



VArOUGHneck®

Customized for rotating operations



PERFORMANCE IN TUBULARS

Our world is based on high tech seamless pipes that can withstand the toughest conditions, day in, day out. We promise highest performance based on the core values customization, innovation and sustainability.



CUSTOMIZATION



INNOVATION



SUSTAINABILITY

PRODUCTION, R&D, SALES LOCATIONS AND LICENSEES



Find your closest contact:
www.voestalpine.com/tubulars/en/Contact/sales/



Follow us
on social Media!



DESIGN CHARACTERISTICS

voestalpine Tubulars Proprietary Connections like VAroughneck® offer benefits which are not addressed by the API specification or exceed the API standards.



PRODUCT CHARACTERISTICS & CUSTOMER BENEFITS

STRONG CONNECTION » ENSURES WELL INTEGRITY

The connection minimizes the risk of jump out failures under bending loads. In addition, with at least twice the torque transfer compared to API connections, VAroughneck® is suitable for deviated wells, drilling with casing operations or the completion of extended reach wells.

ROTATION DURING INSTALLATION » IMPROVES QUALITY OF CEMENT BOND

The thread design offers the opportunity to rotate the casing string during installation. Due to the thread profile, the connection is able to handle axial loads without inducing high radial forces to pin and box.

SMOOTH INTERNAL PROFILE » MINIMIZES TURBULENCES

The flush internal profile minimizes turbulences and provides good conditions for internal pipe coating.

COMPATIBILITY WITH API BUTTRESS » SAVES COSTS

With the VAroughneck thread design, the make-up is limited by pin-to-pin contact. VAroughneck® and API Buttress can be made-up together without using a crossover. If specific parts of the string require higher torque properties, they can be achieved by installing a spacer ring to occupy the J-Distance or by applying a thread locking compound, such as Baker-lok® or Tube-Lok.



GRADES

VAroughneck® is available in API standard and proprietary grades. Also tailor-made customer specifications can be fulfilled upon request.

Our tools in manufacturing the VA series include but are not limited to

- » Steel with special chemical composition
- » Unique melting, refining and casting practices
- » Controlled processes in the pipe rolling, heat treatment, straightening and end finishing operations
- » Tighter tolerances
- » Restricted mechanical properties
- » Special testing and inspection methods

Some of the product names explain the application, e.g. deep well, sour service, low temperature.

The applications for other grades are defined as follows:

- » **VA-High Collapse-Series**
for use in high external pressure environments
- » **VA-Mild Sweet Gas-Series**
for mildly corrosive environments where – in combination with an adequate inhibition program – a higher corrosion resistance can be expected compared to regular API grades

Specified Minimum Yield Strength [psi]	Grade API Spec 5CT	HIGH COLLAPSE	ENHANCED PROPERTIES
55,000	J55		
	K55		
75,000			
80,000	N80-Q	VA-HC-N80-Q	VA-EP-N80-Q
	L80-1	VA-HC-L80-1	VA-EP-L80-1
90,000	C90-1	VA-HC-C90-1	VA-EP-C90-1
95,000	R95	VA-HC-R95	VA-EP-R95
	T95-1	VA-HC-T95-1	VA-EP-T95-1
110,000	C110	VA-HC-C110	VA-EP-C110
	P110	VA-HC-P110	VA-EP-P110
125,000	Q125-1	VA-HC-Q125-1	VA-EP-Q125-1
140,000			
150,000			

On request in combination with:



PROPRIETARY GRADES – THE VA SERIES

EXTREME PROPERTIES	SOUR SERVICE			DEEP WELL		LOW TEMPERATURE	MILD SWEET GAS	MILD SWEET GAS
		with High Collapse	with Enhanced Properties		with High Collapse		Ferrite Pearlite	Quenched & Tempered
						VA-LT-J55	VA-FP-55-1CR	
						VA-LT-K55		
							VA-FP-75-1CR	
VA-XP-N80-Q						VA-LT-N80-Q	VA-FP-80-1CR	
VA-XP-L80-1						VA-LT-L80-1		VA-L80-1-1CR/VA-L80-1-3CR
	VA-SS-80	VA-SS-80-HC	VA-SS-80-EP					
VA-XP-C90-1						VA-LT-C90-1		
	VA-SS-90	VA-SS-90-HC	VA-SS-90-EP					
VA-XP-R95						VA-LT-R95		
VA-XP-T95-1						VA-LT-T95-1		
	VA-SS-95	VA-SS-95-HC	VA-SS-95-EP					
						VA-LT-C110		
	VA-SS-110	VA-SS-110-HC	VA-SS-110-EP					
	VA-S-110	VA-S-110-HC	VA-S-110-EP					
VA-XP-P110						VA-LT-P110		VA-P110-1CR/VA-P110-3CR
VA-XP-Q125-1						VA-LT-Q125-1		
	VA-S-125	VA-S-125-HC	VA-S-125-EP	VA-D-125	VA-D-125-HC			
				VA-D-140	VA-D-140-HC			
				VA-D-150	VA-D-150-HC			

LOW TEMPERATURE

EP/XP

DIMENSIONS

PIPE OUTSIDE DIAMETER	NOMINAL WEIGHT		WALL THICKNESS		INSIDE DIAMETER		DRIFT DIAMETER			
	inch/mm	lb/ft	kg/m	inch	mm	inch	mm	inch		mm
4 1/2" 114.30		10.50	15.63	0.224	5.69	4.052	102.92	3.927	99.75	
		11.60	17.26	0.250	6.35	4.000	101.60	3.875	98.43	
		12.60	18.75	0.271	6.88	3.958	100.53	3.833	97.36	
		13.50	20.09	0.290	7.37	3.920	99.57	3.795	96.39	
		15.10	22.47	0.337	8.56	3.826	97.18	3.701	94.01	
5" 127.00		15.00	22.32	0.296	7.52	4.408	111.96	4.283	108.79	
		18.00	26.79	0.362	9.19	4.276	108.61	4.151	105.44	
		21.40	31.85	0.437	11.10	4.126	104.80	4.001	101.63	
		23.20	34.53	0.478	12.14	4.044	102.72	3.919	99.54	
		24.10	35.86	0.500	12.70	4.000	101.60	3.875	98.43	
5 1/2" 139.70		17.00	25.30	0.304	7.72	4.892	124.26	4.767	121.08	
		20.00	29.76	0.361	9.17	4.778	121.36	4.653	118.19	
		23.00	34.23	0.415	10.54	4.670	118.62	4.545	115.44	
		26.00	38.69	0.476	12.09	4.548	115.52	4.423	112.34	
6 5/8" 168.28		20.00	29.76	0.288	7.32	6.049	153.64	5.924	150.47	
		24.00	35.72	0.352	8.94	5.921	150.39	5.796	147.22	
		28.00	41.67	0.417	10.59	5.791	147.09	5.666	143.92	
		32.00	47.62	0.475	12.06	5.675	144.15	5.550	140.97	
7" 177.80		23.00	34.23	0.317	8.05	6.366	161.70	6.241	158.52	
		26.00	38.69	0.362	9.19	6.276	159.41	6.151	156.24	
		29.00	43.16	0.408	10.36	6.184	157.07	6.059	153.90	
		32.00	47.62	0.453	11.51	6.094	154.79	5.969	151.61	
		35.00	52.09	0.498	12.65	6.004	152.50	5.879	149.33	
7 5/8" 193.68		26.40	39.54	0.328	8.33	6.969	177.02	6.844	173.84	
		29.70	44.70	0.375	9.52	6.875	174.64	6.750	171.45	
		33.70	50.68	0.430	10.92	6.765	171.84	6.640	168.66	
		39.00	58.12	0.500	12.70	6.625	168.28	6.500	165.10	
		42.80	64.60	0.562	14.27	6.501	165.14	6.376	161.95	
		45.30	68.00	0.595	15.11	6.435	163.46	6.310	160.27	

VAroughneck® accessories are available on request. The values shown are based on T&C pipe lengths of L = 10.0 m (32.81 ft).

Other dimensions and 20° beveled couplings are available on request.

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

COUPLING LENGTH		COUPLING OUTSIDE DIAMETER		VOLUME				MAKE UP LOSS	
				DISPLACEMENT		PRODUCTION			
inch	mm	inch	mm	us gal/ft	lit/m	us gal/ft	lit/m	inch	mm
8.583	218.00	5.000	127.00	0.830	10.31	0.670	8.32	4.173	106.00
8.583	218.00	5.000	127.00	0.830	10.31	0.653	8.11	4.173	106.00
8.583	218.00	5.000	127.00	0.830	10.31	0.639	7.94	4.173	106.00
8.583	218.00	5.000	127.00	0.830	10.31	0.627	7.79	4.173	106.00
8.583	218.00	5.201	132.10	0.833	10.34	0.598	7.42	4.173	106.00
8.858	225.00	5.563	141.30	1.026	12.74	0.792	9.84	4.311	109.50
8.858	225.00	5.563	141.30	1.026	12.74	0.746	9.26	4.311	109.50
8.858	225.00	5.748	146.00	1.028	12.76	0.695	8.63	4.311	109.50
8.858	225.00	5.748	146.00	1.028	12.76	0.668	8.29	4.311	109.50
8.858	225.00	5.748	146.00	1.028	12.76	0.653	8.11	4.311	109.50
8.976	228.00	6.051	153.70	1.240	15.40	0.977	12.13	4.370	111.00
8.976	228.00	6.051	153.70	1.240	15.40	0.932	11.57	4.370	111.00
8.976	228.00	6.260	159.00	1.243	15.43	0.890	11.05	4.370	111.00
8.976	228.00	6.260	159.00	1.243	15.43	0.844	10.48	4.370	111.00
9.350	237.50	7.390	187.70	1.802	22.38	1.493	18.54	4.557	115.75
9.350	237.50	7.390	187.70	1.802	22.38	1.430	17.76	4.557	115.75
9.350	237.50	7.390	187.70	1.802	22.38	1.368	16.99	4.557	115.75
9.350	237.50	7.390	187.70	1.802	22.38	1.314	16.32	4.557	115.75
9.724	247.00	7.874	200.00	2.012	24.99	1.654	20.54	4.744	120.50
9.724	247.00	7.874	200.00	2.012	24.99	1.607	19.96	4.744	120.50
9.724	247.00	7.874	200.00	2.012	24.99	1.561	19.38	4.744	120.50
9.724	247.00	7.874	200.00	2.012	24.99	1.516	18.82	4.744	120.50
9.724	247.00	7.874	200.00	2.012	24.99	1.471	18.27	4.744	120.50
10.098	256.50	8.500	215.90	2.387	29.65	1.981	24.61	4.933	125.30
10.098	256.50	8.500	215.90	2.387	29.65	1.929	23.95	4.933	125.30
10.098	256.50	8.500	215.90	2.387	29.65	1.867	23.19	4.933	125.30
10.098	256.50	8.500	215.90	2.387	29.65	1.791	22.24	4.933	125.30
10.098	256.50	8.500	215.90	2.387	29.65	1.724	21.42	4.933	125.30
10.098	256.50	8.500	215.90	2.387	29.65	1.690	20.98	4.933	125.30

PERFORMANCE PROPERTIES

(METRIC UNITS)

PIPE OUTSIDE DIAMETER	NOMINAL WEIGHT	WALL THICKNESS	GRADE 55							GRADE 80						
			Pi	Pc	Sy	Su	L	B	Ty	Pi	Pc	Sy	Su	L	B	Ty
inch/mm	lb/ft	mm	MPa	MPa	kN	kN	kN	°/30.48m	Nm	MPa	MPa	kN	kN	kN	°/30.48m	Nm
4 1/2" 114.30	10.50	5.69	33.00	27.60	736	902	568	49	6000	48.10	34.10	1072	1166	827	72	7800
	11.60	6.35	36.80	34.20	816	1000	568		7100	53.70	43.80	1189	1293	827		9200
	12.60	6.88	39.90	39.50	880	1078	568		7600	58.10	51.70	1282	1394	827		9900
	13.50	7.37	42.80	44.30	938	1150	568		8400	62.30	58.90	1367	1487	827		11000
	15.10	8.56	49.70	52.50	1078	1321	959		10600	72.30	76.40	1570	1708	1397		13900
5" 127.00	15.00	7.52	39.30	38.30	1070	1301	760	44	10000	57.20	50.00	1558	1687	1107	65	13600
	18.00	9.19	46.10	50.90	1289	1568	760		12900	67.10	72.40	1878	2033	1107		17600
	21.40	11.10	56.80	60.50	1533	1863	1160		16800	82.70	88.00	2233	2415	1690		22900
	23.20	12.14	56.80	65.60	1660	2020	1160		18700	82.70	95.40	2418	2618	1690		25600
	24.10	12.70	56.80	68.30	1728	2103	1160		19700	82.70	99.30	2517	2725	1690		27000
5 1/2" 139.70	17.00	7.72	36.70	33.90	1213	1465	804	40	13400	53.40	43.40	1767	1903	1171	59	17600
	20.00	9.17	42.20	45.60	1425	1721	804		16600	61.50	60.90	2076	2236	1171		22000
	23.00	10.54	50.00	52.90	1621	1957	1295		20100	72.90	77.00	2361	2543	1886		26500
	26.00	12.09	53.50	60.00	1837	2218	1295		23500	77.90	87.20	2675	2882	1886		31200
6 3/8" 168.28	20.00	7.32	28.80	20.50	1403	1666	1551	33	15300	42.00	24.00	2043	2177	2259	49	21000
	24.00	8.94	35.20	31.40	1696	2014	1551		20700	51.30	39.70	2471	2632	2259		28800
	28.00	10.59	41.70	42.60	1989	2361	1551		25500	60.80	56.40	2896	3085	2259		34900
	32.00	12.06	46.10	50.50	2244	2664	1551		30100	67.20	71.20	3268	3481	2259		41300
7" 177.80	23.00	8.05	30.00	22.50	1627	1921	1963	31	19200	43.70	26.40	2370	2515	2859	46	26200
	26.00	9.19	34.30	29.80	1845	2178	1963		23000	49.90	37.30	2687	2852	2859		31500
	29.00	10.36	38.60	37.30	2065	2438	1963		27500	56.30	48.50	3008	3192	2859		37700
	32.00	11.51	42.90	44.60	2279	2690	1963		31800	62.50	59.40	3319	3522	2859		43800
	35.00	12.65	47.20	50.10	2487	2937	1963		36000	68.70	70.20	3623	3845	2859		49700
7 3/8" 193.68	26.40	8.33	28.50	19.90	1842	2150	2129	29	24800	41.50	23.40	2678	2823	3101	42	32800
	29.70	9.53	32.60	27.00	2091	2441	2129		30000	47.50	33.00	3038	3206	3101		39900
	33.70	10.92	37.40	35.20	2380	2779	2129		36300	54.50	45.20	3461	3650	3101		48500
	39.00	12.70	43.50	45.60	2740	3200	2129		43900	63.30	60.80	3981	4203	3101		59000
	42.80	14.27	46.00	51.80	3051	3565	2129		50600	67.10	74.50	4439	4682	3101		68300
	45.30	15.11	46.00	54.50	3171	3757	2129		54100	67.10	79.40	4610	4934	3101		73100

PIPE OUTSIDE DIAMETER	NOMINAL WEIGHT	WALL THICKNESS	GRADE 110							GRADE 125						
			Pi	Pc	Sy	Su	L	B	Ty	Pi	Pc	Sy	Su	L	B	Ty
inch/mm	lb/ft	mm	MPa	MPa	kN	kN	kN	°/30.48m	Nm	MPa	MPa	kN	kN	kN	°/30.48m	Nm
4 1/2" 114.30	10.50	5.69	66.00	38.30	1472	1545	1136	99	9800	75.10	40.20	1674	1683	1292	112	10300
	11.60	6.35	73.70	52.30	1632	1714	1136		11600	83.80	55.20	1856	1867	1292		12300
	12.60	6.88	79.80	63.50	1760	1848	1136		12400	90.80	68.20	2001	2012	1292		13200
	13.50	7.37	85.50	73.70	1877	1970	1136		13800	97.30	80.20	2134	2146	1292		14700
	15.10	8.56	99.30	98.90	2155	2263	1918		17600	113.00	109.20	2451	2465	2182		18600
5" 127.00	15.00	7.52	78.50	61.00	2140	2237	1520	89	17500	89.30	65.40	2433	2439	1729	101	18800
	18.00	9.19	92.20	92.90	2578	2695	1520		22800	104.80	102.20	2932	2939	1729		24500
	21.40	11.10	113.60	121.00	3066	3203	2320		29800	129.20	137.50	3487	3492	2638		32000
	23.20	12.14	113.60	131.20	3321	3471	2320		33300	129.20	149.00	3776	3785	2638		35800
	24.10	12.70	113.60	136.50	3457	3614	2320		35200	129.20	155.10	3931	3940	2638		37800
5 1/2" 139.70	17.00	7.72	73.30	51.60	2426	2526	1608	81	22200	83.40	54.40	2757	2757	1829	92	23600
	20.00	9.17	84.50	76.60	2850	2967	1608		27900	96.00	83.30	3239	3239	1829		29800
	23.00	10.54	100.10	100.30	3242	3375	2590		33600	113.80	110.70	3683	3683	2945		35800
	26.00	12.09	106.90	119.90	3674	3825	2590		39700	121.60	136.30	4174	4174	2945		42400
6 3/8" 168.28	20.00	7.32	57.70	27.80	2806	2894	3102	67	26700	65.60	28.70	3165	3165	3528	76	28600
	24.00	8.94	70.50	46.40	3393	3499	3102		36500	80.10	48.40	3827	3827	3528		39200
	28.00	10.59	83.50	70.10	3977	4101	3102		45300	94.90	75.80	4486	4486	3528		48600
	32.00	12.06	92.20	91.20	4487	4627	3102		53700	104.90	100.30	5062	5062	3528		57700

GRADE 90								GRADE 95						
Pi	Pc	Sy	Su	L	B	Ty	Pi	Pc	Sy	Su	L	B	Ty	
MPa	MPa	kN	kN	kN	%/30.48m	Nm	MPa	MPa	kN	kN	kN	%/30.48m	Nm	
54.10	35.80	1206	1240	931	81	8500	57.10	36.60	1272	1304	982	85	8800	
60.40	47.00	1337	1375	931		10000	63.70	48.40	1411	1446	982		10500	
65.40	56.00	1442	1483	931		10800	69.00	58.00	1521	1559	982		11200	
70.10	64.10	1537	1581	931		11900	73.90	66.60	1622	1662	982		12500	
81.40	84.20	1766	1816	1572		15200	85.80	88.00	1863	1909	1658		15900	
64.30	54.00	1753	1796	1246	73	14900	67.90	55.90	1849	1888	1314	77	15700	
75.50	79.40	2112	2164	1246		19400	79.60	82.90	2228	2276	1314		20400	
93.10	99.00	2512	2571	1901		25300	98.20	104.50	2649	2704	2005		26500	
93.10	107.30	2720	2787	1901		28200	98.20	113.30	2869	2931	2005		29700	
93.10	111.70	2832	2901	1901		29800	98.20	117.90	2987	3051	2005		31300	
60.10	46.40	1988	2029	1317	66	19200	63.30	47.90	2097	2134	1389	70	20000	
69.20	66.40	2335	2384	1317		24000	73.00	69.10	2463	2507	1389		25200	
82.00	85.30	2656	2711	2122		28900	86.50	89.20	2801	2851	2238		30300	
87.60	98.10	3010	3072	2122		34100	92.40	103.60	3175	3231	2238		35700	
47.30	25.50	2299	2327	2542	55	22800	49.90	26.20	2425	2447	2681	58	23900	
57.70	42.30	2779	2813	2542		31100	60.90	43.50	2932	2959	2681		32600	
68.40	61.20	3258	3298	2542		38400	72.10	63.60	3437	3469	2681		40400	
75.60	78.10	3676	3721	2542		45500	79.70	81.50	3877	3914	2681		47800	
49.20	27.80	2666	2691	3216	52	28900	51.90	28.60	2812	2830	3393	55	30400	
56.20	39.60	3023	3051	3216		34700	59.20	40.60	3189	3209	3393		36500	
63.30	52.20	3384	3416	3216		41600	66.80	54.00	3570	3593	3393		43700	
70.40	64.60	3734	3769	3216		48300	74.20	67.20	3939	3964	3393		50800	
77.30	77.00	4076	4114	3216		54900	81.60	80.30	4299	4327	3393		57700	
46.70	24.90	3011	3026	3489	48	35800	49.30	25.60	3176	3183	3680	50	37400	
53.40	34.70	3421	3436	3489		43600	56.30	35.40	3608	3615	3680		45600	
61.30	48.60	3892	3912	3489		53100	64.60	50.20	4106	4115	3680		55600	
71.30	66.30	4479	4505	3489		64700	75.20	68.90	4728	4739	3680		67800	
75.40	82.00	4991	5018	3489		75000	79.60	85.60	5271	5278	3680		78600	
75.40	89.30	5188	5288	3489		80300	79.60	94.20	5473	5563	3680		84200	

PIPE OUTSIDE DIAMETER	NOMINAL WEIGHT	WALL THICKNESS	GRADE 110							GRADE 125						
			Pi	Pc	Sy	Su	L	B	Ty	Pi	Pc	Sy	Su	L	B	Ty
inch/mm	lb/ft	mm	MPa	MPa	kN	kN	kN	%/30.48m	Nm	MPa	MPa	kN	kN	kN	%/30.48m	Nm
7" 177.80	23.00	8.05	60.10	30.60	3254	3345	3926	63	34000	68.30	32.00	3662	3662	4465	72	36500
	26.00	9.19	68.60	43.00	3690	3793	3926		41000	78.00	44.50	4152	4152	4465		44000
	29.00	10.36	77.30	58.80	4131	4246	3926		49100	87.90	62.80	4649	4649	4465		52800
	32.00	11.51	85.90	74.30	4558	4685	3926		57100	97.70	80.80	5129	5129	4465		61400
	35.00	12.65	94.40	89.90	4975	5114	3926		64900	107.30	98.70	5598	5598	4465		69900
7 5/8" 193.68	26.40	8.33	57.10	27.00	3679	3760	4258	58	41500	64.90	27.90	4181	4121	4843	66	44200
	29.70	9.53	65.20	36.90	4181	4269	4258		50700	74.10	39.10	4751	4679	4843		54000
	33.70	10.92	74.80	54.30	4755	4860	4258		62000	85.10	57.60	5405	5327	4843		66200
	39.00	12.70	87.00	76.40	5476	5597	4258		75700	98.90	83.20	6223	6135	4843		80900
	42.80	14.27	92.10	96.00	6103	6234	4258		87800	104.70	105.80	6935	6833	4843		94000
	45.30	15.11	92.10	106.40	6342	6570	4258		94100	104.70	117.80	7206	7201	4843		100800

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

- Pi ... internal yield pressure
- Pc ... collapse pressure
- Sy ... joint yield strength
- Su ... joint ultimate strength - API joint strength (calculation according to API 5C3)
- L ... max. load on coupling face
- B ... max. bending (uniaxial)
- Ty ... connection yield torque

Other grades on request.

PERFORMANCE PROPERTIES

(US CUSTOMARY UNITS)

PIPE OUTSIDE DIAMETER	NOMINAL WEIGHT	WALL THICKNESS	GRADE 55							GRADE 80						
			Pi	Pc	Sy	Su	L	B	Ty	Pi	Pc	Sy	Su	L	B	Ty
inch/mm	lb/ft	inch	psi	psi	1000lb	1000lb	1000lb	%/100ft	ft.lb	psi	psi	1000lb	1000lb	1000lb	%/100ft	ft.lb
4 1/2" 114.30	10.50	0.224	4786	4003	165	203	128	49	4450	6976	4946	241	262	186	72	5750
	11.60	0.250	5337	4960	183	225	128		5250	7789	6353	267	291	186		6800
	12.60	0.271	5787	5729	198	242	128		5600	8427	7498	288	313	186		7300
	13.50	0.290	6208	6425	211	259	128		6200	9036	8543	307	334	186		8100
	15.10	0.337	7208	7614	242	297	216		7800	10486	11081	353	384	314		10250
5" 127.00	15.00	0.296	5700	5555	241	292	171	44	7400	8296	7252	350	379	249	65	10050
	18.00	0.362	6686	7382	290	353	171		9500	9732	10501	422	457	249		13000
	21.40	0.437	8238	8775	345	419	261		12400	11995	12763	502	543	380		16900
	23.20	0.478	8238	9514	373	454	261		13800	11995	13837	544	589	380		18900
	24.10	0.500	8238	9906	388	473	261		14550	11995	14402	566	613	380		19900
5 1/2" 139.70	17.00	0.304	5323	4917	273	329	181	40	9900	7745	6295	397	428	263	59	13000
	20.00	0.361	6121	6614	320	387	181		12250	8920	8833	467	503	263		16250
	23.00	0.415	7252	7672	364	440	291		14800	10573	11168	531	572	424		19550
	26.00	0.476	7760	8702	413	499	291		17350	11298	12647	601	648	424		23000
6 3/8" 168.28	20.00	0.288	4177	2973	315	375	349	33	11300	6092	3481	459	489	508	49	15500
	24.00	0.352	5105	4554	381	453	349		15250	7440	5758	556	592	508		21250
	28.00	0.417	6048	6179	447	531	349		18800	8818	8180	651	694	508		25750
	32.00	0.475	6686	7324	504	599	349		22200	9747	10327	735	783	508		30450
7" 177.80	23.00	0.317	4351	3263	366	432	441	31	14150	6338	3829	533	565	643	46	19300
	26.00	0.362	4975	4322	415	490	441		16950	7237	5410	604	641	643		23250
	29.00	0.408	5598	5410	464	548	441		20300	8166	7034	676	718	643		27800
	32.00	0.453	6222	6469	512	605	441		23450	9065	8615	746	792	643		32300
	35.00	0.498	6846	7266	559	660	441		26550	9964	10182	814	864	643		36650
7 3/8" 193.68	26.40	0.328	4130	2890	414	483	479	29	18300	6020	3400	602	635	697	42	24200
	29.70	0.375	4730	3910	470	549	479		22150	6890	4790	683	721	697		29450
	33.70	0.430	5420	5100	535	625	479		26750	7900	6560	778	821	697		35750
	39.00	0.500	6310	6610	616	719	479		32400	9180	8820	895	945	697		43500
	42.80	0.562	6670	7510	686	801	479		37300	9730	10810	998	1053	697		50400
	45.30	0.595	6670	7910	713	845	479		39900	9730	11510	1036	1109	697		53900

PIPE OUTSIDE DIAMETER	NOMINAL WEIGHT	WALL THICKNESS	GRADE 110							GRADE 125						
			Pi	Pc	Sy	Su	L	B	Ty	Pi	Pc	Sy	Su	L	B	Ty
inch/mm	lb/ft	inch	psi	psi	1000lb	1000lb	1000lb	%/100ft	ft.lb	psi	psi	1000lb	1000lb	1000lb	%/100ft	ft.lb
4 1/2" 114.30	10.50	0.224	9572	5555	331	347	255	99	7250	10892	5831	376	378	290	112	7600
	11.60	0.250	10689	7585	367	385	255		8550	12154	8006	417	420	290		9050
	12.60	0.271	11574	9210	396	415	255		9150	13169	9892	450	452	290		9750
	13.50	0.290	12401	10689	422	443	255		10200	14112	11632	480	482	290		10850
	15.10	0.337	14402	14344	484	509	431		13000	16389	15838	551	554	491		13700
5" 127.00	15.00	0.296	11385	8847	481	503	342	89	12900	12952	9485	547	548	389	101	13850
	18.00	0.362	13372	13474	580	606	342		16800	15200	14823	659	661	389		18050
	21.40	0.437	16476	17550	689	720	522		22000	18739	19943	784	785	593		23600
	23.20	0.478	16476	19029	747	780	522		24550	18739	21611	849	851	593		26400
	24.10	0.500	16476	19798	777	812	522		25950	18739	22495	884	886	593		27900
5 1/2" 139.70	17.00	0.304	10631	7484	545	568	361	81	16350	12096	7890	620	620	411	92	17400
	20.00	0.361	12256	11110	641	667	361		20600	13924	12082	728	728	411		22000
	23.00	0.415	14518	14547	729	759	582		24800	16505	16056	828	828	662		26400
	26.00	0.476	15505	17390	826	860	582		29300	17637	19769	938	938	662		31250
6 3/8" 168.28	20.00	0.288	8369	4032	631	651	697	67	19700	9514	4163	712	712	793	76	21100
	24.00	0.352	10225	6730	763	787	697		26900	11618	7020	860	860	793		28900
	28.00	0.417	12111	10167	894	922	697		33400	13764	10994	1008	1008	793		35850
	32.00	0.475	13372	13227	1009	1040	697		39600	15214	14547	1138	1138	793		42550

GRADE 90								GRADE 95						
Pi	Pc	Sy	Su	L	B	Ty	Pi	Pc	Sy	Su	L	B	Ty	
psi	psi	1000lb	1000lb	1000lb	°/100ft	ft.lb	psi	psi	1000lb	1000lb	1000lb	°/100ft	ft.lb	
7847	5192	271	279	209	81	6250	8282	5308	286	293	221	85	6500	
8760	6817	301	309	209		7400	9239	7020	317	325	221		7750	
9485	8122	324	333	209		7950	10008	8412	342	350	221		8250	
10167	9297	346	355	209		8800	10718	9660	365	374	221		9200	
11806	12212	397	408	353		11200	12444	12763	419	429	373		11750	
9326	7832	394	404	280	73	11000	9848	8108	416	424	295	77	11600	
10950	11516	475	486	280		14300	11545	12024	501	512	295		15050	
13503	14359	565	578	427		18650	14243	15156	596	608	451		19550	
13503	15563	611	627	427		20800	14243	16433	645	659	451		21900	
13503	16201	637	652	427		22000	14243	17100	672	686	451		23100	
8717	6730	447	456	296	66	14150	9181	6947	471	480	312	70	14750	
10037	9631	525	536	296		17700	10588	10022	554	564	312		18600	
11893	12372	597	609	477		21300	12546	12937	630	641	503		22350	
12705	14228	677	691	477		25150	13401	15026	714	726	503		26350	
6860	3698	517	523	571	55	16800	7237	3800	545	550	603	58	17650	
8369	6135	625	632	571		22950	8833	6309	659	665	603		24050	
9921	8876	732	741	571		28300	10457	9224	773	780	603		29800	
10965	11327	826	837	571		33550	11560	11821	872	880	603		35250	
7136	4032	599	605	723	52	21300	7527	4148	632	636	763	55	22400	
8151	5743	680	686	723		25600	8586	5889	717	721	763		26900	
9181	7571	761	768	723		30700	9689	7832	803	808	763		32250	
10211	9369	839	847	723		35600	10762	9747	886	891	763		37450	
11211	11168	916	925	723		40500	11835	11647	966	973	763		42550	
6770	3610	677	680	784	48	26400	7150	3710	714	716	827	50	27600	
7750	5040	769	772	784		32150	8170	5140	811	813	827		33650	
8890	7050	875	879	784		39150	9370	7280	923	925	827		41000	
10340	9620	1007	1013	784		47700	10910	10000	1063	1065	827		50000	
10940	11890	1122	1128	784		55300	11540	12410	1185	1187	827		57950	
10940	12950	1166	1189	784		59250	11540	13660	1231	1251	827		62100	

PIPE OUTSIDE DIAMETER	NOMINAL WEIGHT	WALL THICKNESS	GRADE 110							GRADE 125						
			Pi	Pc	Sy	Su	L	B	Ty	Pi	Pc	Sy	Su	L	B	Ty
inch/mm	lb/ft	inch	psi	psi	1000lb	1000lb	1000lb	°/100ft	ft.lb	psi	psi	1000lb	1000lb	1000lb	°/100ft	ft.lb
7" 177.80	23.00	0.317	8717	4438	732	752	883	63	25100	9906	4641	823	823	1004	72	26900
	26.00	0.362	9950	6237	830	853	883		30250	11313	6454	933	933	1004		32450
	29.00	0.408	11211	8528	929	955	883		36200	12749	9108	1045	1045	1004		38950
	32.00	0.453	12459	10776	1025	1053	883		42100	14170	11719	1153	1153	1004		45300
	35.00	0.498	13692	13039	1118	1150	883		47850	15563	14315	1258	1258	1004		51550
7 5/8" 193.68	26.40	0.328	8280	3920	827	845	957	58	30600	9410	4050	940	926	1089	66	32600
	29.70	0.375	9460	5350	940	960	957		37400	10750	5670	1068	1052	1089		39850
	33.70	0.430	10850	7870	1069	1093	957		45750	12340	8350	1215	1198	1089		48850
	39.00	0.500	12620	11080	1231	1258	957		55850	14340	12060	1399	1379	1089		59650
	42.80	0.562	13360	13920	1372	1401	957		64750	15190	15350	1559	1536	1089		69350
	45.30	0.595	13360	15430	1426	1477	957		69400	15190	17090	1620	1619	1089		74350

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

- Pi ... internal yield pressure
- Pc ... collapse pressure
- Sy ... joint yield strength
- Su ... joint ultimate strength - API joint strength (calculation according to API 5C3)
- L ... max. load on coupling face
- B ... max. bending (uniaxial)
- Ty ... connection yield torque

Other grades on request.

MAKE UP TORQUE

RECOMMENDED OPTIMUM MAKE-UP TORQUE FOR REGULAR COUPLINGS

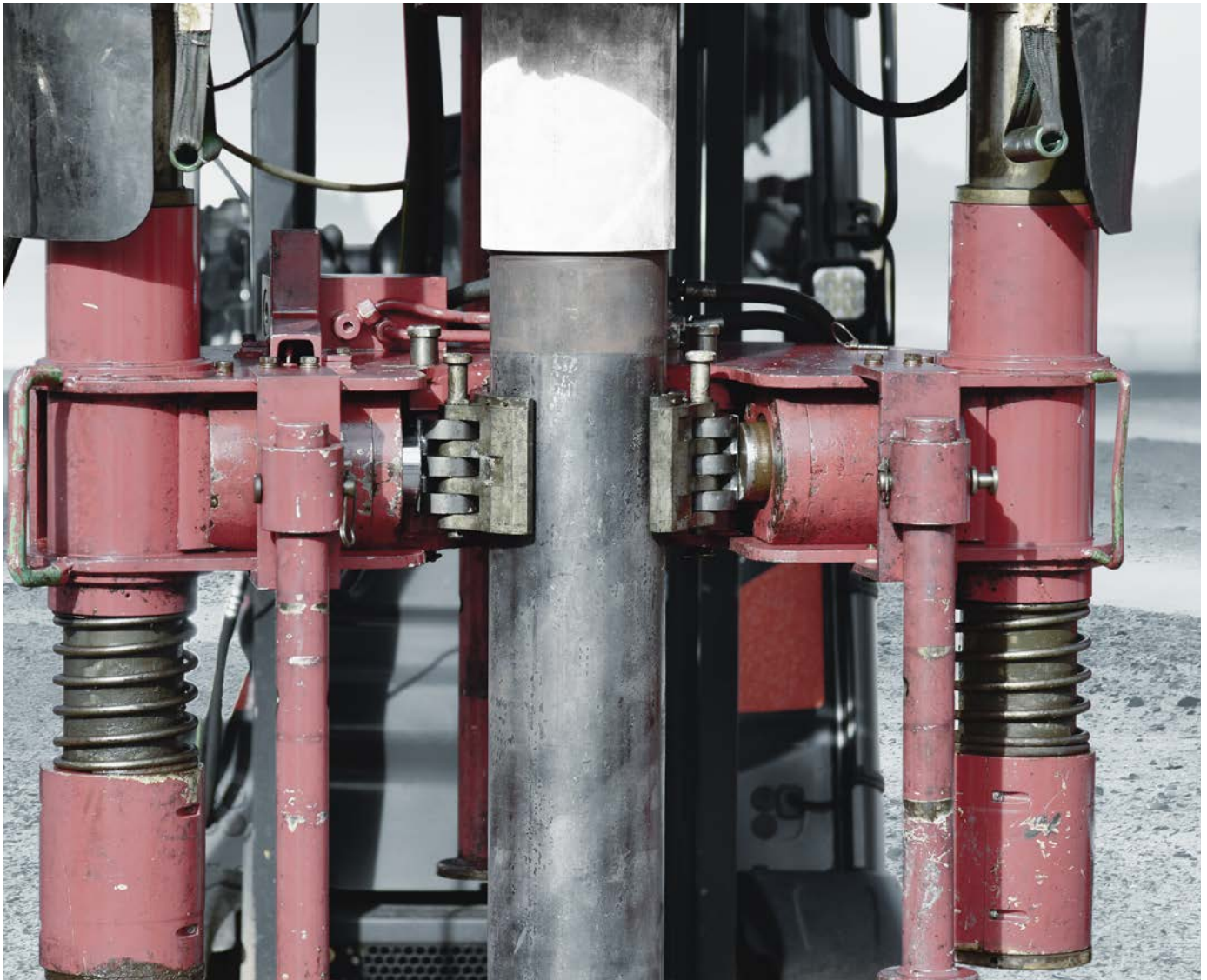
PIPE OUTSIDE DIAMETER	NOMINAL WEIGHT		WALL THICKNESS		RECOMMENDED OPTIMUM MAKE UP TORQUE											
					GRADE 55		GRADE 80		GRADE 90		GRADE 95		GRADE 110		GRADE 125	
inch/mm	lb/ft	kg/m	inch	mm	Nm	ft.lb	Nm	ft.lb	Nm	ft.lb	Nm	ft.lb	Nm	ft.lb	Nm	ft.lb
4 1/2" 114.30	10.50	15.63	0.224	5.69	4800	3540	6240	4600	6800	5020	7040	5190	7840	5780	8240	6080
	11.60	17.26	0.250	6.35	5680	4190	7360	5430	8000	5900	8400	6200	9280	6840	9840	7260
	12.60	18.75	0.271	6.88	6080	4480	7920	5840	8640	6370	8960	6610	9920	7320	10560	7790
	13.50	20.09	0.290	7.37	6720	4960	8800	6490	9520	7020	10000	7380	11040	8140	11760	8670
	15.10	22.47	0.337	8.56	8480	6250	11200	8260	12160	8970	12720	9380	14080	10390	14960	11030
5" 127.00	15.00	22.32	0.296	7.52	8000	5900	10880	8020	11920	8790	12560	9260	14000	10330	15040	11090
	18.00	26.79	0.362	9.19	10320	7610	14080	10390	15520	11450	16320	12040	18240	13450	19600	14460
	21.40	31.85	0.437	11.10	13440	9910	18320	13510	20240	14930	21200	15640	23840	17580	25600	18880
	23.20	34.53	0.478	12.14	14960	11030	20480	15110	22560	16640	23760	17520	26640	19650	28640	21120
	24.10	35.86	0.500	12.70	15760	11620	21600	15930	23840	17580	25040	18470	28160	20770	30240	22300
5 1/2" 139.70	17.00	25.30	0.304	7.72	10720	7910	14080	10390	15360	11330	16000	11800	17760	13100	18880	13930
	20.00	29.76	0.361	9.17	13280	9790	17600	12980	19200	14160	20160	14870	22320	16460	23840	17580
	23.00	34.23	0.415	10.54	16080	11860	21200	15640	23120	17050	24240	17880	26880	19830	28640	21120
	26.00	38.69	0.476	12.09	18800	13870	24960	18410	27280	20120	28560	21070	31760	23430	33920	25020
6 5/8" 168.28	20.00	29.76	0.288	7.32	12240	9030	16800	12390	18240	13450	19120	14100	21360	15750	22880	16880
	24.00	35.72	0.352	8.94	16560	12210	23040	16990	24880	18350	26080	19240	29200	21540	31360	23130
	28.00	41.67	0.417	10.59	20400	15050	27920	20590	30720	22660	32320	23840	36240	26730	38880	28680
	32.00	47.62	0.475	12.06	24080	17760	33040	24370	36400	26850	38240	28200	42960	31690	46160	34050
7" 177.80	23.00	34.23	0.317	8.05	15360	11330	20960	15460	23120	17050	24320	17940	27200	20060	29200	21540
	26.00	38.69	0.362	9.19	18400	13570	25200	18590	27760	20470	29200	21540	32800	24190	35200	25960
	29.00	43.16	0.408	10.36	22000	16230	30160	22250	33280	24550	34960	25790	39280	28970	42240	31160
	32.00	47.62	0.453	11.51	25440	18760	35040	25840	38640	28500	40640	29970	45680	33690	49120	36230
	35.00	52.09	0.498	12.65	28800	21240	39760	29330	43920	32390	46160	34050	51920	38290	55920	41250
7 5/8" 193.68	26.40	39.54	0.328	8.33	19840	14630	26240	19350	28640	21120	29920	22070	33200	24490	35360	26080
	29.70	44.70	0.375	9.53	24000	17700	31920	23540	34880	25730	36480	26910	40560	29920	43200	31860
	33.70	50.68	0.430	10.92	29040	21420	38800	28620	42480	31330	44480	32810	49600	36580	52960	39060
	39.00	58.12	0.500	12.70	35120	25900	47200	34810	51760	38180	54240	40010	60560	44670	64720	47740
	42.80	64.60	0.562	14.27	40480	29860	54640	40300	60000	44250	62880	46380	70240	51810	75200	55470
	45.30	68.00	0.595	15.11	43280	31920	58480	43130	64240	47380	67360	49680	75280	55520	80640	59480

This table shows the values at printing date of this brochure. Actual values available in the Datasheet Generator on our Web Page or in the myTubulars App.

Recommended make-up-torque using a thread compound with a friction factor of 1.0.

Maximum torque: optimum + 10 %
Minimum torque: optimum - 10 %

Special clearance and 20° beveled couplings have a lower load on coupling face.





SERVICES



myTubulars

myTubulars APP PRODUCT DATASHEETS, FIELD SERVICE AND LICENSEES

Generate datasheets and load envelopes containing dimension and performance data for products provided by voestalpine Tubulars with our Datasheet Generator. You can quickly and easily check the product application against field requirements in advance also on your tablet or smartphone by using the myTubulars App.

myTubulars is available for all iOS and Android devices for free in the App stores.

GET THE APP!

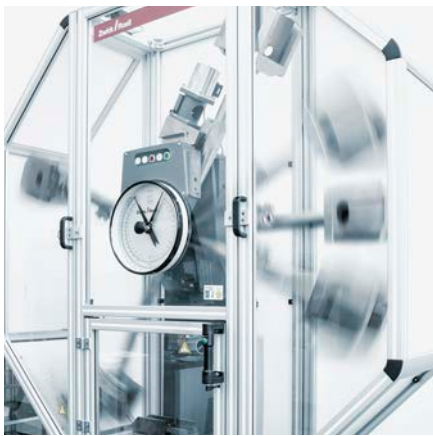


Field Service during the installation can be provided upon request. Please visit the Customer Service site on our web page www.voestalpine.com/tubulars



WHY voestalpine Tubulars?

Support from material and product selection, in-house material and product development, to final product and installation consulting from one source.



PRODUCT DEVELOPMENT



CONNECTION DEVELOPMENT



MATERIAL DEVELOPMENT



PROCESS DEVELOPMENT



PRODUCT SELECTION



FIELD SERVICE

voestalpine Tubulars GmbH & Co KG

Alpinestrasse 17

8652 Kindberg-Aumuehl, Austria

T. +43/50304/23-0

F. +43/50304/63-532

sales@vatubulars.com

www.voestalpine.com/tubulars

voestalpine

ONE STEP AHEAD.