1289	1493	1697	1832	1900
	53.50	0.545	13.840	8.500 A	10.625	10.625	5.589	14.177	15.546	17.827	16.498	855	1244	1399	1477	1710	1943	2099	2176
	58.40	0.595	15.110	8.375 A	10.625	10.787	5.589	14.177	16.879	17.827	19.226	928	1350	1519	1604	1857	2110	2279	2363
	59.40	0.609	15.470	8.251	10.625	10.787	5.589	14.177	17.250	17.827	19.226	949	1380	1553	1639	1898	2156	2329	2415
	61.10	0.625	15.880	8.219	10.637	10.787	5.589	14.177	17.671	18.023	19.226	972	1414	1590	1679	1944	2209	2386	2474
	62.80	0.625	15.880	8.469	10.898	10.976	5.484	13.969	18.162	18.552	18.540	999	1453	1635	1725	1998	2270	2452	2543
9 7/8 250.83	66.40	0.661	16.790	8.397	10.954	11.043	5.484	13.969	19.134	19.519	19.697	1052	1531	1722	1818	2105	2392	2583	2679
	70.50	0.720	18.290	8.279	11.047	11.126	5.484	13.969	20.708	21.131	21.137	1139	1657	1864	1967	2278	2589	2796	2899
	40.50	0.350	8.890	9.894	11.750	11.750	5.634	15.268	11.435	19.863	18.375	629	915	1029	1086	1258	1429	1544	1601
10 3/4 273.05	45.50	0.400	10.160	9.875 A	11.750	11.750	5.634	15.268	13.006	19.863	18.375	715	1040	1171	1236	1431	1626	1756	1821
	51.00	0.450	11.430	9.694	11.750	11.750	5.634	15.268	14.561	19.863	18.375	801	1165	1310	1383	1602	1820	1966	2039
	55.50	0.495	12.570	9.625 A	11.750	11.750	5.634	15.268	15.947	19.863	18.375	877	1276	1435	1515	1754	1993	2153	2233
	60.70	0.545	13.840	9.504	11.750	11.750	5.634	15.268	17.473	19.863	18.375	961	1398	1573	1660	1922	2184	2359	2446
	65.70	0.595	15.110	9.404	11.750	11.803	5.634	15.268	18.982	19.863	19.358	1044	1519	1708	1803	2088	2373	2563	2657
11 3/4 298.45	47.00	0.375	9.530	10.844	12.750	12.750	5.713	15.425	13.401	21.638	20.011	737	1072	1206	1273	1474	1675	1809	1876
	54.00	0.435	11.050	10.724	12.750	12.750	5.713	15.425	15.463	21.638	20.011	850	1237	1392	1469	1701	1933	2088	2165
	60.00	0.489	12.420	10.625 A	12.750	12.750	5.713	15.425	17.300	21.638	20.011	952	1384	1557	1644	1903	2163	2336	2422
	65.00	0.534	13.560	10.625 A	12.750	12.750	5.713	15.425	18.816	21.638	20.011	1035	1505	1693	1788	2070	2352	2540	2634
	71.80	0.582	14.780	10.555	12.835	12.922	5.713	15.425	20.648	21.063	21.173	1136	1652	1858	1962	2271	2581	2787	2891
13 3/8 339.73	54.50	0.380	9.650	12.459	14.375	14.375	5.698	15.398	15.513	24.510	22.663	853	1241	1396	1474	1706	1939	2094	2172
	61.00	0.430	10.920	12.359	14.375	14.375	5.698	15.398	17.487	24.510	22.663	962	1399	1574	1661	1924	2186	2361	2448
	68.00	0.480	12.190	12.259	14.375	14.375	5.698	15.398	19.445	24.510	22.663	1069	1556	1750	1847	2139	2431	2625	2722
	72.00	0.514	13.060	12.250 A	14.375	14.375	5.698	15.398	20.768	24.510	22.663	1142	1661	1869	1973	2284	2596	2804	2908
	77.00	0.550	13.970	12.119	14.375	14.375	5.698	15.398	22.160	24.510	22.663	1219	1773	1994	2105	2438	2770	2992	3102
	80.70	0.580	14.730	12.059	14.375	14.500	5.698	15.398	23.314	24.510	25.493	1282	1865	2098	2215	2565	2914	3147	3264
	85.00	0.608	15.440	12.003	14.420	14.500	5.698	15.398	24.386	25.524	25.493	1341	1951	2195	2317	2682	3048	3292	3414
	86.00	0.625	15.880	11.969	14.420	14.500	5.698	15.398	25.035	25.524	25.493	1377	2003	2253	2378	2754	3129	3380	3505

* Coupling CCS = Coupling Critical Cross Section

A: Alternate drift

1000 lb. = 4.44822 kN

External pressure equal to 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 (psi)								Minimum internal yield pressure (psi)								Nominal weight	Size (OD)
55 ksi	80 ksi	90 ksi	95 ksi	110 ksi	125 ksi	135 ksi	140 ksi	55 ksi	80 ksi	90 ksi	95 ksi	110 ksi	125 ksi	135 ksi	140 ksi	lb./ft.	inch mm
3270	3830	4030	4150	4430	4650	4740	4760	4360	6340	7130	7530	8720	9910	10700	11100	23.00	7
3880	4750	4980	5080	5280	5620	5810	5870	4720	6860	7720	8150	9430	10720	11580	12010	24.75	177.80
4330	5410	5740	5890	6230	6450	6590	6690	4980	7240	8150	8600	9960	11310	12220	12670	26.00	
5410	7030	7580	7840	8530	9110	9420	9560	5610	8160	9180	9690	11220	12750	13770	14280	29.00	
6460	8610	9370	9740	10780	11710	12270	12530	6230	9060	10190	10760	12460	14160	15290	15860	32.00	
7270	10190	11170	11650	13030	14320	15110	15490	6850	9960	11210	11830	13700	15560	16810	17430	35.00	
7830	11390	12810	13430	15130	16740	17770	18260	7430	10800	12150	12830	14850	16880	18230	18900	38.00	
8490	12350	13890	14660	16980	19300	20840	21560	8110	11800	13280	14010	16230	18440	19910	20650	41.00	
8940	13010	14640	15450	17890	20330	21950	22770	8590	12500	14060	14840	17190	19530	21090	21880	42.70	
2890	3400	3610	3710	3920	4050	4080	4080	4140	6020	6780	7150	8280	9410	10160	10540	26.40	7 5/8
3910	4790	5030	5130	5350	5670	5850	5930	4730	6890	7750	8180	9470	10760	11620	12050	29.70	193.68
5100	6560	7050	7270	7870	8340	8580	8690	5430	7900	8880	9380	10860	12340	13320	13820	33.70	
5850	7690	8330	8640	9480	10200	10620	10800	5870	8540	9600	10140	11740	13340	14410	14940	35.80	
6610	8820	9610	10000	11080	12060	12650	12920	6310	9180	10330	10900	12620	14340	15490	16070	39.00	
7510	10820	11890	12410	13930	15350	16240	16680	7090	10320	11610	12250	14190	16120	17410	18060	42.80	
7910	11510	12950	13670	15440	17100	18160	18670	7510	10920	12290	12970	15020	17070	18440	19120	45.30	
7800	11340	12750	13320	15000	16600	17600	18090	7390	10750	12090	12760	14780	16790	18140	18810	46.10	7 3/4
8160	11860	13350	14090	16310	18160	19320	19880	7760	11290	12700	13410	15520	17640	19050	19760	47.60	196.85
8330	12120	13640	14390	16670	18940	20170	20770	7950	11560	13010	13730	15900	18060	19510	20230	48.60	
1880	2160	2210	2210	2210	2210	2210	2210	3390	4930	5550	5860	6780	7710	8330	8640	28.00	8 5/8
2530	3040	3220	3280	3420	3470	3470	3470	3930	5710	6430	6780	7860	8930	9640	10000	32.00	219.08
3450	4100	4250	4360	4680	4930	5050	5080	4460	6490	7300	7710	8930	10140	10960	11360	36.00	
4400	5530	5870	6020	6400	6640	6720	6830	5020	7300	8220	8670	10040	11410	12330	12780	40.00	
5360	6950	7490	7740	8420	8980	9280	9410	5580	8120	9130	9640	11160	12680	13700	14200	44.00	
6440	8570	9340	9700	10740	11660	12210	12460	6220	9040	10170	10740	12430	14130	15260	15820	49.00	
7060	9660	10570	11010	12280	13440	14160	14500	6640	9660	10870	11470	13280	15090	16300	16900	52.00	
2020	2370	2450	2470	2470	2470	2470	2470	3520	5120	5760	6080	7040	8000	8640	8960	36.00	9 5/8
2570	3080	3260	3330	3470	3530	3530	3530	3950	5750	6460	6820	7900	8980	9700	10050	40.00	244.48
3250	3810	4010	4130	4410	4620	4710	4730	4350	6330	7120	7510	8700	9890	10680	11070	43.50	
3890	4760	4990	5090	5300	5630	5820	5880	4720	6870	7720	8150	9440	10730	11590	12010	47.00	
5130	6620	7110	7340	7950	8440	8690	8790	5450	7930	8920	9410	10900	12390	13380	13870	53.50	
5990	7900	8560	8880	9770	10540	10980	11190	5590	8650	9740	10280	11900	13520	14600	15150	58.40	
6230	8250	8970	9320	10280	11130	11630	11860	6090	8860	9970	10520	12180	13840	14950	15500	59.40	
6500	8660	9440	9810	10860	11800	12360	12630	6250	9090	10230	10800	12500	14200	15340	15910	61.10	
6230	8260	8980	9320	10290	11140	11640	11870	6090	8860	9970	10520	12180	13840	14950	15510	62.80	9 7/8
6830	9150	10000	10400	11560	12610	13250	13550	6440	9370	10540	11130	12890	14640	15810	16400	66.40	250.83
7440	10620	11670	12180	13650	15030	15900	16310	7020	10210	11480	12120	14040	15950	17230	17860	70.50	
1580	1730	1730	1730	1730	1730	1730	1730	3130	4560	5130	5410	6270	7120	7690	7980	40.50	10 3/4
2090	2470	2560	2590	2610	2610	2610	2610	3580	5210	5860	6190	7160	8140	8790	9120	45.50	273.05
2700	3210	3410	3490	3660	3740	3750	3750	4030	5860	6590	6960	8060	9160	9890	10260	51.00	
3390	4020	4170	4290	4610	4850	4960	4990	4430	6450	7250	7660	8860	10070	10880	11280	55.50	
4160	5160	5460	5580	5880	6070	6300	6390	4880	7100	7980	8430	9760	11090	11980	12420	60.70	
4920	6310	6760	6960	7510	7920	8120	8200	5330	7750	8720	9200	10650	12110	13080	13560	65.70	
1510	1630	1630	1630	1630	1630	1630	1630	3070	4470	5030	5310	6140	6980	7540	7820	47.00	11 3/4
2070	2440	2530	2550	2570	2570	2570	2570	3560	5180	5830	6150	7130	8100	8750	9070	54.00	298.45
2660	3170	3360	3440	4700	3680	3680	3680	4010	5830	6550	6920	8010	9100	9830	10200	60.00	
3290	3870	4060	4180	4470	4690	4780	4800	4370	6360	7160	7560	8750	9940	10740	11130	65.00	
3880	4750	4980	5080	5290	5630	5810	5880	4720	6860	7720	8150	9430	10720	11580	12010	71.80	
1130	1140	1140	1140	1140	1140	1140	1140	2730	3980	4470	4720	5470	6210	6710	6960	54.50	13 3/8
1540	1670	1670	1670	1670	1670	1670	1670	3090	4500	5060	5340	6190	7030	7600	7880	61.00	339.73
1950	2260	2320	2330	2330	2330	2330	2330	3450	5020	5650	5970	6910	7850	8480	8790	68.00	
2230	2660	2790	2820	2880	2880	2880	2880	3700	5380	6050	6390	7400	8410	9080	9420	72.00	
2580	3090	3270	3340	3490	3550	3550	3550	3960	5760	6480	6840	7920	9000	9710	10070	77.00	
2950	3450	3680	3780	4000	4140	4180	4180	4170	6070	6830	7210	8350	9490	10240	10620	80.70	
3300	3880	4060	4180	4470	4690	4790	4810	4380	6360	7160	7560	8750	9940	10740	11140	85.00	
3510	4190	4350	4420	4760	5030	5150	5190	4500	6540	7360	7770	9000	10220	11040	11450	86.00	

* Coupling CCS = Coupling Critical Cross Section

1 ksi = 1000 psi
1 psi = 0.006895 Mpa
0.06895 bar

Our worldwide network for your success



VALLOUREC MANNESMANN OIL & GAS FRANCE

Sales and Technical Sales
130, rue de Silly
92100 Boulogne-Billancourt
France
Phone +33 1 49093586
Fax +33 1 49093713

VALLOUREC MANNESMANN OIL & GAS GERMANY GmbH

Sales and Technical Sales
Theodorstrasse 90
40472 Düsseldorf
Germany
Phone +49 211 960-0
Fax +49 211 960-3924

VALLOUREC MANNESMANN OIL & GAS UK Ltd.

Ocean Spirit House, Prospect Point
33 Waterloo Quay
Aberdeen, UK AB11 5BS
Phone +44 1224 564000
Fax +44 1224 564007

VALLOUREC & MANNESMANN TUBES CORP.

1990 Post Oak Blvd, Suite 1400
Houston, TX 77056-3813, USA
Phone +1 713 4793200
Fax +1 713 4793201

VAM PTS

19210 Hardy Road
Houston, TX 77073
USA
Phone +1 281 8215510
Fax +1 281 8217760

V&M STAR

8603 Sheldon Road
Houston, TX 77049, USA
Phone +1 281 4566000
Fax +1 281 4567247

VAM PC

1800, 444 – 5th Avenue SW
Calgary, Alberta
Canada T2P 2T8
Phone +1 403 2330119
Fax +1 403 2662332

PRINVER

Av. Framboyantes Lote 6, Manzana 5
Cd. ind. Bruno Pagliai
Tejeria, Vera Cruz
CP 91697
Phone +52 29 898727
Fax +52 29 898734

V & M do BRASIL

Rua Lauro Müller 116 – Sala 2508
Botafogo 22290-160
Rio de Janeiro - RJ
Brazil
Phone +55 21 38738300
Fax +55 21 38738316

VAM Field Service International

Ocean Spirit House, Prospect Point
33 Waterloo Quay
Aberdeen, UK AB11 5BS
Phone +44 1224 585331
Fax +44 1224 583491

VALLOUREC MANNESMANN OIL & GAS

Middle East Office
World Trade Center
6th Floor, suite 604
P.O. Box 9405
Dubai, U.A.E.
Phone +971 4 329 16 18
Fax +971 4 329 16 22

VAM FAR EAST PTE Ltd.

593 Havelock Road #01-03
Isetan Office Building
Singapore 169641
Phone +65 6736 23 72
Fax +65 6235 11 26

VAM SERVICES

Licensee Network
OCTG Division
21-23 rue de Leval
59620 Aulnoye Aymeries
France
Phone +33 3 27696615
Fax +33 3 27664575



Procedure to get CDS (Connection Data Sheet) on the website:

Click anywhere in the picture. Click [Product Catalogue](#) / pipe and VAM connection data. Click the appropriate combination of size/connection. Click on [Internet](#). Under "Make-up properties", click on **CDS**.

www.vamservices.com



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