



VAF

The perfect solution
for slim well designs

voestalpine Tubulars GmbH & Co KG
www.voestalpine.com/tubulars

voestalpine

ONE STEP AHEAD.



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



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DESIGN CHARACTERISTICS

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



PRODUCT CHARACTERISTICS & CUSTOMER BENEFITS

METAL TO METAL SEAL » ENSURES WELL INTEGRITY

VAF is manufactured in conformance with the API 5CT standard, the company's proprietary standard and special customer requirements and tested according to ISO13679:2002/API5C5, CAL II. The internal diameter design increases the metal to metal seal's robustness for gas tightness.

HOOKED THREAD FORM » MINIMIZES RISKS

The negative load flank of 5° (hooked thread profile) provides protection against thread jump out under tension, while the 30° stabbing flank guarantees fast, trouble free make-up.

SMOOTH INTERNAL AND EXTERNAL PROFILE » MINIMIZES TURBULENCES

Without any outside diameter upset, this true flush connection is the perfect solution for slim hole designs, workover strings, liners and tiebacks.

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

FAST & EASY MAKE-UP » SAVES RUNNING TIME

The external shoulder provides a positive make-up stop and allows visual confirmation of proper make-up.



GRADES

VAF 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

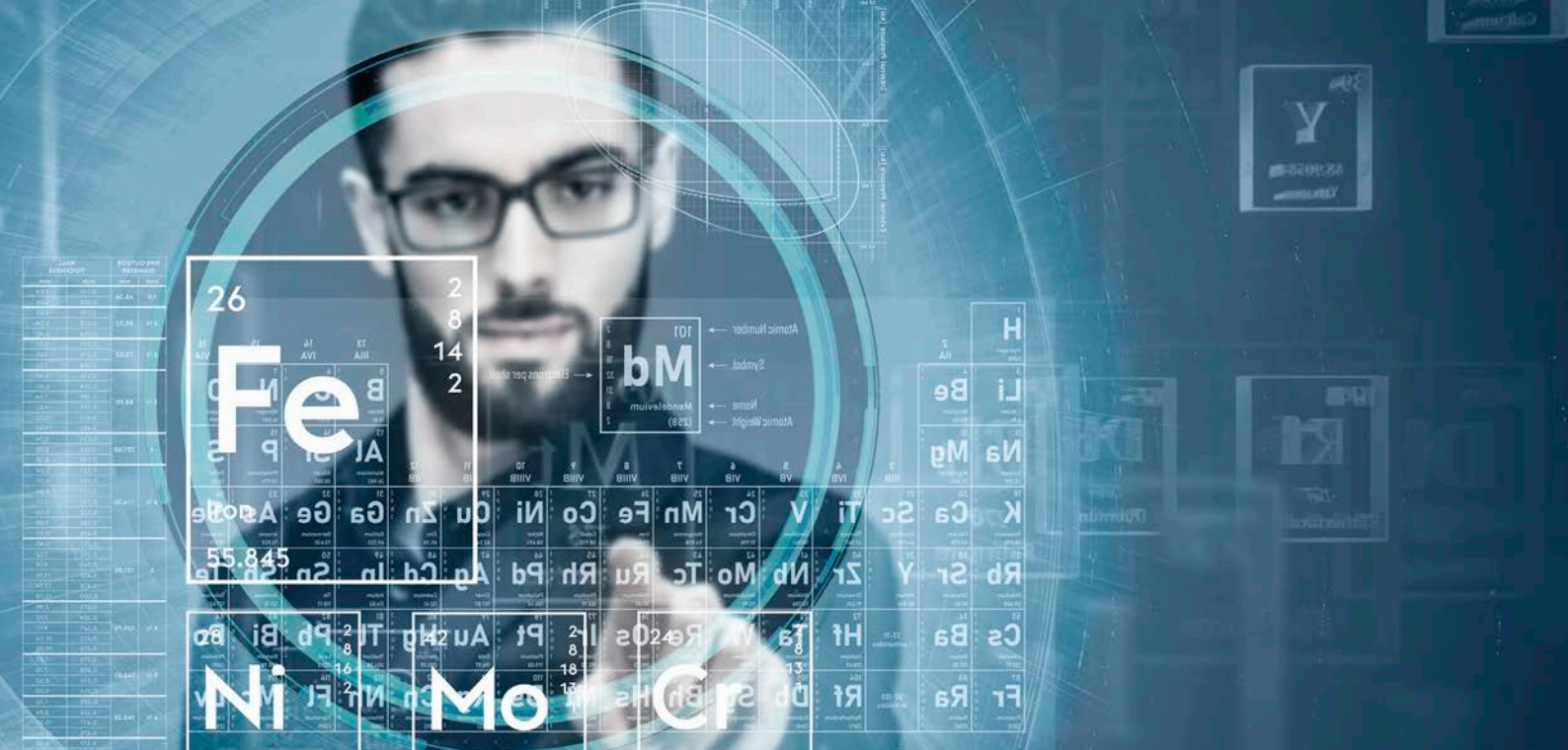
Some of the product names explain the application, e.g. deep well, sour service, low temperature.

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	EXTREME PROPERTIES
55,000	J55			
	K55			
75,000				
80,000	N80-Q	VA-HC-N80-Q	VA-EP-N80-Q	VA-XP-N80-Q
	L80-1	VA-HC-L80-1	VA-EP-L80-1	VA-XP-L80-1
	L80-13Cr			
90,000	C90-1	VA-HC-C90-1	VA-EP-C90-1	VA-XP-C90-1
95,000	R95	VA-HC-R95	VA-EP-R95	VA-XP-R95
	T95-1	VA-HC-T95-1	VA-EP-T95-1	VA-XP-T95-1
110,000	C110	VA-HC-C110	VA-EP-C110	
	P110	VA-HC-P110	VA-EP-P110	VA-XP-P110
125,000	Q125-1	VA-HC-Q125-1	VA-EP-Q125-1	VA-XP-Q125-1
140,000				
150,000				

On request in combination with:



PROPRIETARY GRADES – THE VA SERIES

SOUR SERVICE			DEEP WELL		LOW TEMPERATURE	MILD SWEET GAS	MILD SWEET GAS	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-LT-N80-Q	VA-FP-80-1CR	VA-N80-Q-1CR/VA-N80-Q-3CR	
					VA-LT-L80-1		VA-L80-1-1CR/VA-L80-1-3CR	
VA-SS-80	VA-SS-80-HC	VA-SS-80-EP						
					VA-LT-C90-1			
VA-SS-90	VA-SS-90-HC	VA-SS-90-EP						
					VA-LT-R95		VA-R95-1CR/VA-R95-3CR	
					VA-LT-T95-1			
VA-SS-95	VA-SS-95-HC	VA-SS-95-EP						VA-95-13CR
					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-LT-P110		VA-P110-1CR/VA-P110-3CR	
					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

EP/XP

HC

DIMENSIONS

PIPE OUTSIDE DIAMETER		NOMINAL WEIGHT		WALL THICKNESS		INSIDE DIAMETER	
inch	mm	lb/ft	kg/m	inch	mm	inch	mm
3 ½	88.90	9.20	13.12	0.254	6.45	2.992	76.00
		10.20	14.76	0.289	7.34	2.922	74.22
4	101.60	9.50	13.57	0.226	5.74	3.548	90.12
4 ½	114.30	11.60	16.91	0.250	6.35	4.000	101.60
		12.60	18.24	0.271	6.88	3.958	100.53
5	127.00	15.00	22.16	0.296	7.52	4.408	111.96
		18.00	26.71	0.362	9.19	4.278	108.61
5 ½	139.70	15.50	22.86	0.275	6.99	4.950	125.73
		17.00	25.13	0.304	7.72	4.892	124.26
		20.00	29.52	0.361	9.17	4.778	121.36
		23.00	33.57	0.415	10.54	4.670	118.62
7	177.80	35.00	51.52	0.498	12.65	6.004	152.50
7 ⅝	193.70	29.70	43.28	0.375	9.53	6.875	174.63



Additional dimensions and VAF accessories are available on request.

The values shown are based on a pipe length of L=10.0m (32.81ft).

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

DRIFT DIAMETER		VOLUME		VOLUME		LENGTH MAKE UP LOSS	
		DISPLACEMENT		PRODUCTION			
inch	mm	us gal/ft	lit/m	us gal/ft	lit/m	inch	mm
2.590	72.82	0.500	6.21	0.365	4.54	2.835	72.00
2.797	71.04	0.500	6.21	0.348	4.33	2.835	72.00
3.423	86.94	0.653	8.11	0.514	6.38	2.362	60.00
3.875	98.43	0.826	10.26	0.653	8.11	2.835	72.00
3.833	97.36	0.826	10.26	0.639	7.94	2.835	72.00
4.374	108.79	1.020	12.67	0.793	9.84	3.307	84.00
4.151	105.44	1.020	12.67	0.746	9.26	4.094	104.00
4.825	122.56	1.234	15.33	1.000	12.42	3.307	84.00
4.767	121.08	1.234	15.33	0.976	12.13	3.307	84.00
4.653	118.19	1.234	15.33	0.931	11.57	4.094	104.00
4.545	115.44	1.234	15.33	0.890	11.05	4.921	125.00
5.879	149.33	1.999	24.83	1.471	18.27	5.531	140.50
6.750	171.45	2.372	29.46	1.929	23.95	3.307	84.00



PERFORMANCE PROPERTIES

(METRIC UNITS)

PIPE OUTSIDE DIAMETER		NOMINAL WEIGHT		WALL THICKNESS		Grade 55			Grade 80		
inch	mm	lb/ft	kg/m	inch	mm	Pi	Pc	Sy	Pi	Pc	Sy
						MPa			MPa		
						kN			kN		
3 ½	88.90	9.20	13.12	0.254	6.45	43.20	51.00	330	62.90	72.70	480
		10.20	14.76	0.289	7.34	43.10	57.50	410	62.80	83.60	590
4	101.60	9.50	13.57	0.226	5.74	32.20	35.20	310	46.80	45.40	460
4 ½	114.30	11.60	16.91	0.250	6.35	32.60	34.20	420	47.40	43.80	600
		12.60	18.24	0.271	6.88	32.60	39.50	480	47.40	51.70	700
5	127.00	15.00	22.16	0.296	7.52	34.40	38.30	580	50.00	50.00	840
		18.00	26.71	0.362	9.19	40.40	50.90	770	58.80	72.40	1120
5 ½	139.70	15.50	22.86	0.275	6.99	30.70	27.90	570	44.70	34.40	830
		17.00	25.13	0.304	7.72	30.70	33.90	670	44.70	43.40	980
		20.00	29.52	0.361	9.17	36.10	45.60	860	52.60	60.90	1250
		23.00	33.57	0.415	10.54	41.60	52.90	1060	60.60	77.00	1540
7	177.80	35.00	51.52	0.498	12.65	38.00	50.10	1630	55.30	70.20	2370
7 ½	193.70	29.70	43.28	0.375	9.53	24.50	27.00	1220	35.70	33.00	1770

Pi ... internal yield pressure | Pc ... collapse resistance (VA-HC-grades on special request) | Sy ...joint yield strength

PERFORMANCE PROPERTIES

(US CUSTOMARY-UNITS)

PIPE OUTSIDE DIAMETER		NOMINAL WEIGHT		WALL THICKNESS		Grade 55			Grade 80		
inch	mm	lb/ft	kg/m	inch	mm	Pi	Pc	Sy	Pi	Pc	Sy
						psi			psi		
						1000lb			1000lb		
3 ½	88.90	9.20	13.12	0.254	6.45	6260	7400	73	9120	10540	107
		10.20	14.76	0.289	7.34	6260	8340	91	9110	12130	133
4	101.60	9.50	13.57	0.226	5.74	4660	5110	71	6790	6580	103
4 ½	114.30	11.60	16.91	0.250	6.35	4720	4960	94	6880	6350	136
		12.60	18.24	0.271	6.88	4720	5730	109	6880	7500	158
5	127.00	15.00	22.16	0.296	7.52	4980	5560	130	7260	7250	189
		18.00	26.71	0.362	9.19	5850	7380	173	8530	10500	251
5 ½	139.70	15.50	22.86	0.275	6.99	4460	4050	127	6490	4990	186
		17.00	25.13	0.304	7.72	4450	4920	151	6490	6290	220
		20.00	29.52	0.361	9.17	5240	6610	194	7630	8830	281
		23.00	33.57	0.415	10.54	6030	7670	238	8780	11170	346
7	177.80	35.00	51.52	0.498	12.65	5510	7270	366	8020	10180	533
7 ½	193.70	29.70	43.28	0.375	9.53	3560	3910	274	5180	4790	399

Pi ... internal yield pressure | Pc ... collapse resistance (VA-HC-grades on special request) | Sy ...joint yield strength

Grade 90			Grade 95			Grade 110		
Pi	Pc	Sy	Pi	Pc	Sy	Pi	Pc	Sy
MPa			MPa			MPa		
kN			kN			kN		
70.70	79.80	530	74.60	83.30	560	93.30	147.06	650
70.70	94.00	660	74.60	99.20	700	86.30	114.90	810
52.70	48.80	510	55.60	50.40	540	64.40	54.50	630
53.40	47.00	680	56.30	48.40	720	65.10	52.30	830
53.40	56.00	790	56.30	58.00	830	65.20	63.50	970
56.30	54.00	940	59.40	55.90	1000	68.70	61.00	1150
66.10	79.40	1260	69.80	82.90	1330	80.70	92.90	1540
50.30	36.30	930	53.10	37.10	980	61.40	38.80	1140
50.30	46.40	1100	53.10	47.90	1160	61.40	51.60	1340
59.20	66.40	1410	62.40	69.10	1490	72.30	76.60	1720
68.10	85.30	1730	71.90	89.20	1830	83.20	100.30	2120
62.20	77.00	2670	65.60	80.30	2810	76.00	89.90	3260
40.20	34.70	2000	42.30	35.40	2110	49.10	36.90	2440

Other grades and performance properties for other grades are available upon request.

Grade 90			Grade 95			Grade 110		
Pi	Pc	Sy	Pi	Pc	Sy	Pi	Pc	Sy
psi			psi			psi		
1000lb			1000lb			1000lb		
10260	11570	120	10820	12080	127	12520	13530	147
10250	13630	149	10820	14390	158	12520	16660	183
7640	7080	116	8060	7310	122	9340	7900	142
7740	6820	153	8160	7020	161	9450	7590	187
7740	8120	178	8170	8410	187	9450	9210	217
8170	7830	212	8610	8110	224	9970	8850	259
9590	11520	283	10120	12020	298	11710	13470	345
7300	5270	209	7700	5380	221	8910	5630	255
7300	6730	247	7700	6950	260	8910	7480	302
8590	9630	317	9060	10020	334	10480	11110	387
9880	12370	390	10420	12940	411	12060	14550	476
9030	11170	599	9520	11650	633	11020	13040	733
5830	5040	449	6140	5140	473	7120	5350	549

Other grades and performance properties for other grades are available upon request.

MAKE UP TORQUE

PIPE OUTSIDE DIAMETER		NOMINAL WEIGHT		RECOMMENDED OPTIMUM MAKE UP TORQUE				
				GRADE 55	GRADE 80	GRADE 90	GRADE 95	GRADE 110
inch	mm	lb/ft	kg/m	lb.ft (1 lb.ft = 1.3558 Nm)				
3 ½	88.90	9.20	13.12	1100	1330	1700	1700	1920
		10.20	14.76	1200	1430	1800	1800	2020
4	101.60	9.50	13.57	1400	1620	1920	1920	2130
4 ½	114.30	11.60	16.91	1840	2210	2360	2360	2510
		12.60	18.24	1840	2210	2360	2360	2510
5	127.00	15.00	22.16	1990	2650	2800	2800	2950
		18.00	26.71	2500	3000	3150	3150	3320
5 ½	139.70	15.50	22.86	2065	2690	2820	2820	2950
		17.00	25.13	2360	2950	3060	3060	3170
		20.00	29.52	2800	3540	3610	3610	3690
		23.00	33.57	3540	4275	4350	4350	4430
7	177.80	35.00	51.52	5525	7525	7895	7895	8265
7 ½	193.70	29.70	43.28	5160	6600	7300	7300	8000

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%.



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!

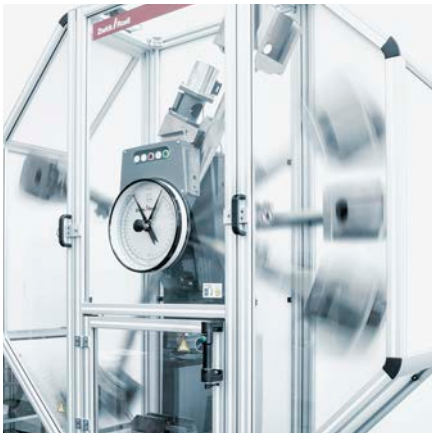


Field Service during the installation can be provided upon request. Please visit the Customer Service site on our web page www.voestalpine.com/tubulars



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

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