



VExplorer®

Extreme torques, extended reach



voestalpine Tubulars GmbH & Co KG  
[www.voestalpine.com/tubulars](http://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



Find your closest contact:  
[www.voestalpine.com/tubulars/en/Contact/sales/](http://www.voestalpine.com/tubulars/en/Contact/sales/)

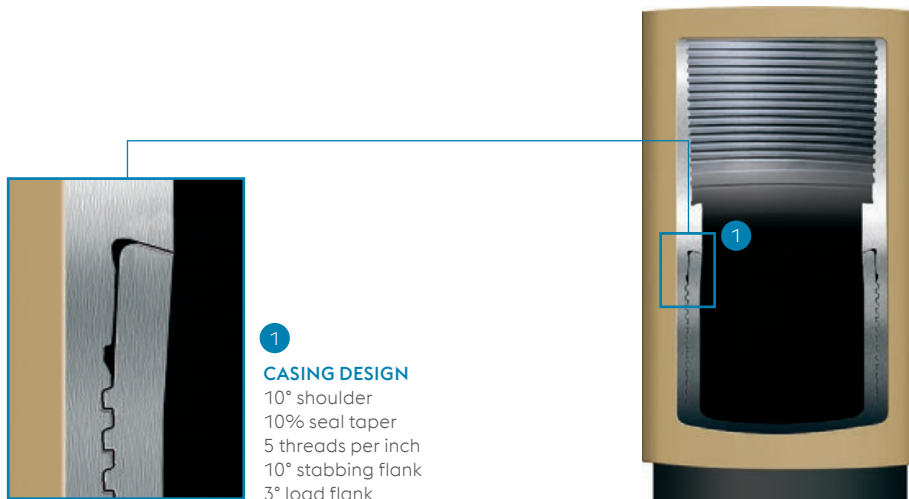


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# DESIGN CHARACTERISTICS

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



## PRODUCT CHARACTERISTICS & CUSTOMER BENEFITS

### CAL IV CONNECTION

#### » MINIMIZES RISKS

The connection design is successfully tested according to ISO13679: 2002 CAL IV and API RP 5C5.

### HIGH TORQUE CAPABILITY

#### » ENSURES WELL INTEGRITY

Supplemental tests for gas sealability at yield torque were performed, also with bending (20°) and internal pressure.

### ROTATION & EXTENDED REACH

#### » VExplorer® HELPS PROTECT AGAINST UNEXPECTED COSTS

VExplorer® is a tailor-made product for extended reach wells and rotational operations. It withstands the severe impact on the material during rotational operations in extended reach wells and grants 100% compression and tension efficiency.



# GRADES

VExplorer® 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
125,000	P110	VA-HC-P110	VA-EP-P110
	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
4 1/2" 114.30	13.50	19.86	0.290	7.37	3.920	99.56	3.794	96.37
	15.10	22.77	0.337	8.56	3.826	97.18	3.701	94.01
5 1/2" 139.70	20.00	30.30	0.361	9.17	4.778	121.36	4.653	118.18
	23.00	34.38	0.415	10.54	4.670	118.62	4.545	115.44
	26.00	38.86	0.476	12.09	4.548	115.52	4.423	112.34
	26.80	44.98	0.500	12.70	4.375	111.12	4.500	114.30
6" / 152.40	24.50	36.43	0.400	10.16	5.200	132.08	5.075	128.91

# PERFORMANCE PROPERTIES

(METRIC UNITS)

PIPE OUTSIDE DIAMETER	NOMINAL WEIGHT		WALL THICKNESS		GRADE 80				GRADE 90			
					Pi	Pc	Sy	L	Pi	Pc	Sy	L
					MPa		kN		MPa		kN	
inch/mm	lb/ft	kg/m	inch	mm								
4 1/2" 114.30	13.50	19.86	0.290	7.37	62.30	58.90	1370	1280	70.10	64.10	1540	1440
	15.10	22.77	0.337	8.56	72.30	76.50	1570	1280	81.40	84.30	1770	1440
5 1/2" 139.70	20.00	30.30	0.361	9.17	63.40	60.90	2080	2210	71.30	66.40	2340	2490
	23.00	34.38	0.415	10.54	72.90	76.90	2360	2210	82.00	85.40	2660	2490
	26.00	38.86	0.476	12.09	83.60	87.20	2680	2210	94.10	98.20	3010	2490
	26.80	44.98	0.500	12.70	87.80	91.10	2800	2210	98.80	102.60	3150	2490
6" / 152.40	24.50	36.43	0.400	10.16	64.40	62.60	2500	1940	72.50	68.40	2820	2190

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

# PERFORMANCE PROPERTIES

(US CUSTOMARY-UNITS)

PIPE OUTSIDE DIAMETER	NOMINAL WEIGHT		WALL THICKNESS		GRADE 80				GRADE 90			
					Pi	Pc	Sy	L	Pi	Pc	Sy	L
					psi		1000lb		psi		1000lb	
inch/mm	lb/ft	kg/m	inch	mm								
4 1/2" 114.30	13.50	19.86	0.290	7.37	9040	8540	307	288	10170	9300	346	324
	15.10	22.77	0.337	8.56	10490	11080	353	288	11810	12230	397	324
5 1/2" 139.70	20.00	30.30	0.361	9.17	9200	8830	467	497	10340	9630	525	559
	23.00	34.38	0.415	10.54	10570	11160	531	497	11890	12370	597	559
	26.00	38.86	0.476	12.09	12130	12650	601	497	13640	14230	676	559
	26.80	44.98	0.500	12.70	12730	13220	628	497	14330	14880	707	559
6" / 152.40	24.50	36.43	0.400	10.16	9340	9080	563	437	10520	9920	634	492

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



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

Available on request: special clearance couplings with reduced outside diameters.

Blanking dimensions for accessories are available as a download on our web page [www.voestalpine.com/tubulars](http://www.voestalpine.com/tubulars)

COUPLING LENGTH		OUTSIDE DIAMETER COUPLING		VOLUME				MAKE UP LOSS	
				DISPLACEMENT		PRODUCTION			
inch	mm	inch	mm	us gal/ft	lit/m	us gal/ft	lit/m	inch	mm
8.346	212.00	5.118	130.00	0.831	10.32	0.627	7.79	3.575	90.80
8.346	212.00	5.118	130.00	0.831	10.32	0.597	7.42	3.575	90.80
8.661	220.00	6.300	160.02	1.242	15.43	0.931	11.57	3.732	94.80
8.661	220.00	6.300	160.02	1.242	00.44	0.890	11.05	3.732	94.80
8.661	220.00	6.300	160.02	1.242	00.44	0.844	10.48	3.732	94.80
8.661	220.00	6.300	160.02	1.242	15.43	0.781	9.70	3.732	94.80
8.898	226.00	6.693	170.00	1.477	18.34	1.103	13.70	3.850	97.80

GRADE 95				GRADE 110				GRADE 125			
Pi	Pc	Sy	L	Pi	Pc	Sy	L	Pi	Pc	Sy	L
MPa		kN		MPa		kN		MPa		kN	
73.90	66.60	1620	1520	85.50	73.60	1880	1760	97.30	80.00	2130	2000
85.80	88.00	1860	1520	99.30	98.90	2160	1760	113.00	109.00	2450	2000
75.20	69.00	2460	2620	87.10	76.50	2850	3040	99.00	83.30	3240	3450
86.50	89.20	2800	2620	100.10	100.20	3240	3040	113.80	110.80	3680	3450
99.20	103.60	3180	2620	114.80	120.00	3680	3040	130.50	136.30	4170	3450
104.20	108.20	3320	2620	120.60	125.30	3850	3040	137.10	142.40	4370	3450
76.40	71.20	2970	2310	88.40	79.00	3440	2670	100.50	86.20	3910	3040

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

GRADE 95				GRADE 110				GRADE 125			
Pi	Pc	Sy	L	Pc	Sy	L	Pi	Pc	Sy	L	
psi		1000lb		1000lb		1000lb		psi		1000lb	
10720	9660	364	342	10680	423	396	14110	11600	479	450	
12440	12770	418	342	14350	486	396	16390	15840	551	450	
10910	10010	554	590	11100	641	683	14360	12080	729	776	
12550	12940	630	590	14540	729	683	16510	16070	829	776	
14390	15030	713	590	17390	825	683	18930	19770	938	776	
15110	15700	746	590	18180	864	683	19880	20660	982	776	
11080	10320	669	519	11460	774	601	14590	12500	880	683	

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

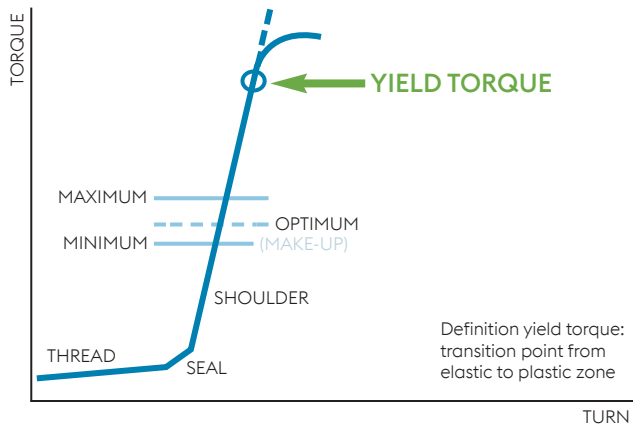
# YIELD TORQUE

## YIELD TORQUE FOR REGULAR COUPLINGS

PIPE OUTSIDE DIAMETER	NOMINAL WEIGHT		WALL THICKNESS		L80-1, VA-HC-L80-1	VA-EP-L80-1, VA-XP-L80-1	C90, VA-HC-C90	VA-EP-C90, VA-XP-C90	T95, VA-HC-T95, VA-EP-T95
	inch/mm	ft.lb / kg/m	inch	mm	ft.lb (1 ft.lb = 1.3558 Nm)				
4 1/2" 114.30	13.50	19.86	0.290	7.37	8110	8410	8780	9070	9070
	15.10	22.77	0.337	8.56	10330	10620	10990	11280	11280
5 1/2" 139.70	20.00	30.30	0.361	9.17	14970	15420	15930	16450	16450
	23.00	34.38	0.415	10.54	16960	17480	18000	18510	18510
	26.00	38.86	0.476	12.09	18590	19100	19620	20140	20140
	26.80	44.98	0.500	12.70	19400	19910	20430	20950	20950
6" / 152.40	24.50	36.43	0.400	10.16	15490	16230	16960	17700	17700

PIPE OUTSIDE DIAMETER	NOMINAL WEIGHT		WALL THICKNESS		VA-XP-T95	P110, VA-HC-P110	VA-EP-P110, VA-XP-P110	Q125, VA-HC-Q125	VA-EP-Q125, VA-XP-Q125
	inch/mm	ft.lb / kg/m	inch	mm	ft.lb (1 ft.lb = 1.3558 Nm)				
4 1/2" 114.30	13.50	19.86	0.290	7.37	9370	9960	11060	11060	12170
	15.10	22.77	0.337	8.56	11580	12170	13280	13280	14380
5 1/2" 139.70	20.00	30.30	0.361	9.17	16960	18440	20650	20650	22130
	23.00	34.38	0.415	10.54	19030	21020	23600	23600	25080
	26.00	38.86	0.476	12.09	20650	22130	24340	24340	25820
	26.80	44.98	0.500	12.70	21460	22860	25080	25080	26550
6" / 152.40	24.50	36.43	0.400	10.16	19910	22200	24410	24410	25890

## YIELD TORQUE DEFINITION



# MAKE UP TORQUE

## RECOMMENDED OPTIMUM MAKE-UP TORQUE FOR REGULAR COUPLINGS

PIPE OUTSIDE DIAMETER	NOMINAL WEIGHT		WALL THICKNESS		GRADE 80	GRADE 90	GRADE 95	GRADE 110	GRADE 125	
	inch/mm	lb/ft	kg/m	inch						mm
4 1/2" 114.30		13.50	19.86	0.290	7.37	6790	7380	7670	8480	9290
		15.10	22.77	0.337	8.56	7970	8630	9000	9960	10920
5 1/2" 139.70		20.00	30.30	0.361	9.17	8850	9220	10250	10700	11800
		23.00	34.38	0.415	10.54	9960	10550	11800	12540	13650
		26.00	38.86	0.476	12.09	11060	12020	12540	13420	15270
		26.80	44.98	0.500	12.70	11510	12540	13050	13790	16010
6" / 152.40		24.50	36.43	0.400	10.16	10840	11800	12240	13650	14970

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.

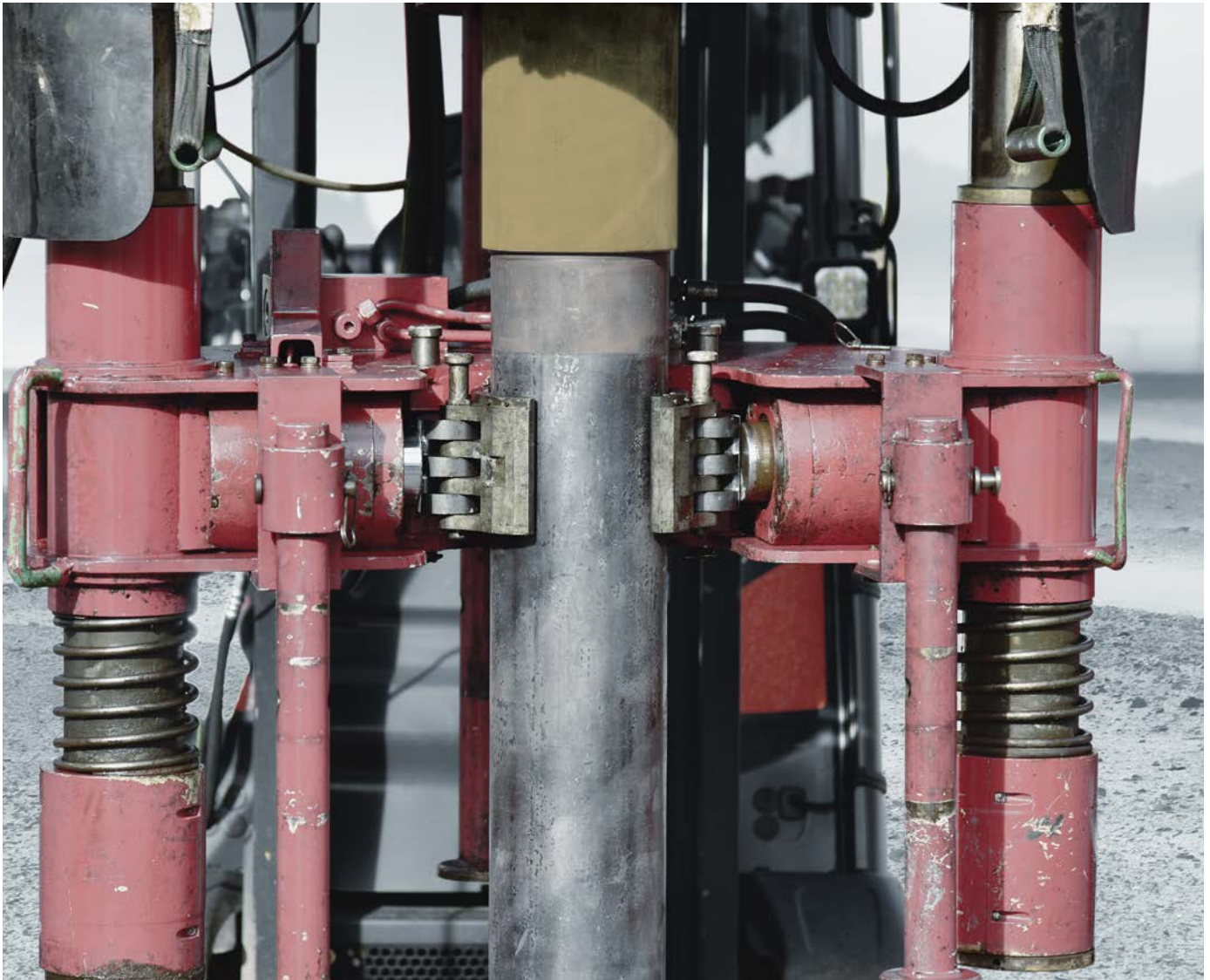
Recommended make-up-torque using a thread compound with a friction factor of 1.0.

Maximum torque: optimum + 10%.

Minimum torque: optimum - 5%.

Special clearance couplings have a lower load on coupling face.

Please contact your voestalpine Tubulars Sales team for more information.





# 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!

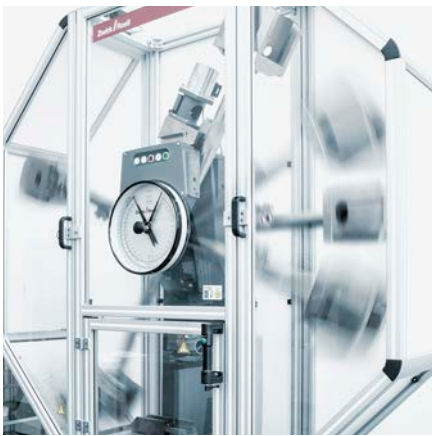


Field Service during the installation can be provided upon request. Please visit the Customer Service site on our web page [www.voestalpine.com/tubulars](http://www.voestalpine.com/tubulars)



# 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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