



VAsuperior<sup>®</sup>

Ready to face the extremes







# 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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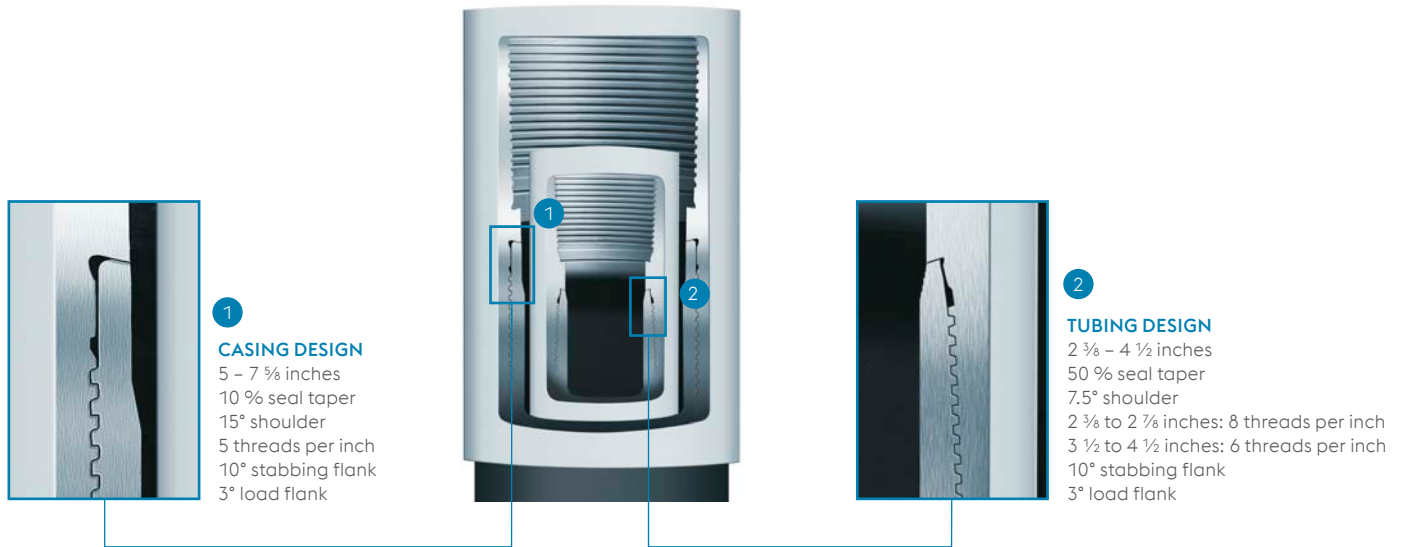
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12/21/2011 - DryTec  
12/21/2011

# DESIGN CHARACTERISTICS

voestalpine Tubulars Proprietary Connections like VAsuperior® 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

The robust metal to metal seal design ensures gas tightness under combined loads.

### PROTECTIVE DESIGN » PREVENTS YOU FROM UNEXPECTED COSTS

The distance from the pin face provides protection against transport, handling and installation damages.

The recess before and after the seal area is a lubricant reservoir where excess thread compound is forced to prevent a pressure build up due to trapped and compressed thread compound.

### FAST & EASY MAKE-UP » SAVES RUNNING TIME

The thread design allows easy and fast make-up in the most severe conditions.

### SMOOTH INTERNAL PROFILE » MINIMIZES TURBULENCES

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





# GRADES

VAsuperior® 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		DRIFT DIAMETER	
inch	mm	lb/ft	kg/m	inch	mm	inch	mm	inch	mm
2 3/8	60.32	4.60	6.69	0.190	4.83	1.995	50.66	1.901	48.29
		5.10	7.57	0.218	5.54	1.939	49.24	1.845	46.86
		5.80	8.67	0.254	6.45	1.867	47.42	1.774	45.06
2 7/8	73.02	6.40	9.29	0.217	5.51	2.441	62.00	2.348	59.64
		7.80	11.57	0.276	7.01	2.323	59.00	2.230	56.64
		8.60	12.74	0.308	7.82	2.259	57.38	2.166	55.02
3 1/2	88.90	7.70	11.28	0.216	5.49	3.068	77.92	2.943	74.75
		9.20	13.29	0.254	6.45	2.992	76.00	2.867	72.82
		10.20	14.97	0.289	7.34	2.922	74.22	2.797	71.04
		12.70	18.90	0.375	9.52	2.750	69.86	2.625	66.68
		13.70	20.62	0.413	10.49	2.674	67.90	2.548	64.72
		14.30	21.28	0.430	10.92	2.640	67.06	2.515	63.88
		14.70	22.16	0.450	11.43	2.600	66.04	2.475	62.87
4	101.60	15.50	23.07	0.476	12.09	2.548	64.72	2.423	61.54
		9.50	13.82	0.226	5.74	3.548	90.12	3.423	86.94
		10.70	15.86	0.262	6.65	3.476	88.30	3.351	85.12
		13.20	19.63	0.330	8.38	3.340	84.84	3.215	81.66
4 1/2	114.30	10.50	15.51	0.224	5.69	4.052	102.92	3.927	99.75
		11.60	17.18	0.250	6.35	4.000	101.60	3.875	98.43
		12.60	18.50	0.271	6.88	3.958	100.54	3.833	97.36
		13.50	19.78	0.290	7.37	3.920	99.56	3.794	96.37
		15.20	22.67	0.337	8.56	3.826	97.18	3.701	94.01
		17.00	25.32	0.380	9.65	3.740	95.00	3.615	91.82
5	127.00	18.90	27.56	0.430	10.92	3.640	92.46	3.515	89.28
		13.00	19.67	0.253	6.43	4.494	114.14	4.369	110.96
		15.00	22.71	0.296	7.52	4.408	111.96	4.283	108.78
		18.00	27.25	0.362	9.19	4.276	108.62	4.151	105.44
		21.40	32.30	0.437	11.10	4.125	104.80	4.000	101.62
		23.20	34.94	0.478	12.14	4.044	102.72	3.919	99.54
5 1/2	139.70	24.10	36.35	0.500	12.70	4.000	101.60	3.875	98.42
		15.50	23.45	0.275	6.98	4.950	125.74	4.825	122.56
		17.00	25.73	0.304	7.72	4.892	124.26	4.767	121.08
		20.00	30.12	0.361	9.17	4.778	121.36	4.653	118.18
		23.00	34.17	0.415	10.54	4.670	118.62	4.545	115.44
5 3/4	146.05	26.00	38.65	0.476	12.09	4.548	115.52	4.423	112.34
		16.40	24.95	0.276	7.00	5.199	132.05	5.074	128.87
		17.90	27.21	0.303	7.70	5.144	130.65	5.019	127.47
		19.70	29.78	0.335	8.50	5.081	129.05	4.956	125.87
6	168.28	20.40	31.40	0.354	9.00	5.041	128.05	4.916	124.87
		20.00	30.11	0.288	7.32	6.050	153.66	5.924	150.48
		24.00	36.19	0.352	8.94	5.922	150.42	5.797	147.24
		28.00	42.24	0.417	10.59	5.792	147.12	5.667	143.94
7	177.80	32.00	47.52	0.475	12.06	5.676	144.18	5.551	141.00
		23.00	34.68	0.317	8.05	6.366	161.70	6.241	158.52
		26.00	39.20	0.362	9.19	6.276	159.42	6.151	156.24
		29.00	43.77	0.408	10.36	6.184	157.08	6.059	153.90
		32.00	48.19	0.453	11.51	6.094	154.78	5.969	151.60
		35.00	52.51	0.498	12.65	6.004	152.50	5.879	149.32
7 1/2	193.68	38.00	56.50	0.540	13.72	5.920	150.36	5.794	147.17
		26.40	39.64	0.328	8.33	6.969	177.01	6.844	173.84
		29.70	44.82	0.375	9.53	6.875	174.63	6.750	171.45
		33.70	50.79	0.430	10.92	6.765	171.83	6.666	168.66
		39.00	58.25	0.500	12.70	6.625	168.28	6.500	165.10
		42.80	64.68	0.562	14.27	6.501	165.13	6.376	



All VAsuperior® accessories are available on request. The values shown are based on T&C pipe lengths of L = 10.0m (32.81ft).  
 Special clearance couplings with reduced outside diameters are available on request.  
 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	
	inch	mm	inch	mm	us gal/ft	lit/m	us gal/ft	lit/m	inch	mm
	5.748	146.00	2.776	70.50	0.231	02.87	0.163	2.02	2.256	57.30
	5.748	146.00	2.776	70.50	0.231	02.87	0.154	1.91	2.256	57.30
	5.748	146.00	2.874	73.00	0.231	02.87	0.143	1.77	2.256	57.30
	6.378	162.00	3.248	82.50	0.338	04.20	0.243	3.02	2.551	64.80
	6.378	162.00	3.406	86.50	0.339	04.21	0.220	2.73	2.551	64.80
	6.378	162.00	3.406	86.50	0.339	04.21	0.209	2.59	2.551	64.80
	7.323	186.00	4.000	101.60	0.502	06.23	0.384	4.77	3.043	77.30
	7.323	186.00	4.000	101.60	0.502	06.23	0.366	4.54	3.043	77.30
	7.323	186.00	4.000	101.60	0.502	06.23	0.349	4.33	3.043	77.30
	7.323	186.00	4.114	104.50	0.502	06.24	0.308	3.83	3.043	77.30
	7.323	186.00	4.114	104.50	0.502	06.24	0.291	3.62	3.043	77.30
	7.323	186.00	4.252	108.00	0.503	06.26	0.284	3.53	3.043	77.30
	7.323	186.00	4.252	108.00	0.503	06.26	0.276	3.43	3.043	77.30
	7.323	186.00	4.252	108.00	0.503	06.26	0.265	3.29	3.043	77.30
	7.874	200.00	4.390	111.50	0.655	08.14	0.514	6.38	3.272	83.10
	7.874	200.00	4.500	114.30	0.655	08.14	0.493	6.12	3.272	83.10
	7.874	200.00	4.500	114.30	0.656	08.15	0.455	5.65	3.362	85.40
	8.661	220.00	4.862	123.50	0.829	10.30	0.670	8.32	3.693	93.80
	8.661	220.00	4.902	124.50	0.829	10.30	0.653	8.11	3.693	93.80
	8.661	220.00	4.902	124.50	0.829	10.30	0.639	7.94	3.693	93.80
	8.661	220.00	5.000	127.00	0.830	10.31	0.627	7.79	3.693	93.80
	8.661	220.00	5.000	127.00	0.830	10.31	0.597	7.42	3.693	93.80
	7.913	220.00	5.201	132.10	0.833	10.33	0.571	7.09	3.693	93.80
	7.913	220.00	5.201	132.40	0.833	10.33	0.541	6.71	3.693	93.80
	9.685	246.00	5.563	141.30	1.026	12.74	0.824	10.23	4.246	107.86
	9.685	246.00	5.563	141.30	1.026	12.74	0.793	9.85	4.246	107.86
	9.685	246.00	5.563	141.30	1.026	12.74	0.746	9.27	4.246	107.86
	9.685	246.00	5.748	146.00	1.028	12.77	0.694	8.63	4.246	107.86
	9.685	246.00	5.748	146.00	1.028	12.77	0.667	8.29	4.246	107.86
	9.685	246.00	5.748	146.00	1.028	12.77	0.653	8.11	4.246	107.86
	9.843	250.00	6.051	153.70	1.241	15.41	1.000	12.42	4.313	109.56
	9.843	250.00	6.051	153.70	1.241	15.41	0.976	12.13	4.313	109.56
	9.843	250.00	6.051	153.70	1.241	15.41	0.931	11.57	4.313	109.56
	9.843	250.00	6.260	159.00	1.243	15.44	0.890	11.05	4.313	109.56
	9.843	250.00	6.260	159.00	1.243	15.44	0.844	10.48	4.313	109.56
	10.000	254.00	6.260	159.00	1.355	16.83	1.103	13.70	4.392	111.56
	10.000	254.00	6.260	159.00	1.355	16.83	1.079	13.41	4.392	111.56
	10.000	254.00	6.299	160.00	1.356	16.84	1.053	13.08	4.392	111.56
	10.000	254.00	6.299	160.00	1.356	16.84	1.037	12.88	4.392	111.56
	10.236	260.00	7.157	181.80	1.799	22.34	1.493	18.54	4.510	114.56
	10.236	260.00	7.390	187.70	1.803	22.39	1.431	17.77	4.510	114.56
	10.236	260.00	7.390	187.70	1.803	22.39	1.369	17.00	4.510	114.56
	10.236	260.00	7.390	187.70	1.803	22.39	1.315	16.33	4.510	114.56
	10.630	270.00	7.657	194.50	2.010	24.96	1.654	20.54	4.707	119.56
	10.630	270.00	7.657	194.50	2.010	24.96	1.607	19.96	4.707	119.56
	10.630	270.00	7.657	194.50	2.010	24.96	1.560	19.38	4.707	119.56
	10.630	270.00	7.874	200.00	2.014	25.01	1.515	18.82	4.707	119.56
	10.630	270.00	7.874	200.00	2.014	25.01	1.471	18.27	4.707	119.56
	10.630	270.00	7.874	200.00	2.014	25.01	1.430	17.76	4.707	119.56
	11.024	280.00	8.500	215.90	2.388	29.66	1.982	24.61	4.908	124.66
	11.024	280.00	8.500	215.90	2.388	29.66	1.928	23.95	4.908	124.66
	11.024	280.00	8.500	215.90	2.388	29.66	1.867	23.19	4.908	124.66
	11.024	280.00	8.500	215.90	2.388	29.66	1.791	22.24	4.908	124.66
	11.024	280.00	8.500	215.90	2.388	29.66	1.725	21.42	4.908	124.66

# PERFORMANCE PROPERTIES TUBING

(METRIC UNITS)

PIPE OUTSIDE DIAMETER		NOMINAL WEIGHT		WALL THICKNESS		GRADE 55				GRADE 75				GRADE 80			
						Pi	Pc	Sy	L	Pi	Pc	Sy	L	Pi	Pc	Sy	L
inch	mm	lb/ft	kg/m	inch	mm	MPa		kN		MPa		kN		MPa		kN	
2 3/8	60.32	4.60	6.69	0.190	4.83	53.10	55.80	320	310	72.40	76.10	440	420	77.40	81.20	460	450
		5.10	7.57	0.218	5.54	60.90	63.20	360	310	83.10	86.20	490	420	88.70	92.00	530	450
		5.80	8.67	0.254	6.45	70.90	72.50	410	420	96.70	98.80	560	570	103.30	105.40	600	610
2 1/2	73.02	6.40	9.29	0.217	5.51	50.00	53.00	440	330	68.30	72.20	600	450	72.90	76.90	650	480
		7.80	11.57	0.276	7.01	63.70	65.80	550	530	86.90	89.80	750	720	92.70	95.70	800	770
		8.60	12.74	0.308	7.82	71.00	72.60	610	530	96.90	98.90	830	720	103.50	105.60	880	770
3 1/2	88.90	7.70	11.28	0.216	5.49	41.00	41.20	550	590	55.90	51.80	740	810	59.70	54.30	790	870
		9.20	13.29	0.254	6.45	48.10	51.00	630	590	65.60	69.00	860	810	70.10	72.60	920	870
		10.20	14.97	0.289	7.34	54.80	57.40	710	590	74.70	78.30	970	810	79.80	83.60	1040	870
		12.70	18.90	0.375	9.52	71.00	72.60	900	770	96.90	98.90	1230	1050	103.40	105.60	1310	1130
		13.70	20.62	0.413	10.49	73.20	78.90	980	770	99.80	107.60	1340	1050	106.60	114.90	1430	1130
		14.30	21.28	0.430	10.92	81.50	81.70	1010	990	111.10	111.70	1380	1360	118.70	118.90	1480	1450
		14.70	22.16	0.450	11.43	83.10	84.90	1050	990	113.30	115.90	1440	1360	121.00	123.60	1540	1450
4	101.60	9.50	13.82	0.226	5.74	37.50	35.20	660	470	51.10	43.60	890	650	54.60	45.40	950	690
		10.70	15.86	0.262	6.65	43.40	45.40	750	660	59.20	57.70	1030	900	63.20	60.60	1090	960
		13.20	19.63	0.330	8.38	54.70	57.40	930	660	74.60	78.30	1270	900	79.70	83.60	1350	960
4 1/2	114.30	10.50	15.51	0.224	5.69	33.00	27.60	740	490	45.00	33.00	1000	670	48.10	34.10	1070	720
		11.60	17.18	0.250	6.35	36.80	34.20	820	570	50.30	42.10	1110	770	53.70	43.80	1190	820
		12.60	18.50	0.271	6.88	39.90	39.40	880	570	54.50	49.50	1200	770	58.10	51.70	1280	820
		13.50	19.78	0.290	7.37	42.80	44.30	940	750	58.30	56.10	1280	1030	62.30	58.90	1370	1100
		15.20	22.67	0.337	8.56	49.70	52.50	1080	750	67.80	71.70	1470	1030	72.30	76.50	1570	1100
		17.00	25.32	0.380	9.650	56.00	58.70	1200	1150	76.40	80.00	1640	1560	81.60	85.30	1750	1670
		18.90	27.56	0.430	10.920	63.40	65.50	1340	1150	86.40	89.40	1830	1560	92.30	95.30	1960	1670

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



	GRADE 90				GRADE 95				GRADE 110				GRADE 125			
	Pi	Pc	Sy	L	Pi	Pc	Sy	L	Pi	Pc	Sy	L	Pi	Pc	Sy	L
	MPa		kN		MPa		kN		MPa		kN		MPa		kN	
87.00	91.40	520	510	91.80	96.40	550	530	106.20	111.20	640	620	120.80	123.40	730	700	
99.80	103.50	590	510	105.30	109.30	620	530	121.80	126.50	720	620	138.50	143.80	820	700	
116.20	118.50	680	680	122.60	125.10	710	720	141.80	144.90	830	830	161.30	164.60	940	950	
82.00	85.40	730	540	86.50	89.20	770	570	100.10	100.20	890	660	113.80	110.80	1010	750	
104.30	107.70	900	870	110.00	113.60	950	920	127.30	131.60	1100	1060	144.80	149.50	1250	1210	
116.40	118.70	990	870	122.80	125.30	1050	920	142.10	145.10	1210	1060	161.60	164.90	1380	1210	
67.10	58.90	890	970	70.80	61.10	940	1030	81.90	67.20	1090	1190	93.20	72.40	1240	1350	
78.80	79.80	1040	970	83.20	83.30	1090	1030	96.20	93.30	1270	1190	109.40	102.70	1440	1350	
89.70	94.00	1170	970	94.60	99.20	1230	1030	109.50	114.90	1430	1190	124.50	130.60	1620	1350	
116.40	118.70	1470	1270	122.70	125.30	1560	1340	142.10	145.10	1800	1550	161.50	164.90	2050	1760	
119.90	129.20	1610	1270	126.40	136.40	1690	1340	146.30	158.00	1960	1550	166.40	179.50	2230	1760	
133.50	133.80	1660	1630	140.80	141.10	1750	1720	162.90	163.50	2030	1990	185.30	185.70	2310	2260	
136.10	139.00	1730	1630	143.60	146.70	1820	1720	166.10	169.90	2110	1990	188.90	193.10	2400	2260	
136.10	145.90	1810	1630	143.60	154.00	1910	1720	166.10	178.30	2210	1990	188.90	202.60	2510	2260	
61.40	48.80	1070	780	64.80	50.40	1130	820	74.90	54.50	1310	950	85.20	57.80	1490	1080	
71.10	66.10	1230	1080	75.00	68.70	1300	1140	86.80	76.20	1500	1320	98.70	82.90	1710	1500	
89.60	94.00	1520	1080	94.50	99.10	1610	1140	109.40	114.80	1860	1320	124.40	130.40	2120	1500	
54.10	35.90	1210	810	57.10	36.60	1270	850	66.00	38.30	1470	980	75.10	40.20	1670	1120	
60.40	47.00	1340	930	63.70	48.50	1410	980	73.70	52.30	1630	1130	83.80	55.20	1860	1290	
65.40	56.00	1440	930	69.00	58.00	1520	980	79.80	63.40	1760	1130	90.80	68.20	2000	1290	
70.10	64.10	1540	1230	73.90	66.60	1620	1300	85.50	73.60	1880	1510	97.30	80.00	2130	1710	
81.40	84.30	1770	1230	85.80	88.00	1860	1300	99.30	98.90	2160	1510	113.00	109.20	2450	1710	
91.80	96.00	1970	1880	96.80	101.30	2080	1980	112.00	117.30	2400	2290	127.40	133.30	2730	2610	
103.80	107.20	2200	1880	109.50	113.10	2320	1980	126.70	131.10	2690	2290	144.10	148.90	3060	2610	

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

# PERFORMANCE PROPERTIES TUBING

(US CUSTOMARY-UNITS)

PIPE OUTSIDE DIAMETER		NOMINAL WEIGHT		WALL THICKNESS		GRADE 55				GRADE 75				GRADE 80			
						Pi	Pc	Sy	L	Pi	Pc	Sy	L	Pi	Pc	Sy	L
inch	mm	lb/ft	kg/m	inch	mm	psi		1000lb		psi		1000lb		psi		1000lb	
2 3/8	60.32	4.60	6.69	0.190	4.83	7700	8100	72	70	10500	11040	99	94	11230	11780	103	101
		5.10	7.57	0.218	5.54	8830	9170	81	70	12050	12500	110	94	12860	13340	119	101
		5.80	8.67	0.254	6.45	10280	10510	92	94	14030	14330	126	128	14980	15280	135	137
2 1/2	73.02	6.40	9.29	0.217	5.51	7250	7680	99	74	9910	10470	135	101	10570	11160	146	108
		7.80	11.57	0.276	7.01	9240	9540	124	119	12600	13020	169	162	13440	13880	180	173
		8.60	12.74	0.308	7.82	10300	10530	137	119	14050	14340	187	162	15010	15310	198	173
3 1/2	88.90	7.70	11.28	0.216	5.49	5950	5970	124	133	8110	7520	166	182	8660	7870	178	196
		9.20	13.29	0.254	6.45	6980	7400	142	133	9510	10010	193	182	10170	10530	207	196
		10.20	14.97	0.289	7.34	7950	8330	160	133	10830	11360	218	182	11570	12120	234	196
		12.70	18.90	0.375	9.52	10300	10530	202	173	14050	14340	277	236	15000	15310	294	254
		13.70	20.62	0.413	10.49	10620	11450	220	173	14470	15610	301	236	15460	16660	321	254
		14.30	21.28	0.430	10.92	11820	11850	227	223	16110	16200	310	306	17220	17240	333	326
		14.70	22.16	0.450	11.43	12050	12320	236	223	16430	16810	324	306	17550	17920	346	326
4	101.60	9.50	13.82	0.226	5.74	5440	5110	148	106	7410	6320	200	146	7920	6580	214	155
		10.70	15.86	0.262	6.65	6290	6590	169	148	8590	8370	232	202	9170	8790	245	216
		13.20	19.63	0.330	8.38	7930	8330	209	148	10820	11350	286	202	11560	12120	303	216
4 1/2	114.30	10.50	15.51	0.224	5.69	4790	4010	166	110	6530	4790	225	151	6980	4940	241	162
		11.60	17.18	0.250	6.35	5340	4960	184	128	7300	6110	250	173	7790	6350	268	184
		12.60	18.50	0.271	6.88	5790	5720	198	128	7900	7180	270	173	8430	7500	288	184
		13.50	19.78	0.290	7.37	6210	6420	211	169	8460	8140	288	232	9040	8540	308	247
		15.20	22.67	0.337	8.56	7210	7620	243	169	9830	10400	330	232	10490	11090	353	247
		17.00	25.32	0.380	9.65	8120	8510	270	259	11080	11600	369	351	11840	12370	393	375
		18.90	27.56	0.430	10.92	9200	9500	301	259	12530	12960	411	351	13390	13820	441	375

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



	GRADE 90				GRADE 95				GRADE 110				GRADE 125			
	Pi	Pc	Sy	L	Pi	Pc	Sy	L	Pi	Pc	Sy	L	Pi	Pc	Sy	L
	psi		1000lb		psi		1000lb		psi		1000lb		psi		1000lb	
12620	13250	117	115	13310	13980	124	119	15400	16130	144	139	17520	17900	164	157	
14470	15010	133	115	15270	15850	139	119	17670	18350	162	139	20090	20850	184	157	
16850	17190	153	153	17780	18150	160	162	20570	21010	187	187	23390	23880	211	214	
11890	12380	164	121	12550	12940	173	128	14520	14540	200	148	16510	16070	227	169	
15130	15620	202	196	15950	16480	214	207	18460	19090	247	238	21000	21690	281	272	
16880	17220	223	196	17810	18180	236	207	20610	21050	272	238	23440	23920	310	272	
9730	8540	200	218	10270	8860	211	232	11880	9740	245	268	13520	10500	279	303	
11430	11570	234	218	12070	12080	245	232	13950	13530	286	268	15870	14890	324	303	
13010	13640	263	218	13720	14390	277	232	15880	16670	321	268	18060	18940	364	303	
16880	17220	330	286	17800	18180	351	301	20610	21050	405	348	23420	23920	461	396	
17390	18740	362	286	18330	19780	380	301	21220	22910	441	348	24130	26030	501	396	
19360	19400	373	366	20420	20470	393	387	23630	23710	456	447	26880	26940	519	508	
19740	20160	389	366	20830	21280	409	387	24090	24640	474	447	27400	28000	540	508	
19740	21160	407	366	20830	22330	429	387	24090	25860	497	447	27400	29390	564	508	
8910	7080	241	175	9400	7310	254	184	10860	7910	294	214	12360	8380	335	243	
10310	9590	277	243	10880	9970	292	256	12590	11050	337	297	14320	12020	384	337	
13000	13630	342	243	13710	14380	362	256	15870	16650	418	297	18040	18920	477	337	
7850	5200	272	182	8280	5310	286	191	9570	5550	330	220	10890	5830	375	252	
8760	6820	301	209	9240	7030	317	220	10690	7580	366	254	12150	8000	418	290	
9490	8120	324	209	10010	8410	342	220	11570	9200	396	254	13170	9890	450	290	
10170	9300	346	277	10720	9660	364	292	12400	10680	423	339	14110	11600	479	384	
11810	12230	398	277	12440	12770	418	292	14400	14350	486	339	16390	15840	551	384	
13310	13920	443	423	14040	14690	468	445	16240	17010	540	515	18480	19330	614	587	
15050	15550	495	423	15880	16410	522	445	18380	19010	605	515	20900	21600	688	587	

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

# PERFORMANCE PROPERTIES CASING

(METRIC UNITS)

PIPE OUTSIDE DIAMETER		NOMINAL WEIGHT		WALL THICKNESS		GRADE 55				GRADE 75				GRADE 80			
						Pi	Pc	Sy	L	Pi	Pc	Sy	L	Pi	Pc	Sy	L
inch	mm	lb/ft	kg/m	inch	mm	MPa		kN		MPa		kN		MPa		kN	
5	127.00	13.00	19.67	0.253	6.43	33.60	28.50	920	760	45.80	34.30	1260	1040	48.90	35.40	1340	1110
		15.00	22.71	0.296	7.52	39.30	38.30	1070	760	53.60	47.80	1460	1040	57.20	50.00	1560	1110
		18.00	27.25	0.362	9.19	48.00	51.00	1290	760	65.50	68.70	1760	1040	69.90	72.40	1880	1110
		21.40	32.30	0.437	11.10	58.00	60.50	1530	1160	79.10	82.50	2090	1580	84.40	88.00	2230	1690
		23.20	34.94	0.478	12.14	61.70	65.60	1660	1160	84.10	89.40	2260	1580	89.80	95.40	2420	1690
		24.10	36.35	0.500	12.70	61.70	68.30	1730	1160	84.10	93.10	2360	1580	89.80	99.30	2520	1690
5 ½	139.70	15.50	23.45	0.275	6.98	33.10	27.90	1100	810	45.20	33.30	1500	1100	48.30	34.40	1610	1180
		17.00	25.73	0.304	7.72	36.70	33.90	1210	810	50.00	41.60	1650	1100	53.40	43.40	1770	1180
		20.00	30.12	0.361	9.17	43.50	45.60	1430	810	59.40	58.00	1940	1100	63.40	60.90	2080	1180
		23.00	34.17	0.415	10.54	50.00	53.00	1620	1300	68.30	72.20	2210	1770	72.90	76.90	2360	1890
		26.00	38.65	0.476	12.09	57.40	60.00	1840	1300	78.30	81.80	2510	1770	83.60	87.20	2680	1890
5 ¾	146.05	16.40	24.95	0.276	7.00	31.80	25.60	1160	840	43.40	30.20	1580	1140	46.30	31.00	1690	1220
		17.90	27.21	0.303	7.70	35.00	31.00	1270	840	47.70	37.60	1730	1140	50.90	39.00	1850	1220
		19.70	29.78	0.335	8.50	38.60	37.30	1390	840	52.70	46.40	1900	1140	56.20	48.40	2030	1220
		20.40	31.40	0.354	9.00	40.90	41.00	1470	840	55.80	51.70	2000	1140	59.50	54.00	2140	1220
6 ½	168.30	20.00	30.11	0.288	7.32	28.90	20.50	1400	910	39.40	23.10	1910	1250	42.00	24.00	2040	1330
		24.00	36.19	0.352	8.94	35.20	31.40	1700	1560	48.10	38.30	2310	2120	51.30	39.70	2470	2270
		28.00	42.24	0.417	10.59	41.70	42.50	1990	1560	56.90	53.80	2710	2120	60.80	56.30	2900	2270
		32.00	47.52	0.475	12.06	47.50	50.50	2240	1560	64.80	67.60	3060	2120	69.20	71.20	3270	2270
7	177.80	23.00	34.68	0.317	8.05	30.00	22.50	1630	1320	41.00	25.90	2220	1810	43.70	26.40	2370	1930
		26.00	39.20	0.362	9.19	34.30	29.80	1840	1320	46.80	36.00	2520	1810	49.90	37.30	2690	1930
		29.00	43.77	0.408	10.36	38.60	37.30	2070	1320	52.70	46.40	2820	1810	56.30	48.40	3010	1930
		32.00	48.19	0.453	11.51	42.90	44.60	2280	1970	58.60	56.60	3110	2680	62.50	59.40	3320	2860
		35.00	52.51	0.498	12.65	47.20	50.10	2490	1970	64.40	66.70	3390	2680	68.70	70.20	3620	2860
		38.00	56.50	0.540	13.72	51.20	54.00	2680	1970	69.80	73.60	3640	2680	74.50	78.50	3890	2860
7 ½	193.68	26.40	39.64	0.328	8.33	28.50	19.90	1840	2290	38.90	22.60	2510	2450	41.50	23.40	2680	3130
		29.70	44.82	0.375	9.53	32.60	27.00	2090	2290	44.50	32.10	2850	2450	47.50	33.00	3040	3130
		33.70	50.79	0.430	10.92	37.40	35.20	2380	2290	51.00	43.40	3240	2450	54.50	45.20	3460	3130
		39.00	58.25	0.500	12.70	43.50	45.60	2740	2290	59.30	57.90	3730	3130	63.30	60.80	3980	3130
		42.80	64.68	0.562	14.27	48.90	51.80	3050	2290	66.70	70.60	4160	3130	71.20	74.50	4440	3130

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



	GRADE 90				GRADE 95				GRADE 110				GRADE 125			
	Pi	Pc	Sy	L	Pi	Pc	Sy	L	Pi	Pc	Sy	L	Pi	Pc	Sy	L
	MPa		kN		MPa		kN		MPa		kN		MPa		kN	
55.00	37.40	1510	1250	58.00	38.30	1600	1320	67.20	40.30	1850	1530	76.40	41.70	2100	1740	
64.30	54.10	1750	1250	67.90	55.90	1850	1320	78.50	61.00	2140	1530	89.30	65.40	2430	1740	
78.60	79.50	2110	1250	82.90	82.90	2230	1320	96.00	92.90	2580	1530	109.20	102.20	2930	1740	
95.00	99.00	2510	1900	100.20	104.50	2650	2010	115.90	121.00	3060	2320	131.80	137.50	3480	2640	
101.10	107.30	2720	1900	106.60	113.30	2870	2010	123.40	131.10	3320	2320	140.30	149.10	3770	2640	
101.10	111.70	2830	1900	106.60	117.90	2990	2010	123.40	136.50	3460	2320	140.30	155.10	3930	2640	
54.30	36.30	1810	1320	57.30	37.10	1910	1400	66.30	38.80	2210	1620	75.40	40.60	2510	1840	
60.10	46.50	1990	1320	63.30	47.80	2100	1400	73.30	51.60	2430	1620	83.40	54.40	2760	1840	
71.30	66.40	2340	1320	75.20	69.00	2460	1400	87.10	76.50	2850	1620	99.00	83.30	3240	1840	
82.00	85.40	2660	2130	86.50	89.20	2800	2240	100.10	100.20	3240	2590	113.80	110.80	3690	2950	
94.10	98.20	3010	2130	99.20	103.60	3180	2240	114.80	120.00	3670	2590	130.50	136.30	4180	2950	
52.10	32.50	1900	1370	54.90	33.00	2000	1450	63.60	34.90	2320	1680	72.30	37.00	2640	1910	
57.30	41.40	2080	1370	60.40	42.60	2190	1450	69.90	45.30	2540	1680	79.50	47.20	2880	1910	
63.20	52.30	2280	1370	66.70	54.00	2400	1450	77.20	58.80	2780	1680	87.80	62.70	3170	1910	
67.00	58.60	2400	1370	70.60	60.70	2540	1450	81.70	66.70	2940	1680	93.00	72.00	3340	1910	
47.30	25.50	2300	1500	49.90	26.20	2420	1580	57.70	27.80	2810	1830	65.60	28.80	3190	2080	
57.70	42.30	2780	2550	60.90	43.50	2930	2690	70.50	46.40	3390	3110	80.10	48.40	3860	3540	
68.40	61.20	3260	2550	72.10	63.60	3440	2690	83.50	70.10	3980	3110	94.90	75.80	4520	3540	
77.90	78.10	3670	2550	82.10	81.40	3870	2690	95.10	91.10	4480	3110	108.10	100.20	5100	3540	
49.20	27.80	2670	2170	51.90	28.50	2810	2290	60.10	30.60	3250	2650	68.30	32.10	3700	3010	
56.20	39.60	3020	2170	59.20	40.50	3190	2290	68.60	43.00	3690	2650	78.00	44.50	4200	3010	
63.30	52.30	3380	2170	66.80	54.00	3570	2290	77.30	58.80	4130	2650	87.90	62.70	4700	3010	
70.40	64.70	3730	3220	74.20	67.20	3940	3400	85.90	74.30	4560	3930	97.70	80.80	5180	4470	
77.30	77.00	4080	3220	81.60	80.30	4300	3400	94.40	89.80	4970	3930	107.30	98.70	5660	4470	
83.90	88.40	4370	3220	88.50	92.70	4610	3400	102.40	104.40	5340	3930	116.40	115.50	6070	4470	
46.70	24.90	3010	3760	49.30	25.60	3180	3960	57.10	27.00	3680	4590	64.90	27.90	4180	5220	
53.40	34.70	3420	3760	56.30	35.40	3610	3960	65.20	36.90	4180	4590	74.10	39.10	4750	5220	
61.30	48.60	3890	3760	64.60	50.20	4110	3960	74.80	54.30	4760	4590	85.10	57.60	5410	5220	
71.30	66.30	4480	3760	75.20	68.90	4730	3960	87.00	76.40	5480	4590	98.90	83.20	6220	5220	
80.10	82.00	4990	3760	84.50	85.60	5270	3960	97.70	96.00	6100	4590	111.10	105.80	6940	5220	

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

# PERFORMANCE PROPERTIES CASING

(US CUSTOMARY-UNITS)

PIPE OUTSIDE DIAMETER		NOMINAL WEIGHT		WALL THICKNESS		GRADE 55				GRADE 75				GRADE 80			
						Pi	Pc	Sy	L	Pi	Pc	Sy	L	Pi	Pc	Sy	L
inch	mm	lb/ft	kg/m	inch	mm	psi		1000lb		psi		1000lb		psi		1000lb	
5	127.00	13.00	19.67	0.253	6.43	4870	4140	207	171	6640	4980	283	234	7090	5140	301	250
		15.00	22.71	0.296	7.52	5700	5560	241	171	7770	6930	328	234	8300	7250	351	250
		18.00	27.25	0.362	9.19	6960	7390	290	171	9500	9970	395	234	10140	10500	422	250
		21.40	32.30	0.437	11.10	8410	8770	344	261	11470	11970	470	355	12240	12760	501	380
		23.20	34.94	0.478	12.14	8950	9510	373	261	12200	12970	509	355	13020	13830	543	380
		24.10	36.35	0.500	12.70	8950	9900	389	261	12200	13500	529	355	13020	14400	565	380
5 ½	139.70	15.50	23.45	0.275	6.98	4800	4040	247	182	6560	4830	337	247	7010	4990	362	265
		17.00	25.73	0.304	7.72	5320	4910	272	182	7250	6030	371	247	7750	6290	398	265
		20.00	30.12	0.361	9.17	6310	6610	321	182	8620	8412	437	247	9200	8830	467	265
		23.00	34.17	0.415	10.54	7250	7680	364	292	9910	10470	497	398	10570	11160	531	425
		26.00	38.65	0.476	12.09	8330	8700	414	292	11360	11860	563	398	12130	12650	601	425
5 ¾	146.05	16.40	24.95	0.276	7.00	4610	3720	261	189	6290	4380	355	256	6720	4500	380	274
		17.90	27.21	0.303	7.70	5080	4490	286	189	6920	5450	389	256	7380	5650	416	274
		19.70	29.78	0.335	8.50	5600	5410	312	189	7640	6730	427	256	8150	7020	456	274
		20.40	31.40	0.354	9.00	5930	5950	330	189	8090	7500	450	256	8630	7830	480	274
6 5/8	168.30	20.00	30.11	0.288	7.32	4190	2970	315	205	5710	3350	429	281	6090	3480	459	299
		24.00	36.19	0.352	8.94	5110	4560	382	351	6980	5560	519	477	7440	5760	555	510
		28.00	42.24	0.417	10.59	6050	6170	447	351	8250	7800	609	477	8820	8170	652	510
		32.00	47.52	0.475	12.06	6890	7320	504	351	9400	9800	688	477	10040	10320	735	510
7	177.80	23.00	34.68	0.317	8.05	4350	3270	366	297	5950	3760	499	407	6340	3830	533	434
		26.00	39.20	0.362	9.19	4970	4320	414	297	6790	5220	567	407	7240	5410	605	434
		29.00	43.77	0.408	10.36	5600	5410	465	297	7640	6730	633	407	8170	7020	676	434
		32.00	48.19	0.453	11.51	6220	6470	513	443	8500	8210	699	602	9060	8610	746	643
		35.00	52.51	0.498	12.65	6850	7270	560	443	9340	9670	762	602	9960	10180	814	643
		38.00	56.50	0.540	13.72	7430	7830	602	443	10120	10670	818	602	10810	11390	875	643
7 5/8	193.68	26.40	39.64	0.328	8.33	4130	2890	414	515	5640	3280	564	704	6020	3400	602	751
		29.70	44.82	0.375	9.53	4730	3910	470	515	6450	4650	640	704	6890	4790	683	751
		33.70	50.79	0.430	10.92	5420	5100	535	515	7400	6300	729	704	7900	6560	778	751
		39.00	58.25	0.500	12.70	6310	6610	616	515	8600	8400	839	704	9180	8820	895	751
		42.80	64.68	0.562	14.27	7090	7510	686	515	9670	10240	936	704	10330	10810	998	751

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

	GRADE 90				GRADE 95				GRADE 110				GRADE 125			
	Pi	Pc	Sy	L	Pi	Pc	Sy	L	Pi	Pc	Sy	L	Pi	Pc	Sy	L
	psi		1000lb		psi		1000lb		psi		1000lb		psi		1000lb	
7980	5430	339	281	8410	5560	360	297	9750	5850	416	344	11080	6050	472	391	
9330	7840	393	281	9850	8110	416	297	11390	8850	481	344	12950	9480	546	391	
11400	11530	475	281	12020	12030	501	297	13920	13470	580	344	15840	14830	659	391	
13780	14360	564	427	14530	15160	596	452	16810	17550	688	522	19120	19940	782	593	
14660	15560	611	427	15460	16430	644	452	17900	19020	746	522	20350	21620	848	593	
14660	16200	636	427	15460	17100	671	452	17900	19800	776	522	20350	22500	883	593	
7880	5260	407	297	8310	5380	429	315	9620	5630	497	364	10940	5890	564	414	
8720	6740	447	297	9180	6940	472	315	10630	7480	546	364	12100	7890	620	414	
10340	9630	525	297	10910	10010	554	315	12630	11100	641	364	14360	12080	729	414	
11890	12380	598	479	12550	12940	629	504	14520	14540	728	582	16510	16070	830	663	
13650	14240	676	479	14390	15030	713	504	16650	17400	825	582	18930	19770	938	663	
7560	4710	427	308	7960	4790	450	326	9220	5060	522	378	10490	5360	593	429	
8310	6010	468	308	8760	6180	492	326	10140	6570	571	378	11530	6840	647	429	
9170	7580	513	308	9670	7830	541	326	11200	8530	626	378	12730	9100	712	429	
9720	8500	540	308	10240	8810	570	326	11850	9680	660	378	13490	10440	750	429	
6860	3700	517	337	7240	3800	544	355	8370	4030	632	411	9510	4170	717	468	
8370	6140	625	573	8830	6310	659	605	10230	6730	762	699	11620	7020	868	796	
9920	8880	733	573	10460	9220	773	605	12110	10160	895	699	13760	10990	1016	796	
11300	11330	826	573	11910	11810	872	605	13790	13220	1009	699	15680	14530	1147	796	
7140	4030	600	488	7530	4140	632	515	8720	4440	731	596	9910	4650	832	677	
8150	5740	679	488	8590	5880	717	515	9950	6230	830	596	11310	6450	944	677	
9180	7580	760	488	9690	7830	802	515	11210	8530	929	596	12750	9100	1056	677	
10210	9380	839	724	10760	9750	886	764	12460	10780	1025	883	14170	11720	1165	1005	
11210	11170	917	724	11840	11650	967	764	13690	13020	1117	883	15560	14310	1272	1005	
12170	12820	982	724	12840	13440	1036	764	14850	15140	1200	883	16880	16750	1365	1005	
6770	3610	677	845	7150	3710	714	890	8280	3920	827	1032	9410	4050	940	1174	
7750	5040	769	845	8170	5140	811	890	9460	5350	940	1032	10750	5670	1068	1174	
8890	7050	875	845	9370	7280	923	890	10850	7870	1069	1032	12340	8350	1215	1174	
10340	9620	1007	845	10910	10000	1063	890	12620	11080	1231	1032	14340	12060	1399	1174	
11620	11890	1122	845	12260	12410	1185	890	14170	13920	1372	1032	16110	15350	1559	1174	

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



# MAKE UP TORQUE

## RECOMMENDED OPTIMUM MAKE-UP TORQUE FOR REGULAR COUPLINGS

PIPE OUTSIDE DIAMETER		NOMINAL WEIGHT	GRADE 55	GRADE 75	GRADE 80	GRADE 85	GRADE 90	GRADE 95	GRADE 100	GRADE 110	GRADE 125	GRADE 135
inch	mm	lb/ft	lb.ft (1lb.ft = 1.3558 Nm)									
2 ½	60.32	4.60	960	1110	1140	1180	1220	1250	1290	1360	1470	1540
		5.10	1020	1170	1210	1240	1280	1320	1350	1420	1540	1610
		5.80	1270	1450	1500	1550	1600	1640	1690	1780	1930	2020
2 ½	73.02	6.40	1540	1860	1940	2020	2100	2180	2260	2420	2660	2820
		7.80	2140	2600	2710	2830	2940	3050	3170	3390	3740	3960
		8.60	2330	2830	2960	3080	3210	3330	3460	3710	4080	4330
3 ½	88.90	7.70	1720	1980	2040	2110	2170	2240	2300	2430	2620	2750
		9.20	2170	2520	2610	2700	2790	2870	2960	3140	3400	3580
		10.20	2310	2670	2750	2840	2930	3020	3110	3280	3550	3720
		12.70	3010	3640	3790	3950	4110	4260	4410	4730	5200	5510
		13.70	3100	3730	3880	4040	4200	4350	4500	4810	5280	5600
		14.30	3510	4230	4420	4590	4780	4960	5130	5490	6040	6400
		14.70	3560	4280	4460	4640	4820	5000	5180	5540	6080	6440
4	101.60	9.50	2220	2660	2770	2870	2980	3090	3200	3420	3740	3960
		10.70	2440	2880	2990	3090	3200	3310	3420	3640	3960	4180
		13.20	3230	3880	4040	4200	4360	4520	4680	5000	5490	5810
4 ½	114.30	10.50	2510	2970	3080	3200	3310	3420	3540	3770	4110	4340
		11.60	2890	3430	3570	3700	3830	3970	4100	4370	4780	5050
		12.60	2960	3500	3640	3770	3910	4040	4180	4440	4850	5120
		13.50	3200	3900	4080	4250	4430	4600	4770	5120	5650	6000
		15.20	3690	4530	4740	4940	5150	5360	5570	5980	6610	7030
		17.00	4500	5510	5770	6020	6270	6520	6770	7280	8040	8540
5	127.00	18.90	4640	5640	5900	6150	6410	6650	6900	7410	8170	8670
		13.00	4160	4840	5020	5180	5360	5530	5690	6050	6550	6890
		15.00	4730	5520	5730	5930	6130	6330	6530	6930	7530	7930
		18.00	5290	6190	6420	6640	6870	7090	7310	7780	8440	8890
		21.40	6170	7300	7580	7850	8140	8420	8690	9270	10100	10650
		23.20	6290	7430	7710	7970	8260	8550	8810	9390	10230	10780
5 ½	139.70	24.10	6350	7480	7760	8040	8320	8600	8870	9450	10290	10850
		15.50	5020	5960	6200	6430	6670	6900	7130	7620	8310	8780
		17.00	5660	6780	7060	7350	7640	7900	8180	8760	9590	10150
		20.00	6250	7470	7800	8100	8420	8720	9040	9660	10580	11200
		23.00	6440	7680	7960	8300	8620	8920	9230	9870	10780	11400
5 ¾	146.05	26.00	6630	7870	8180	8490	8800	9120	9420	10050	10980	11590
		16.40	6080	7120	7380	7640	7890	8150	8410	8930	9690	10200
		17.90	6750	7960	8280	8580	8890	9190	9480	10110	11010	11620
		19.70	7180	8490	8810	9140	9470	9800	10120	10790	11750	12400
6	168.28	20.40	7310	8740	9110	9460	9830	10170	10540	11270	12340	13050
		20.00	6870	8280	8650	8990	9350	9690	10050	10770	11820	12520
		24.00	8580	10460	10950	11420	11890	12350	12830	13790	15190	16120
		28.00	8930	10820	11300	11760	12250	12700	13180	14150	15540	16470
7	177.80	32.00	9200	11090	11560	12040	12520	12970	13450	14420	15810	16750
		23.00	8110	9920	10380	10830	11280	11730	12180	13110	14450	15350
		26.00	8900	10900	11420	11910	12420	12910	13410	14440	15920	16920
		29.00	9120	11130	11640	12130	12640	13150	13640	14660	16150	17150
		32.00	9320	11320	11840	12330	12840	13330	13820	14850	16340	17350
		35.00	9480	11500	12000	12500	13010	13510	14000	15040	16520	17510
7 ¾	193.68	38.00	9630	11650	12150	12650	13150	13650	14150	15180	16660	17650
		26.40	7570	9420	9890	10340	10810	11260	11720	12640	14030	14950
		29.70	9410	11680	12250	12810	13390	13950	14510	15640	17350	18480
		33.70	10430	12860	13480	14080	14700	15300	15900	17120	18960	20170
		39.00	12810	15630	16340	17040	17750	18450	19140	20550	22670	24080
42.80	13110	15930	16650	17340	18060	18750	19440	20850	22980	24380		

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.

2 3/8 inches:

Maximum torque: optimum +5%

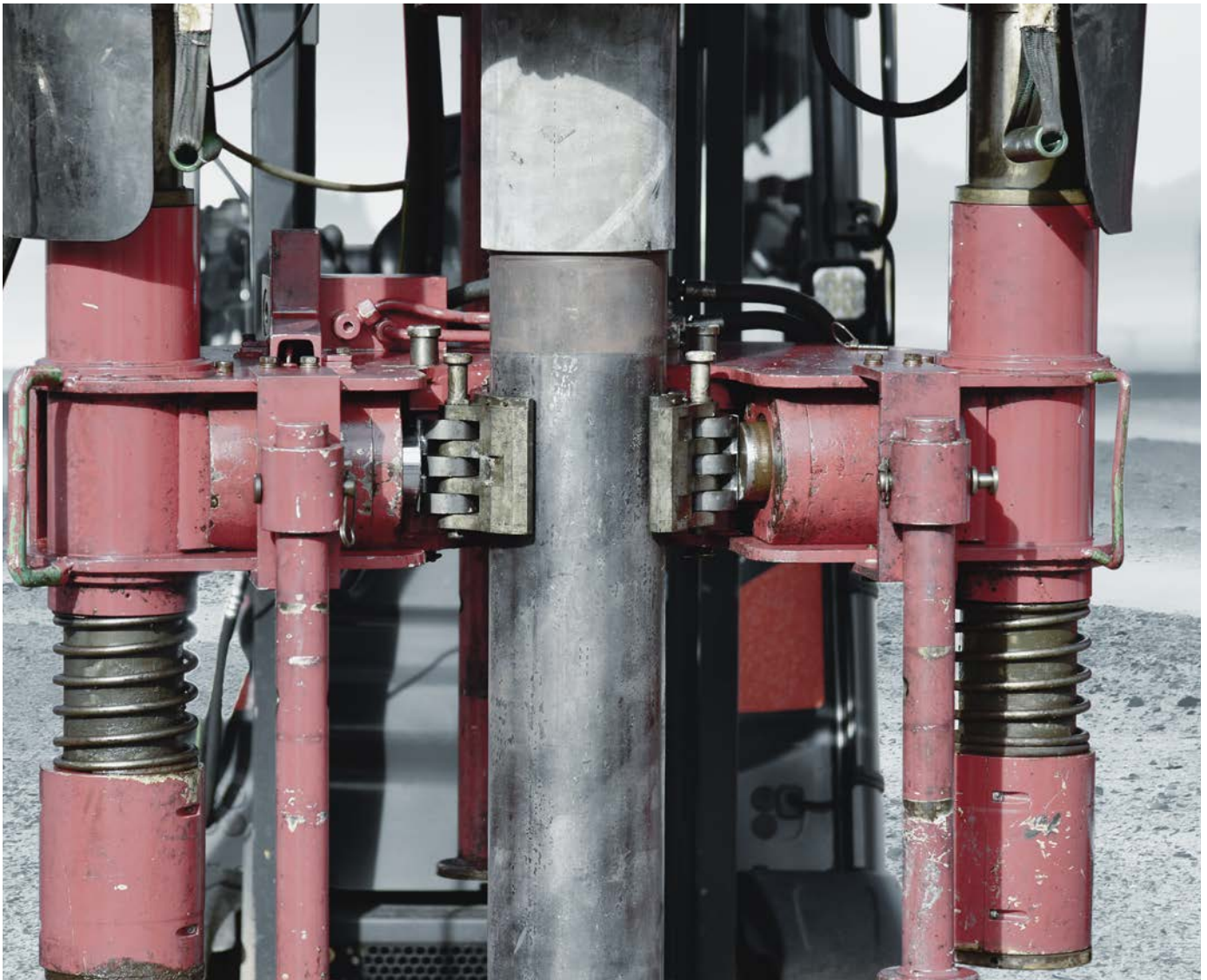
Minimum torque: optimum -5%

All other sizes:

Maximum torque: optimum + 10 %

Minimum torque: optimum - 10 %

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







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# 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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