



DRILL PIPE AND TOOL-JOINT DATA

2 3/8"

TUBE											TOOL JOINT									DRILL PIPE ASSEMBLY, API Range 2 Length (based on 31 1/2 ft shoulder to shoulder)									
OD	Nominal Weight	Grade	Type Upset	Wall Thickness	Tube ID	Drift	Tensile Yield	Torsional Yield	Collapse Pressure	Burst Pressure	Connection Description * (3)	OD	ID	Tong Length * (4)		Material Yield Strength	Torsional Yield	Make-up Torque	Tensile Yield	Pin or Box Weak	Torsional Ratio * (2)	Approx. Weight/Foot	Approx. Weight	Capacity	Displacement		Premium OD	Make-up Torque w/Premium OD	Tube OD
														Pin	Box										Closed Ended	Open Ended			
in	lb/ft			in	in	in	lb	ft-lb	psi	psi		in	in	in	in	psi	ft-lb	ft-lb	lb	*		lb/ft	lb	gal/ft	gal/ft	gal/ft	in	ft-lb	in
2-3/8	6,65	E-75	EU	0,280	1,815	1-5/8	138 000	6 250	15 600	15 500	2 3/8 OH	3-1/4	1-3/4	9	10	120 000	6 480	3 890	295 000	p	1,04	7,11	224	0,13	0,24	0,11	3-3/16	3 350	2-3/8
2-3/8	6,65	E-75	EU	0,280	1,815	1-11/16	138 000	6 250	15 600	15 500	2 3/8 SL H-90	3-1/4	1-13/16	9	10	120 000	6 860	4 110	270 000	b	1,10	7,05	222	0,13	0,24	0,11	3-5/32	3 700	2-3/8
2-3/8	6,65	E-75	EU	0,280	1,815	1-5/8	138 000	6 250	15 600	15 500	NC26	3-3/8	1-3/4	9	10	120 000	6 880	4 130	314 000	p	1,10	7,23	228	0,13	0,24	0,11	3-5/16	3 560	2-3/8
2-3/8	6,65	X-95	EU	0,280	1,815	1-5/8	175 000	7 920	19 800	19 600	2 3/8 OH	3-1/4	1-3/4	9	10	120 000	6 480	3 890	295 000	p	0,82	7,11	224	0,13	0,24	0,11	3-3/16	3 350	2-3/8
2-3/8	6,65	X-95	EU	0,280	1,815	1-11/16	175 000	7 920	19 800	19 600	2 3/8 SL H-90	3-1/4	1-13/16	9	10	120 000	6 860	4 110	270 000	b	0,87	7,05	222	0,13	0,24	0,11	3-5/32	3 700	2-3/8
2-3/8	6,65	X-95	EU	0,280	1,815	1-5/8	175 000	7 920	19 800	19 600	NC26	3-3/8	1-3/4	9	10	120 000	6 880	4 130	314 000	p	0,87	7,23	228	0,13	0,24	0,11	3-5/16	3 560	2-3/8
2-3/8	6,65	G-105	EU	0,280	1,815	1-5/8	194 000	8 750	21 800	21 700	2 3/8 OH	3-1/4	1-3/4	9	10	120 000	6 480	3 890	295 000	p	0,74	7,11	224	0,13	0,24	0,11	3-3/16	3 350	2-3/8
2-3/8	6,65	G-105	EU	0,280	1,815	1-11/16	194 000	8 750	21 800	21 700	2 3/8 SL H-90	3-1/4	1-13/16	9	10	120 000	6 860	4 110	270 000	b	0,78	7,05	222	0,13	0,24	0,11	3-5/32	3 700	2-3/8
2-3/8	6,65	G-105	EU	0,280	1,815	1-5/8	194 000	8 750	21 800	21 700	NC26	3-3/8	1-3/4	9	10	120 000	6 880	4 130	314 000	p	0,79	7,23	228	0,13	0,24	0,11	3-5/16	3 560	2-3/8
2-3/8	6,65	S-135	EU	0,280	1,815	1-5/8	249 000	11 300	28 100	27 900	2 3/8 OH	3-1/4	1-3/4	9	10	120 000	6 480	3 890	295 000	p	0,58	7,11	224	0,13	0,24	0,11	3-1/4	3 890	2-3/8
2-3/8	6,65	S-135	EU	0,280	1,815	1-11/16	249 000	11 300	28 100	27 900	2 3/8 SL H-90	3-1/4	1-13/16	9	10	120 000	6 860	4 110	270 000	b	0,61	7,05	222	0,13	0,24	0,11	3-1/4	4 110	2-3/8
2-3/8	6,65	S-135	EU	0,280	1,815	1-5/8	249 000	11 300	28 100	27 900	NC26	3-5/8	1-3/4	9	10	120 000	7 100	4 260	314 000	b	0,63	7,50	236	0,13	0,25	0,11	3-13/32	4 260	2-3/8

* Notes:

- 1) Capital "P" or "B" indicates a Torsional Ratio less than 0.80.
- 2) API recommends a Torsional Ratio of 0.80 or greater.
- 3) VAM EIS and VAM EXPRESS are proprietary threads of VAM Drilling.
- 4) Tong lengths are a minimum of 2" longer API standard.



DRILL PIPE AND TOOL-JOINT DATA

2 7/8"

TUBE											TOOL JOINT									DRILL PIPE ASSEMBLY, API Range 2 Length (based on 31 1/2 ft shoulder to shoulder)									
OD	Nominal Weight	Grade	Type Upset	Wall Thickness	Tube ID	Drift	Tensile Yield	Torsional Yield	Collapse Pressure	Burst Pressure	Connection Description * (3)	OD	ID	Tong Length * (4)		Material Yield Strength	Torsional Yield	Make-up Torque	Tensile Yield	Pin or Box Weak	Torsional Ratio * (2)	Approx. Weight/Foot	Approx. Weight	Capacity	Displacement		Premium OD	Make-up Torque w/Premium OD	Tube OD
														Pin	Box										Closed Ended	Open Ended			
in	lb/ft			in	in	in	lb	ft-lb	psi	psi		in	in	in	in	psi	ft-lb	ft-lb	lb			lb/ft	lb	gal/ft	gal/ft	gal/ft	in	ft-lb	in
2-7/8	10.40	E-75	EU	0.362	2.151	2-1/32	214 000	11 600	16 500	16 500	2 7/8 OH	3-7/8	2-5/32	9	11	120 000	8 670	5 200	346 000	B	0.75	10.90	343	0.19	0.36	0.17	3-19/32	4 270	2-7/8
2-7/8	10.40	E-75	IU	0.362	2.151	1-3/8	214 000	11 600	16 500	16 500	2 7/8 PAC	3-1/8	1-1/2	9	11	120 000	5 690	3 420	273 000	B	0.49	10.63	335	0.18	0.34	0.16	3-1/8	3 420	2-7/8
2-7/8	10.40	E-75	IU	0.362	2.151	1-3/8	214 000	11 600	16 500	16 500	2 7/8 PAC VAM EIS	3-1/8	1-1/2	9	11	130 000	9 530	5 720	296 000	b	0.82	10.63	335	0.18	0.34	0.16	3-3/32	5 710	2-7/8
2-7/8	10.40	E-75	EU	0.362	2.151	2-1/32	214 000	11 600	16 500	16 500	2 7/8 SL H-90	4-1/8	2-5/32	9	11	120 000	11 200	6 730	383 000	b	0.97	11.22	353	0.19	0.36	0.17	3-5/8	4 920	2-7/8
2-7/8	10.40	E-75	IU	0.362	2.151	1-5/8	214 000	11 600	16 500	16 500	NC26	3-3/8	1-3/4	9	10	120 000	6 880	4 130	314 000	P	0.60	10.63	335	0.18	0.34	0.16	3-3/8	4 130	2-7/8
2-7/8	10.40	E-75	EU	0.362	2.151	2	214 000	11 600	16 500	16 500	NC31	4-1/8	2-1/8	9	11	120 000	11 800	7 070	447 000	b	1.02	11.25	354	0.19	0.36	0.17	3-27/32	4 970	2-7/8
2-7/8	10.40	E-75	EU	0.362	2.151	1-7/8	214 000	11 600	16 500	16 500	NC31 VAM EIS	4-1/8	2	9	11	130 000	19 600	11 800	537 000	b	1.70	11.39	359	0.19	0.36	0.17	3-31/32	10 200	2-7/8
2-7/8	10.40	X-95	EU	0.362	2.151	2-1/32	272 000	14 600	20 900	20 900	2 7/8 OH	3-7/8	2-5/32	9	11	120 000	8 670	5 200	346 000	B	0.59	10.90	343	0.19	0.36	0.17	3-7/8	5 200	2-7/8
2-7/8	10.40	X-95	IU	0.362	2.151	1-3/8	272 000	14 600	20 900	20 900	2 7/8 PAC	3-1/8	1-1/2	9	11	120 000	5 690	3 420	273 000	B	0.39	10.63	335	0.18	0.34	0.16	3-1/8	3 420	2-7/8
2-7/8	10.40	X-95	IU	0.362	2.151	1-3/8	272 000	14 600	20 900	20 900	2 7/8 PAC VAM EIS	3-1/8	1-1/2	9	11	130 000	9 530	5 720	296 000	B	0.65	10.63	335	0.18	0.34	0.16	3-3/32	5 710	2-7/8
2-7/8	10.40	X-95	EU	0.362	2.151	1-7/8	272 000	14 600	20 900	20 900	2 7/8 SL H-90	4	2	9	11	120 000	13 100	7 870	444 000	b	0.90	11.23	354	0.19	0.36	0.17	3-11/16	5 700	2-7/8
2-7/8	10.40	X-95	IU	0.362	2.151	1-3/8	272 000	14 600	20 900	20 900	NC26	3-5/8	1-1/2	9	10	120 000	8 960	5 380	390 000	B	0.61	11.10	350	0.18	0.35	0.17	3-5/8	5 380	2-7/8
2-7/8	10.40	X-95	IU	0.362	2.151	1-3/8	272 000	14 600	20 900	20 900	NC26 VAM EIS	3-5/8	1-1/2	9	10	130 000	13 900	8 310	423 000	b	0.95	11.10	350	0.18	0.35	0.17	3-5/16	6 290	2-7/8
2-7/8	10.40	X-95	EU	0.362	2.151	1-7/8	272 000	14 600	20 900	20 900	NC31	4-1/8	2	9	11	120 000	13 200	7 890	496 000	b	0.90	11.39	359	0.19	0.36	0.17	3-29/32	5 730	2-7/8
2-7/8	10.40	X-95	EU	0.362	2.151	1-7/8	272 000	14 600	20 900	20 900	NC31 VAM EIS	4-1/8	2	9	11	130 000	19 600	11 800	537 000	b	1.34	11.39	359	0.19	0.36	0.17	3-31/32	10 200	2-7/8
2-7/8	10.40	G-105	EU	0.362	2.151	2-1/32	300 000	16 200	23 100	23 100	2 7/8 OH	3-7/8	2-5/32	9	11	120 000	8 670	5 200	346 000	B	0.54	10.90	343	0.19	0.36	0.17	3-7/8	5 200	2-7/8
2-7/8	10.40	G-105	IU	0.362	2.151	1-3/8	300 000	16 200	23 100	23 100	2 7/8 PAC	3-1/8	1-1/2	9	11	120 000	5 690	3 420	273 000	B	0.35	10.63	335	0.18	0.34	0.16	3-1/8	3 420	2-7/8
2-7/8	10.40	G-105	IU	0.362	2.151	1-3/8	300 000	16 200	23 100	23 100	2 7/8 PAC VAM EIS	3-1/8	1-1/2	9	11	130 000	9 530	5 720	296 000	B	0.59	10.63	335	0.18	0.34	0.16	3-1/8	5 720	2-7/8
2-7/8	10.40	G-105	EU	0.362	2.151	1-7/8	300 000	16 200	23 100	23 100	2 7/8 SL H-90	4	2	9	11	120 000	13 100	7 870	444 000	b	0.81	11.23	354	0.19	0.36	0.17	3-23/32	6 100	2-7/8
2-7/8	10.40	G-105	IU	0.362	2.151	1-3/8	300 000	16 200	23 100	23 100	NC26	3-5/8	1-1/2	9	10	120 000	8 960	5 380	390 000	B	0.55	11.10	350	0.18	0.35	0.17	3-5/8	5 380	2-7/8
2-7/8	10.40	G-105	IU	0.362	2.151	1-3/8	300 000	16 200	23 100	23 100	NC26 VAM EIS	3-5/8	1-1/2	9	10	130 000	13 900	8 310	423 000	b	0.86	11.10	350	0.18	0.35	0.17	3-5/16	6 290	2-7/8
2-7/8	10.40	G-105	EU	0.362	2.151	1-7/8	300 000	16 200	23 100	23 100	NC31	4-1/8	2	9	11	120 000	13 200	7 890	496 000	b	0.81	11.39	359	0.19	0.36	0.17	3-15/16	6 110	2-7/8
2-7/8	10.40	G-105	EU	0.362	2.151	1-7/8	300 000	16 200	23 100	23 100	NC31 VAM EIS	4-1/8	2	9	11	130 000	19 600	11 800	537 000	b	1.21	11.39	359	0.19	0.36	0.17	3-31/32	10 200	2-7/8
2-7/8	10.40	G-105	IU	0.362	2.151	1-3/8	300 000	16 200	23 100	23 100	VAM EXPRESS VX24	3-1/8	1-1/2	11	12	130 000	9 630	5 780	309 000	P	0.60	10.71	337	0.18	0.34	0.16	3-1/8	5 780	2-7/8
2-7/8	10.40	G-105	IU	0.362	2.151	1-3/8	300 000	16 200	23 100	23 100	VAM EXPRESS VX26	3-1/2	1-1/2	11	12	130 000	15 100	9 040	427 000	P	0.93	11.15	351	0.18	0.35	0.17	3-1/4	6 490	2-7/8
2-7/8	10.40	G-105	EU	0.362	2.151	2-1/32	300 000	16 200	23 100	23 100	VAM EXPRESS VX31	4	2-5/32	11	13	130 000	18 800	11 300	476 000	b	1.16	11.27	355	0.19	0.36	0.17	3-3/4	8 080	2-7/8
2-7/8	10.40	S-135	EU	0.362	2.151	2-1/32	386 000	20 800	29 700	29 700	2 7/8 OH	3-7/8	2-5/32	9	11	120 000	8 670	5 200	346 000	B	0.42	10.90	343	0.19	0.36	0.17	3-7/8	5 200	2-7/8
2-7/8	10.40	S-135	IU	0.362	2.151	1-3/8	386 000	20 800	29 700	29 700	2 7/8 PAC	3-1/8	1-1/2	9	11	120 000	5 690	3 420	273 000	B	0.27	10.63	335	0.18	0.34	0.16	3-1/8	3 420	2-7/8
2-7/8	10.40	S-135	IU	0.362	2.151	1-3/8	386 000	20 800	29 700	29 700	2 7/8 PAC VAM EIS	3-1/8	1-1/2	9	11	130 000	9 530	5 720	296 000	B	0.46	10.63	335	0.18	0.34	0.16	3-1/8	5 720	2-7/8
2-7/8	10.40	S-135	EU	0.362	2.151	1-1/2	386 000	20 800	29 700	29 700	2 7/8 SL H-90	4-1/8	1-5/8	9	11	120 000	17 100	10 300	572 000	b	0.82	11.77	371	0.18	0.36	0.18	3-27/32	7 750	2-7/8
2-7/8	10.40	S-135	IU	0.362	2.151	1-3/8	386 000	20 800	29 700	29 700	NC26	3-5/8	1-1/2	9	10	120 000	8 960	5 380	390 000	B	0.43	11.10	350	0.18	0.35	0.17	3-5/8	5 380	2-7/8
2-7/8	10.40	S-135	IU	0.362	2.151	1-3/8	386 000	20 800	29 700	29 700	NC26 VAM EIS	3-5/8	1-1/2	9	10	130 000	13 900	8 310	423 000	B	0.67	11.10	350	0.18	0.35	0.17	3-15/32	7 860	2-7/8
2-7/8	10.40	S-135	EU	0.362	2.151	1-1/2	386 000	20 800	29 700	29 700	NC31	4-3/8	1-5/8	9	11	120 000	16 800	10 100	624 000	b	0.81	12.12	362	0.18	0.37	0.19	4-1/16	7 690	2-7/8
2-7/8	10.40	S-135	EU	0.362	2.151	1-7/8	386 000	20 800	29 700	29 700	NC31 VAM EIS	4-1/8	2	9	11	130 000	19 600	11 800	537 000	b	0.94	11.39	359	0.19	0.36	0.17	3-31/32	10 200	2-7/8
2-7/8	10.40	S-135	IU	0.362	2.151	1-3/8	386 000	20 800	29 700	29 700	VAM EXPRESS VX24	3-1/8	1-1/2	11	12	130 000	9 630	5 780	309 000	P	0.46	10.71	337	0.18	0.34	0.16	3-1/8	5 780	2-7/8
2-7/8	10.40	S-135	IU	0.362	2.151	1-3/8	386 000	20 800	29 700	29 700	VAM EXPRESS VX26	3-5/8	1-1/2	11	12	130 000	15 100	9 040	427 000	B	0.72	11.31	356	0.18	0.35	0.17	3-3/8	7 730	2-7/8
2-7/8	10.40	S-135	EU	0.362	2.151	1-7/8	386 000	20 800	29 700	29 700	VAM EXPRESS VX31	4-1/8	2	11	13	130 000	22 200	13 300	542 000	b	1.07	11.66	367	0.19	0.36	0.18	3-3/4	8 970	2-7/8

* Notes:

- Capital "P" or "B" indicates a Torsional Ratio less than 0.80.
- API recommends a Torsional Ratio of 0.80 or greater.
- VAM EIS and VAM EXPRESS are proprietary threads of VAM Drilling.
- Tong lengths are a minimum of 2" longer API standard.



DRILL PIPE AND TOOL-JOINT DATA

3 1/2"

TUBE											TOOL JOINT										DRILL PIPE ASSEMBLY, API Range 2 Length (based on 31 1/2 ft shoulder to shoulder)									
OD	Nominal Weight	Grade	Type Upset	Wall Thickness	Tube ID	Drift	Tensile Yield	Torsional Yield	Collapse Pressure	Burst Pressure	Connection Description * (3)	OD	ID	Tong Length * (4)		Material Yield Strength	Torsional Yield	Make-up Torque	Tensile Yield	Pin or Box Weak	Torsional Ratio * (2)	Approx. Weight/Foot	Approx. Weight	Capacity	Displacement		Premium OD	Make-up Torque w/Premium OD	Tube OD	
														Pin	Box										Closed Ended	Open Ended				
in	lb/ft			in	in	in	lb	ft-lb	psi	psi		in	in	in	in	psi	ft-lb	ft-lb	lb	*	(1)	lb/ft	lb	gal/ft	gal/ft	gal/ft	in	ft-lb	in	
3-1/2	13.30	E-75	EU	0,368	2,764	2-11/16	272 000	18 600	14 100	13 800	3 1/2 SL H-90	4-3/4	2-13/16	10	12-1/2	120 000	16 100	9 670	469 000	b	0,87	14,24	449	0,31	0,53	0,22	4-9/32	7 110	3-1/2	
3-1/2	13.30	E-75	IU	0,368	2,764	2	272 000	18 600	14 100	13 800	NC31	4-1/8	2-1/8	9	11	120 000	11 800	7 070	447 000	B	0,64	13,98	440	0,30	0,51	0,21	4-1/32	7 070	3-1/2	
3-1/2	13.30	E-75	IU	0,368	2,764	1-7/8	272 000	18 600	14 100	13 800	NC31 VAM EIS	4-1/8	2	9	11	130 000	19 600	11 800	537 000	B	1,06	14,12	445	0,30	0,51	0,22	3-31/32	10 200	3-1/2	
3-1/2	13.30	E-75	EU	0,368	2,764	2-9/16	272 000	18 600	14 100	13 800	NC38	4-3/4	2-11/16	10	12-1/2	120 000	18 100	10 800	587 000	b	0,97	14,44	455	0,31	0,53	0,22	4-1/2	7 270	3-1/2	
3-1/2	13.30	E-75	EU	0,368	2,764	2-7/16	272 000	18 600	14 100	13 800	NC38 VAM EIS	4-3/4	2-9/16	10	12-1/2	130 000	28 300	17 000	703 000	p	1,53	14,63	461	0,31	0,53	0,22	4-19/32	14 100	3-1/2	
3-1/2	13.30	X-95	EU	0,368	2,764	2-7/16	344 000	23 500	17 900	17 500	3 1/2 SL H-90	4-3/4	2-9/16	10	12-1/2	120 000	20 700	12 400	596 000	b	0,88	14,63	461	0,31	0,53	0,22	4-3/8	8 740	3-1/2	
3-1/2	13.30	X-95	IU	0,368	2,764	1-7/8	344 000	23 500	17 900	17 500	NC31	4-1/8	2	9	11	120 000	13 200	7 890	496 000	B	0,56	14,12	445	0,30	0,51	0,22	4-1/8	7 890	3-1/2	
3-1/2	13.30	X-95	EU	0,368	2,764	2-7/16	344 000	23 500	17 900	17 500	NC38	5	2-9/16	10	12-1/2	120 000	20 100	12 100	649 000	b	0,86	15,07	475	0,31	0,54	0,23	4-19/32	8 820	3-1/2	
3-1/2	13.30	X-95	EU	0,368	2,764	2-7/16	344 000	23 500	17 900	17 500	NC38 VAM EIS	4-3/4	2-9/16	10	12-1/2	130 000	28 300	17 000	703 000	p	1,21	14,63	461	0,31	0,53	0,22	4-19/32	14 100	3-1/2	
3-1/2	13.30	VM-95 SS	EU	0,368	2,764	2-5/16	344 000	23 500	17 900	17 500	NC38	5	2-7/16	10	12-1/2	110 000	20 200	12 100	649 000	b	0,86	15,26	481	0,30	0,54	0,23	4-21/32	9 060	3-1/2	
3-1/2	13.30	VM-95 SS	EU	0,368	2,764	2-7/16	344 000	23 500	17 900	17 500	NC38 VAM EIS	4-3/4	2-9/16	10	12-1/2	110 000	24 000	14 400	595 000	p	1,02	14,63	461	0,31	0,53	0,22	4-19/32	11 900	3-1/2	
3-1/2	13.30	G-105	EU	0,368	2,764	2-7/16	380 000	26 000	19 800	19 300	3 1/2 SL H-90	4-3/4	2-9/16	10	12-1/2	120 000	20 700	12 400	596 000	B	0,80	14,63	461	0,31	0,53	0,22	4-7/16	9 860	3-1/2	
3-1/2	13.30	G-105	IU	0,368	2,764	1-7/8	380 000	26 000	19 800	19 300	NC31	4-1/8	2	9	11	120 000	13 200	7 890	496 000	B	0,51	14,12	445	0,30	0,51	0,22	4-1/8	7 890	3-1/2	
3-1/2	13.30	G-105	EU	0,368	2,764	2-5/16	380 000	26 000	19 800	19 300	NC38	5	2-7/16	10	12-1/2	120 000	22 000	13 200	708 000	b	0,85	15,26	481	0,30	0,54	0,23	4-21/32	9 880	3-1/2	
3-1/2	13.30	G-105	EU	0,368	2,764	2-7/16	380 000	26 000	19 800	19 300	NC38 VAM EIS	4-3/4	2-9/16	10	12-1/2	130 000	28 300	17 000	703 000	p	1,09	14,63	461	0,31	0,53	0,22	4-19/32	14 100	3-1/2	
3-1/2	13.30	G-105	EU	0,368	2,764	2-5/8	380 000	26 000	19 800	19 300	VAM EXPRESS VX38	4-5/8	2-3/4	12	15	130 000	26 300	15 800	591 000	p	1,01	14,43	455	0,31	0,53	0,22	4-3/8	11 300	3-1/2	
3-1/2	13.30	G-105	EU	0,368	2,764	2-11/16	380 000	26 000	19 800	19 300	VAM EXPRESS VX39	4-7/8	2-13/16	12	15	130 000	33 500	20 100	713 000	p	1,29	14,81	467	0,31	0,54	0,23	4-9/16	13 900	3-1/2	
3-1/2	13.30	VM-105 SS	EU	0,368	2,764	2-5/16	380 000	26 000	19 800	19 300	NC38	5	2-7/16	10	12-1/2	110 000	20 200	12 100	649 000	B	0,78	15,26	481	0,30	0,54	0,23	4-23/32	10 000	3-1/2	
3-1/2	13.30	VM-105 SS	EU	0,368	2,764	2-7/16	380 000	26 000	19 800	19 300	NC38 VAM EIS	4-3/4	2-9/16	10	12-1/2	110 000	24 000	14 400	595 000	p	0,92	14,63	461	0,31	0,53	0,22	4-19/32	11 900	3-1/2	
3-1/2	13.30	S-135	EU	0,368	2,764	2	489 000	33 400	25 400	24 800	3 1/2 SL H-90	5	2-1/8	10	12-1/2	120 000	27 800	16 700	789 000	b	0,83	15,68	494	0,30	0,54	0,24	4-19/32	12 700	3-1/2	
3-1/2	13.30	S-135	IU	0,368	2,764	1-7/8	489 000	33 400	25 400	24 800	NC31	4-1/8	2	9	11	120 000	13 200	7 890	496 000	B	0,39	14,12	445	0,30	0,51	0,22	4-1/8	7 890	3-1/2	
3-1/2	13.30	S-135	EU	0,368	2,764	2	489 000	33 400	25 400	24 800	NC38	5	2-1/8	10	12-1/2	120 000	26 500	15 900	842 000	B	0,79	15,68	494	0,30	0,54	0,24	4-13/16	12 600	3-1/2	
3-1/2	13.30	S-135	EU	0,368	2,764	2-7/16	489 000	33 400	25 400	24 800	NC38 VAM EIS	4-3/4	2-9/16	10	12-1/2	130 000	28 300	17 000	703 000	p	0,85	14,63	461	0,31	0,53	0,22	4-19/32	14 100	3-1/2	
3-1/2	13.30	S-135	EU	0,368	2,764	2-5/8	489 000	33 400	25 400	24 800	VAM EXPRESS VX38	4-3/4	2-3/4	12	15	130 000	26 500	15 900	591 000	B	0,79	14,67	462	0,31	0,54	0,22	4-15/32	12 900	3-1/2	
3-1/2	13.30	S-135	EU	0,368	2,764	2-9/16	489 000	33 400	25 400	24 800	VAM EXPRESS VX39	4-7/8	2-11/16	12	15	130 000	35 400	21 200	783 000	p	1,06	15,03	474	0,31	0,54	0,23	4-9/16	15 100	3-1/2	
3-1/2	15.50	E-75	EU	0,449	2,602	2-7/16	323 000	21 100	16 800	16 800	NC38	5	2-9/16	10	12-1/2	120 000	20 100	12 100	649 000	b	0,95	17,13	540	0,28	0,54	0,26	4-17/32	7 790	3-1/2	
3-1/2	15.50	E-75	EU	0,449	2,602	2-7/16	323 000	21 100	16 800	16 800	NC38 VAM EIS	4-3/4	2-9/16	10	12-1/2	130 000	28 300	17 000	703 000	p	1,34	16,70	526	0,28	0,53	0,26	4-19/32	14 100	3-1/2	
3-1/2	15.50	X-95	EU	0,449	2,602	2-5/16	409 000	26 700	21 200	21 300	NC38	5	2-7/16	10	12-1/2	120 000	22 000	13 200	708 000	b	0,83	17,32	546	0,27	0,54	0,26	4-21/32	9 880	3-1/2	
3-1/2	15.50	X-95	EU	0,449	2,602	2-7/16	409 000	26 700	21 200	21 300	NC38 VAM EIS	4-3/4	2-9/16	10	12-1/2	130 000	28 300	17 000	703 000	p	1,06	16,70	526	0,28	0,53	0,26	4-19/32	14 100	3-1/2	
3-1/2	15.50	VM-95 SS	EU	0,449	2,602	2-5/16	409 000	26 700	21 200	21 300	NC38	5	2-7/16	10	12-1/2	110 000	20 200	12 100	649 000	B	0,76	17,32	546	0,27	0,54	0,26	4-23/32	10 000	3-1/2	
3-1/2	15.50	VM-95 SS	EU	0,449	2,602	2-7/16	409 000	26 700	21 200	21 300	NC38 VAM EIS	4-3/4	2-9/16	10	12-1/2	110 000	24 000	14 400	595 000	p	0,90	16,70	526	0,28	0,53	0,26	4-19/32	11 900	3-1/2	
3-1/2	15.50	G-105	EU	0,449	2,602	2	452 000	29 500	23 500	23 600	NC38	5	2-1/8	10	12-1/2	120 000	26 500	15 900	842 000	b	0,90	17,74	559	0,27	0,54	0,27	4-23/32	11 000	3-1/2	
3-1/2	15.50	G-105	EU	0,449	2,602	2-7/16	452 000	29 500	23 500	23 600	NC38 VAM EIS	4-3/4	2-9/16	10	12-1/2	130 000	28 300	17 000	703 000	p	0,96	16,70	526	0,28	0,53	0,26	4-19/32	14 100	3-1/2	
3-1/2	15.50	G-105	EU	0,449	2,602	2-7/16	452 000	29 500	23 500	23 600	NC40	5-1/4	2-9/16	9	12	120 000	27 700	16 600	838 000	b	0,94	17,43	549	0,28	0,54	0,27	4-15/16	11 400	3-1/2	
3-1/2	15.50	G-105	EU	0,449	2,602	2-9/16	452 000	29 500	23 500	23 600	VAM EXPRESS VX38	4-3/4	2-11/16	12	15	130 000	28 600	17 200	625 000	B	0,97	16,82	530	0,28	0,54	0,26	4-3/8	11 800	3-1/2	
3-1/2	15.50	G-105	EU	0,449	2,602	2-11/16	452 000	29 500	23 500	23 600	VAM EXPRESS VX39	4-7/8	2-13/16	12	15	130 000	33 500	20 100	713 000	p	1,13	16,85	531	0,28	0,54	0,26	4-9/16	13 900	3-1/2	
3-1/2	15.50	VM-105 SS	EU	0,449	2,602	2-1/8	452 000	29 500	23 500	23 600	NC38	5	2-1/4	10	12-1/2	110 000	22 700	13 600	725 000	B	0,77	17,58	554	0,27	0,54	0,27	4-25/32	11 100	3-1/2	
3-1/2	15.50	VM-105 SS	EU	0,449	2,602	2-5/16	452 000	29 500	23 500	23 600	NC38 VAM EIS	4-3/4	2-7/16	10	12-1/2	110 000	25 300	15 200	649 000	p	0,86	16,88	532	0,27	0,53	0,26	4-19/32	12 700	3-1/2	
3-1/2	15.50	S-135	EU	0,449	2,602	2	581 000	38 000	30 200	30 300	NC38	5	2-1/8	10	12-1/2	120 000	26 500	15 900												



DRILL PIPE AND TOOL-JOINT DATA

4"

TUBE											TOOL JOINT										DRILL PIPE ASSEMBLY, API Range 2 Length (based on 31 1/2 ft shoulder to shoulder)									
OD	Nominal Weight	Grade	Type Upset	Wall Thickness	Tube ID	Drift	Tensile Yield	Torsional Yield	Collapse Pressure	Burst Pressure	Connection Description * (3)	OD	ID	Tong Length * (4)		Material Yield Strength	Torsional Yield	Make-up Torque	Tensile Yield	Pin or Box Weak	Torsional Ratio * (2)	Approx. Weight/Foot	Approx. Weight	Capacity	Displacement		Premium OD	Make-up Torque w/Premium OD	Tube OD	
														Pin	Box										Closed Ended	Open Ended				
in	lb/ft			in	in	in	lb	ft-lb	psi	psi		in	in	in	in	psi	ft-lb	ft-lb	lb			lb/ft	lb	gal/ft	gal/ft	gal/ft	in	ft-lb	in	
4	14.00	E-75	IU	0,330	3,340	2-5/16	285 000	23 300	11 400	10 800	4 SH	4-5/8	2-7/16	10	12-1/2	120 000	16 900	10 100	571 000	B	0,72	15,46	487	0,43	0,67	0,24	4-7/16	8 780	4	
4	14.00	E-75	IU	0,330	3,340	2-7/16	285 000	23 300	11 400	10 800	NC38 VAM EIS	4-3/4	2-9/16	10	12-1/2	130 000	28 300	17 000	703 000	p	1,22	15,49	488	0,43	0,67	0,24	4-19/32	14 100	4	
4	14.00	E-75	IU	0,330	3,340	2-11/16	285 000	23 300	11 400	10 800	NC40	5-1/4	2-13/16	9	12	120 000	23 300	14 000	712 000	b	1,00	15,84	499	0,44	0,68	0,24	4-27/32	9 600	4	
4	14.00	E-75	EU	0,330	3,340	3-1/8	285 000	23 300	11 400	10 800	NC46	6	3-1/4	9	12	120 000	33 200	19 900	901 000	b	1,43	16,79	529	0,45	0,71	0,26	5-13/32	12 100	4	
4	14.00	X-95	IU	0,330	3,340	2-5/16	361 000	29 500	14 400	13 700	4 SH	4-5/8	2-7/16	10	12-1/2	120 000	16 900	10 100	571 000	B	0,57	15,46	487	0,43	0,67	0,24	4-5/8	10 100	4	
4	14.00	X-95	IU	0,330	3,340	2-7/16	361 000	29 500	14 400	13 700	NC38 VAM EIS	4-3/4	2-9/16	10	12-1/2	130 000	28 300	17 000	703 000	p	0,96	15,49	488	0,43	0,67	0,24	4-19/32	14 100	4	
4	14.00	X-95	IU	0,330	3,340	2-9/16	361 000	29 500	14 400	13 700	NC40	5-1/4	2-11/16	9	12	120 000	25 500	15 300	776 000	b	0,87	16,03	505	0,44	0,68	0,24	4-15/16	11 400	4	
4	14.00	X-95	EU	0,330	3,340	3-1/8	361 000	29 500	14 400	13 700	NC46	6	3-1/4	9	12	120 000	33 200	19 900	901 000	b	1,13	16,79	529	0,45	0,71	0,26	5-13/32	12 100	4	
4	14.00	VM-95 SS	IU	0,330	3,340	2-1/8	361 000	29 500	14 400	13 700	NC38	5	2-1/4	10	12-1/2	110 000	22 700	13 600	725 000	B	0,77	16,37	516	0,43	0,68	0,25	4-13/16	11 600	4	
4	14.00	VM-95 SS	IU	0,330	3,340	2-7/16	361 000	29 500	14 400	13 700	NC38 VAM EIS	5	2-9/16	10	12-1/2	110 000	25 000	15 000	595 000	b	0,85	15,93	502	0,43	0,68	0,24	4-19/32	11 900	4	
4	14.00	VM-95 SS	IU	0,330	3,340	2-7/16	361 000	29 500	14 400	13 700	NC40	5-1/4	2-9/16	9	12	110 000	25 400	15 200	768 000	b	0,86	16,22	511	0,44	0,68	0,25	5	11 500	4	
4	14.00	VM-95 SS	IU	0,330	3,340	2-9/16	361 000	29 500	14 400	13 700	NC40 VAM EIS	5-1/4	2-11/16	9	12	110 000	31 400	18 800	712 000	b	1,06	16,03	505	0,44	0,68	0,24	4-7/8	14 100	4	
4	14.00	G-105	IU	0,330	3,340	2-5/16	400 000	32 600	15 900	15 200	4 SH	4-5/8	2-7/16	10	12-1/2	120 000	16 900	10 100	571 000	B	0,52	15,46	487	0,43	0,67	0,24	4-5/8	10 100	4	
4	14.00	G-105	IU	0,330	3,340	2-7/16	400 000	32 600	15 900	15 200	NC38 VAM EIS	5	2-9/16	10	12-1/2	130 000	29 600	17 700	703 000	b	0,91	15,93	502	0,43	0,68	0,24	4-19/32	14 100	4	
4	14.00	G-105	IU	0,330	3,340	2-5/16	400 000	32 600	15 900	15 200	NC40	5-1/2	2-7/16	9	12	120 000	29 800	17 900	897 000	b	0,91	16,87	531	0,43	0,69	0,26	5	12 600	4	
4	14.00	G-105	EU	0,330	3,340	3-1/8	400 000	32 600	15 900	15 200	NC46	6	3-1/4	9	12	120 000	33 200	19 900	901 000	b	1,02	16,79	529	0,45	0,71	0,26	5-7/16	12 800	4	
4	14.00	G-105	IU	0,330	3,340	2-11/16	400 000	32 600	15 900	15 200	VAM EXPRESS VX39	4-7/8	2-13/16	12	15	130 000	33 500	20 100	713 000	p	1,03	15,66	493	0,44	0,68	0,24	4-9/16	13 900	4	
4	14.00	G-105	IU	0,330	3,340	2-7/8	400 000	32 600	15 900	15 200	VAM EXPRESS VX40	5-1/4	3	11	14	130 000	42 300	25 400	818 000	p	1,30	15,91	501	0,44	0,69	0,24	4-31/32	19 000	4	
4	14.00	VM-105 SS	IU	0,330	3,340	2-1/8	400 000	32 600	15 900	15 200	NC38	5	2-1/4	10	12-1/2	110 000	22 700	13 600	725 000	B	0,70	16,37	516	0,43	0,68	0,25	4-7/8	12 600	4	
4	14.00	VM-105 SS	IU	0,330	3,340	2-5/16	400 000	32 600	15 900	15 200	NC38 VAM EIS	5	2-7/16	10	12-1/2	110 000	28 100	16 900	649 000	b	0,86	16,11	507	0,43	0,68	0,25	4-19/32	12 700	4	
4	14.00	VM-105 SS	IU	0,330	3,340	2-5/16	400 000	32 600	15 900	15 200	NC40	5-1/4	2-7/16	9	12	110 000	26 900	16 100	822 000	p	0,83	16,40	517	0,43	0,68	0,25	5-1/16	12 600	4	
4	14.00	VM-105 SS	IU	0,330	3,340	2-9/16	400 000	32 600	15 900	15 200	NC40 VAM EIS	5-1/4	2-11/16	9	12	110 000	31 400	18 800	712 000	b	0,96	16,03	505	0,44	0,68	0,24	4-7/8	14 100	4	
4	14.00	S-135	IU	0,330	3,340	2-5/16	514 000	41 900	20 100	19 500	4 SH	4-5/8	2-7/16	10	12-1/2	120 000	16 900	10 100	571 000	B	0,40	15,46	487	0,43	0,67	0,24	4-5/8	10 100	4	
4	14.00	S-135	IU	0,330	3,340	2-5/16	514 000	41 900	20 100	19 500	NC38 VAM EIS	5	2-7/16	10	12-1/2	130 000	33 200	19 900	767 000	B	0,79	16,11	507	0,43	0,68	0,25	4-21/32	16 200	4	
4	14.00	S-135	IU	0,330	3,340	2-5/16	514 000	41 900	20 100	19 500	NC40	5-1/2	2-7/16	9	12	120 000	29 800	17 900	897 000	B	0,71	16,87	531	0,43	0,69	0,26	5-3/16	16 300	4	
4	14.00	S-135	IU	0,330	3,340	2-9/16	514 000	41 900	20 100	19 500	NC40 VAM EIS	5-1/4	2-11/16	9	12	130 000	37 100	22 300	841 000	b	0,89	16,03	505	0,44	0,68	0,24	4-7/8	16 600	4	
4	14.00	S-135	EU	0,330	3,340	2-7/8	514 000	41 900	20 100	19 500	NC46	6	3	9	12	120 000	39 000	23 400	1 050 000	b	0,93	17,24	543	0,45	0,71	0,26	5-9/16	15 800	4	
4	14.00	S-135	IU	0,330	3,340	2-5/16	514 000	41 900	20 100	19 500	VAM EXPRESS VX38	4-3/4	2-7/16	12	15	130 000	34 600	20 800	757 000	p	0,83	16,04	505	0,43	0,67	0,25	4-1/2	16 100	4	
4	14.00	S-135	IU	0,330	3,340	2-11/16	514 000	41 900	20 100	19 500	VAM EXPRESS VX39	4-7/8	2-13/16	12	15	130 000	33 500	20 100	713 000	p	0,80	15,66	493	0,44	0,68	0,24	4-11/16	16 300	4	
4	14.00	S-135	IU	0,330	3,340	2-7/8	514 000	41 900	20 100	19 500	VAM EXPRESS VX40	5-1/4	3	11	14	130 000	42 300	25 400	818 000	p	1,01	15,91	501	0,44	0,69	0,24	4-31/32	19 000	4	



DRILL PIPE AND TOOL-JOINT DATA

4"

TUBE											TOOL JOINT										DRILL PIPE ASSEMBLY, API Range 2 Length (based on 31 1/2 ft shoulder to shoulder)									
OD	Nominal Weight	Grade	Type Upset	Wall Thickness	Tube ID	Drift	Tensile Yield	Torsional Yield	Collapse Pressure	Burst Pressure	Connection Description * (3)	OD	ID	Tong Length * (4)		Material Yield Strength	Torsional Yield	Make-up Torque	Tensile Yield	Pin or Box Weak	Torsional Ratio * (2)	Approx. Weight/Foot	Approx. Weight	Capacity	Displacement		Premium OD	Make-up Torque w/Premium OD	Tube OD	
														Pin	Box										Closed Ended	Open Ended				
in	lb/ft			in	in	in	lb	ft-lb	psi	psi		in	in	in	in	psi	ft-lb	ft-lb	lb	* (1)		lb/ft	lb	gal/ft	gal/ft	gal/ft	in	ft-lb	in	
4	15.70	E-75	IU	0.380	3.240	2-11/16	324 000	25 800	12 900	12 500	4 H-90	5-1/2	2-13/16	9	12	120 000	35 300	21 200	914 000	b	1.37	17.87	563	0.42	0.69	0.27	5-1/16	11 800	4	
4	15.70	E-75	IU	0.380	3.240	2-9/16	324 000	25 800	12 900	12 500	NC40	5-1/4	2-11/16	9	12	120 000	25 500	15 300	776 000	b	0.99	17.60	554	0.41	0.68	0.27	4-7/8	10 200	4	
4	15.70	E-75	EU	0.380	3.240	3-1/8	324 000	25 800	12 900	12 500	NC46	6	3-1/4	9	12	120 000	33 200	19 900	901 000	b	1.29	18.35	578	0.43	0.71	0.28	5-13/32	12 100	4	
4	15.70	X-95	IU	0.380	3.240	2-11/16	411 000	32 700	16 300	15 800	4 H-90	5-1/2	2-13/16	9	12	120 000	35 300	21 200	914 000	b	1.08	17.87	563	0.42	0.69	0.27	5-3/32	12 500	4	
4	15.70	X-95	IU	0.380	3.240	2-5/16	411 000	32 700	16 300	15 800	NC40	5-1/4	2-7/16	9	12	120 000	29 400	17 600	897 000	p	0.90	17.97	566	0.41	0.68	0.27	5	12 600	4	
4	15.70	X-95	EU	0.380	3.240	3-1/8	411 000	32 700	16 300	15 800	NC46	6	3-1/4	9	12	120 000	33 200	19 900	901 000	b	1.02	18.35	578	0.43	0.71	0.28	5-7/16	12 800	4	
4	15.70	VM-95 SS	IU	0.380	3.240	2-1/8	411 000	32 700	16 300	15 800	NC38	5	2-1/4	10	12-1/2	110 000	22 700	13 600	725 000	B	0.69	17.93	565	0.40	0.68	0.27	4-7/8	12 600	4	
4	15.70	VM-95 SS	IU	0.380	3.240	2-5/16	411 000	32 700	16 300	15 800	NC38 VAM EIS	5	2-7/16	10	12-1/2	110 000	28 100	16 900	649 000	B	0.86	17.67	557	0.41	0.68	0.27	4-19/32	12 700	4	
4	15.70	VM-95 SS	IU	0.380	3.240	2-5/16	411 000	32 700	16 300	15 800	NC40	5-1/4	2-7/16	9	12	110 000	26 900	16 100	822 000	p	0.82	17.97	566	0.41	0.68	0.27	5-1/16	12 600	4	
4	15.70	VM-95 SS	IU	0.380	3.240	2-9/16	411 000	32 700	16 300	15 800	NC40 VAM EIS	5-1/4	2-11/16	9	12	110 000	31 400	18 800	712 000	b	0.96	17.60	554	0.41	0.68	0.27	4-7/8	14 100	4	
4	15.70	G-105	IU	0.380	3.240	2-11/16	454 000	36 100	18 100	17 500	4 H-90	5-1/2	2-13/16	9	12	120 000	35 300	21 200	914 000	b	0.98	17.87	563	0.42	0.69	0.27	5-5/32	13 900	4	
4	15.70	G-105	IU	0.380	3.240	2-5/16	454 000	36 100	18 100	17 500	NC40	5-1/2	2-7/16	9	12	120 000	29 800	17 900	897 000	b	0.82	18.44	581	0.41	0.69	0.28	5-1/16	13 800	4	
4	15.70	G-105	EU	0.380	3.240	3-1/8	454 000	36 100	18 100	17 500	NC46	6	3-1/4	9	12	120 000	33 200	19 900	901 000	b	0.92	18.35	578	0.43	0.71	0.28	5-15/32	13 500	4	
4	15.70	G-105	IU	0.380	3.240	2-11/16	454 000	36 100	18 100	17 500	VAM EXPRESS VX39	4-7/8	2-13/16	12	15	130 000	33 500	20 100	713 000	p	0.93	17.21	542	0.42	0.68	0.26	4-9/16	13 900	4	
4	15.70	G-105	IU	0.380	3.240	2-7/8	454 000	36 100	18 100	17 500	VAM EXPRESS VX40	5-1/4	3	11	14	130 000	42 300	25 400	818 000	p	1.17	17.46	550	0.42	0.69	0.27	4-31/32	19 000	4	
4	15.70	VM-105 SS	IU	0.380	3.240	2-1/8	454 000	36 100	18 100	17 500	NC38	5	2-1/4	10	12-1/2	110 000	22 700	13 600	725 000	B	0.63	17.93	565	0.40	0.68	0.27	4-15/16	13 600	4	
4	15.70	VM-105 SS	IU	0.380	3.240	2-5/16	454 000	36 100	18 100	17 500	NC38 VAM EIS	5	2-7/16	10	12-1/2	110 000	28 100	16 900	649 000	B	0.78	17.67	557	0.41	0.68	0.27	4-21/32	13 700	4	
4	15.70	VM-105 SS	IU	0.380	3.240	2-5/16	454 000	36 100	18 100	17 500	NC40	5-1/4	2-7/16	9	12	110 000	26 900	16 100	822 000	P	0.74	17.97	566	0.41	0.68	0.27	5-1/8	13 800	4	
4	15.70	VM-105 SS	IU	0.380	3.240	2-9/16	454 000	36 100	18 100	17 500	NC40 VAM EIS	5-1/4	2-11/16	9	12	110 000	31 400	18 800	712 000	b	0.87	17.60	554	0.41	0.68	0.27	4-7/8	14 100	4	
4	15.70	S-135	IU	0.380	3.240	2-9/16	583 000	46 500	23 200	22 400	4 H-90	5-3/4	2-11/16	9	12	120 000	38 000	22 800	978 000	b	0.82	18.56	585	0.41	0.70	0.28	5-5/16	17 600	4	
4	15.70	S-135	IU	0.380	3.240	1-7/8	583 000	46 500	23 200	22 400	NC40	5-1/2	2	9	12	120 000	36 300	21 800	1 080 000	B	0.78	19.01	599	0.40	0.69	0.29	5-1/4	17 600	4	
4	15.70	S-135	IU	0.380	3.240	2-7/16	583 000	46 500	23 200	22 400	NC40 VAM EIS	5-1/2	2-9/16	9	12	130 000	41 500	24 900	908 000	b	0.89	18.26	575	0.41	0.69	0.28	4-7/8	17 700	4	
4	15.70	S-135	EU	0.380	3.240	2-7/8	583 000	46 500	23 200	22 400	NC46	6	3	9	12	120 000	39 000	23 400	1 050 000	b	0.84	18.81	592	0.42	0.71	0.29	5-21/32	18 100	4	
4	15.70	S-135	IU	0.380	3.240	2-5/16	583 000	46 500	23 200	22 400	VAM EXPRESS VX38	4-7/8	2-7/16	12	15	130 000	36 300	21 800	757 000	B	0.78	17.84	562	0.41	0.68	0.27	4-19/32	17 800	4	
4	15.70	S-135	IU	0.380	3.240	2-5/8	583 000	46 500	23 200	22 400	VAM EXPRESS VX39	5	2-3/4	12	15	130 000	37 800	22 700	748 000	b	0.81	17.58	554	0.41	0.68	0.27	4-23/32	17 500	4	
4	15.70	S-135	IU	0.380	3.240	2-3/4	583 000	46 500	23 200	22 400	VAM EXPRESS VX40	5-1/4	2-7/8	11	14	130 000	44 500	26 700	893 000	p	0.96	17.69	557	0.42	0.69	0.27	4-31/32	20 300	4	

- * Notes:
- 1) Capital "P" or "B" indicates a Torsional Ratio less than 0.80.
 - 2) API recommends a Torsional Ratio of 0.80 or greater.
 - 3) VAM EIS and VAM EXPRESS are proprietary threads of VAM Drilling.
 - 4) Tong lengths are a minimum of 2" longer API standard.



DRILL PIPE AND TOOL-JOINT DATA

4 1/2"

TUBE											TOOL JOINT										DRILL PIPE ASSEMBLY, API Range 2 Length (based on 31 1/2 ft shoulder to shoulder)									
OD	Nominal Weight	Grade	Type Upset	Wall Thickness	Tube ID	Drift	Tensile Yield	Torsional Yield	Collapse Pressure	Burst Pressure	Connection Description * (3)	OD	ID	Tong Length * (4)		Material Yield Strength	Torsional Yield	Make-up Torque	Tensile Yield	Pin or Box Weak	Torsional Ratio * (2)	Approx. Weight/Foot	Approx. Weight	Capacity	Displacement		Premium OD	Make-up Torque w/Premium OD	OD	
														Pin	Box										Closed Ended	Open Ended				
in	lb/ft			in	in	in	lb	ft-lb	psi	psi		in	in	in	in	psi	ft-lb	ft-lb	lb			lb/ft	lb	gal/ft	gal/ft	gal/ft	in	ft-lb	in	
4-1/2	16,60	E-75	IEU	0,337	3,826	2-7/8	331 000	30 800	10 400	9 830	4 1/2 FH	6	3	9	12	120 000	34 400	20 600	976 000	b	1,12	19,30	608	0,57	0,87	0,29	5-3/8	12 100	4-1/2	
4-1/2	16,60	E-75	IEU	0,337	3,826	3-1/8	331 000	30 800	10 400	9 830	4 1/2 H-90	6	3-1/4	9	12	120 000	38 500	23 100	938 000	b	1,25	18,85	594	0,58	0,87	0,29	5-13/32	13 800	4-1/2	
4-1/2	16,60	E-75	IEU	0,337	3,826	3-5/8	331 000	30 800	10 400	9 830	4 1/2 OH	6	3-3/4	9	12	120 000	26 900	16 200	714 000	b	0,87	17,59	554	0,59	0,86	0,27	5-15/32	12 600	4-1/2	
4-1/2	16,60	E-75	IEU	0,337	3,826	2-7/8	331 000	30 800	10 400	9 830	NC46	6-1/4	3	9	12	120 000	39 000	23 400	1 050 000	b	1,27	19,85	625	0,57	0,88	0,30	5-13/32	12 100	4-1/2	
4-1/2	16,60	E-75	IEU	0,337	3,826	2-7/8	331 000	30 800	10 400	9 830	NC46 VAM EIS	6-1/4	3	9	12	130 000	60 200	36 100	1 140 000	b	1,96	19,85	625	0,57	0,88	0,30	5-7/16	24 200	4-1/2	
4-1/2	16,60	E-75	EU	0,337	3,826	3-5/8	331 000	30 800	10 400	9 830	NC50	6-5/8	3-3/4	9	12	120 000	37 300	22 400	939 000	b	1,21	19,50	614	0,59	0,89	0,30	5-13/16	14 100	4-1/2	
4-1/2	16,60	E-75	EU	0,337	3,826	3-3/8	331 000	30 800	10 400	9 830	NC50 VAM EIS	6-5/8	3-1/2	9	12	130 000	68 200	40 900	1 200 000	b	2,21	20,03	631	0,59	0,89	0,31	5-27/32	27 700	4-1/2	
4-1/2	16,60	X-95	IEU	0,337	3,826	2-7/8	419 000	39 000	12 800	12 500	4 1/2 FH	6	3	9	12	120 000	34 400	20 600	976 000	b	0,88	19,30	608	0,57	0,87	0,29	5-1/2	14 900	4-1/2	
4-1/2	16,60	X-95	IEU	0,337	3,826	3-1/8	419 000	39 000	12 800	12 500	4 1/2 H-90	6	3-1/4	9	12	120 000	38 500	23 100	938 000	b	0,99	18,85	594	0,58	0,87	0,29	5-15/32	15 400	4-1/2	
4-1/2	16,60	X-95	IEU	0,337	3,826	3-3/8	419 000	39 000	12 800	12 500	4 1/2 OH	6	3-1/2	9	12	120 000	33 700	20 200	885 000	b	0,86	18,10	570	0,59	0,86	0,28	5-9/16	14 900	4-1/2	
4-1/2	16,60	X-95	IEU	0,337	3,826	3-1/8	419 000	39 000	12 800	12 500	NC46	6-1/4	3-1/4	9	12	120 000	33 200	19 900	901 000	b	0,85	19,39	611	0,58	0,88	0,30	5-17/32	15 000	4-1/2	
4-1/2	16,60	X-95	IEU	0,337	3,826	2-7/8	419 000	39 000	12 800	12 500	NC46 VAM EIS	6-1/4	3	9	12	130 000	60 200	36 100	1 140 000	b	1,54	19,85	625	0,57	0,88	0,30	5-7/16	24 200	4-1/2	
4-1/2	16,60	X-95	EU	0,337	3,826	3-5/8	419 000	39 000	12 800	12 500	NC50	6-5/8	3-3/4	9	12	120 000	37 300	22 400	939 000	b	0,96	19,50	614	0,59	0,89	0,30	5-27/32	14 900	4-1/2	
4-1/2	16,60	X-95	EU	0,337	3,826	3-3/8	419 000	39 000	12 800	12 500	NC50 VAM EIS	6-5/8	3-1/2	9	12	130 000	68 200	40 900	1 200 000	b	1,75	20,03	631	0,59	0,89	0,31	5-27/32	27 700	4-1/2	
4-1/2	16,60	VM-95 SS	IEU	0,337	3,826	2-7/8	419 000	39 000	12 800	12 500	NC46	6	3	9	12	110 000	35 700	21 400	961 000	b	0,92	19,30	608	0,57	0,87	0,29	5-19/32	15 200	4-1/2	
4-1/2	16,60	VM-95 SS	IEU	0,337	3,826	3-1/8	419 000	39 000	12 800	12 500	NC46 VAM EIS	6	3-1/4	9	12	110 000	41 400	24 800	826 000	b	1,06	18,85	594	0,58	0,87	0,29	5-7/16	18 100	4-1/2	
4-1/2	16,60	G-105	IEU	0,337	3,826	2-7/8	463 000	43 100	13 800	13 800	4 1/2 FH	6	3	9	12	120 000	34 400	20 600	976 000	b	0,80	19,30	608	0,57	0,87	0,29	5-9/16	16 400	4-1/2	
4-1/2	16,60	G-105	IEU	0,337	3,826	2-7/8	463 000	43 100	13 800	13 800	4 1/2 H-90	6	3	9	12	120 000	44 900	27 000	1 090 000	b	1,04	19,30	608	0,57	0,87	0,29	5-1/2	16 300	4-1/2	
4-1/2	16,60	G-105	IEU	0,337	3,826	3-1/8	463 000	43 100	13 800	13 800	4 1/2 OH	6	3-1/4	9	12	120 000	40 100	24 100	1 040 000	b	0,93	18,85	594	0,58	0,87	0,29	5-5/8	16 500	4-1/2	
4-1/2	16,60	G-105	IEU	0,337	3,826	2-7/8	463 000	43 100	13 800	13 800	NC46	6-1/4	3	9	12	120 000	39 000	23 400	1 050 000	b	0,90	19,85	625	0,57	0,88	0,30	5-19/32	16 500	4-1/2	
4-1/2	16,60	G-105	IEU	0,337	3,826	2-7/8	463 000	43 100	13 800	13 800	NC46 VAM EIS	6-1/4	3	9	12	130 000	60 200	36 100	1 140 000	b	1,40	19,85	625	0,57	0,88	0,30	5-7/16	24 200	4-1/2	
4-1/2	16,60	G-105	EU	0,337	3,826	3-5/8	463 000	43 100	13 800	13 800	NC50	6-5/8	3-3/4	9	12	120 000	37 300	22 400	939 000	b	0,86	19,50	614	0,59	0,89	0,30	5-29/32	16 600	4-1/2	
4-1/2	16,60	G-105	EU	0,337	3,826	3-3/8	463 000	43 100	13 800	13 800	NC50 VAM EIS	6-5/8	3-1/2	9	12	130 000	68 200	40 900	1 200 000	b	1,58	20,03	631	0,59	0,89	0,31	5-27/32	27 700	4-1/2	
4-1/2	16,60	G-105	EU	0,337	3,826	3-5/8	463 000	43 100	13 800	13 800	VAM EXPRESS VX46	6	3-3/4	11	14	130 000	50 700	31 600	923 000	b	1,18	18,30	576	0,59	0,87	0,28	5-5/8	22 800	4-1/2	
4-1/2	16,60	VM-105 SS	IEU	0,337	3,826	2-7/8	463 000	43 100	13 800	13 800	NC46	6	3	9	12	110 000	35 700	21 400	961 000	b	0,83	19,30	608	0,57	0,87	0,29	5-21/32	16 600	4-1/2	
4-1/2	16,60	VM-105 SS	IEU	0,337	3,826	3-1/8	463 000	43 100	13 800	13 800	NC46 VAM EIS	6	3-1/4	9	12	110 000	41 400	24 800	826 000	b	0,96	18,85	594	0,58	0,87	0,29	5-7/16	18 100	4-1/2	
4-1/2	16,60	S-135	IEU	0,337	3,826	2-3/8	595 000	55 500	16 800	17 700	4 1/2 FH	6-1/4	2-1/2	9	12	120 000	44 200	26 500	1 240 000	b	0,80	20,66	651	0,56	0,88	0,32	5-3/4	20 900	4-1/2	
4-1/2	16,60	S-135	IEU	0,337	3,826	2-7/8	595 000	55 500	16 800	17 700	4 1/2 H-90	6-1/4	3	9	12	120 000	44 900	27 000	1 090 000	b	0,81	19,85	625	0,57	0,88	0,30	5-11/16	21 300	4-1/2	
4-1/2	16,60	S-135	IEU	0,337	3,826	2-7/8	595 000	55 500	16 800	17 700	4 1/2 OH	6	3	9	12	120 000	44 000	26 400	1 190 000	p	0,79	19,30	608	0,57	0,87	0,29	5-13/16	21 300	4-1/2	
4-1/2	16,60	S-135	IEU	0,337	3,826	2-5/8	595 000	55 500	16 800	17 700	NC46	6-1/4	2-3/4	9	12	120 000	44 400	26 600	1 180 000	b	0,80	20,27	638	0,57	0,88	0,31	5-25/32	21 200	4-1/2	
4-1/2	16,60	S-135	IEU	0,337	3,826	2-7/8	595 000	55 500	16 800	17 700	NC46 VAM EIS	6-1/4	3	9	12	130 000	60 200	36 100	1 140 000	b	1,09	19,85	625	0,57	0,88	0,30	5-7/16	24 200	4-1/2	
4-1/2	16,60	S-135	EU	0,337	3,826	3-3/8	595 000	55 500	16 800	17 700	NC50	6-5/8	3-1/2	9	12	120 000	44 500	26 700	1 110 000	b	0,80	20,03	631	0,59	0,89	0,31	6-1/16	21 000	4-1/2	
4-1/2	16,60	S-135	EU	0,337	3,826	3-3/8	595 000	55 500	16 800	17 700	NC50 VAM EIS	6-5/8	3-1/2	9	12	130 000	68 200	40 900	1 200 000	b	1,23	20,03	631	0,59	0,89	0,31	5-27/32	27 700	4-1/2	
4-1/2	16,60	S-135	IEU	0,337	3,826	3-3/8	595 000	55 500	16 800	17 700	VAM EXPRESS VX46	6	3-1/2	11	14	130 000	60 200	37 600	1 110 000	p	1,09	18,87	594	0,59	0,87	0,29	5-5/8	26 600	4-1/2	



DRILL PIPE AND TOOL-JOINT DATA

4 1/2"

TUBE											TOOL JOINT										DRILL PIPE ASSEMBLY, API Range 2 Length (based on 31 1/2 ft shoulder to shoulder)									
OD	Nominal Weight	Grade	Type Upset	Wall Thickness	Tube ID	Drift	Tensile Yield	Torsional Yield	Collapse Pressure	Burst Pressure	Connection Description * (3)	OD	ID	Tong Length * (4)		Material Yield Strength	Torsional Yield	Make-up Torque	Tensile Yield	Pin or Box Weak	Torsional Ratio * (2)	Approx. Weight/Foot	Approx. Weight	Capacity	Displacement		Premium OD	Make-up Torque w/Premium OD	OD	
														Pin	Box										Closed Ended	Open Ended				
in	lb/ft			in	in	in	lb	ft-lb	psi	psi		in	in	in	in	psi	ft-lb	ft-lb	lb			lb/ft	lb	gal/ft	gal/ft	gal/ft	in	ft-lb	in	
4-1/2	20,00	E-75	IEU	0,430	3,640	3-1/8	412 000	36 900	13 000	12 500	4 1/2 H-90	6	3-1/4	9	12	120 000	38 500	23 100	938 000	b	1,04	22,15	698	0,53	0,87	0,34	5-13/32	13 800	4-1/2	
4-1/2	20,00	E-75	IEU	0,430	3,640	3-3/8	412 000	36 900	13 000	12 500	4 1/2 OH	6	3-1/2	9	12	120 000	33 700	20 200	885 000	b	0,91	21,67	683	0,54	0,87	0,33	5-17/32	14 100	4-1/2	
4-1/2	20,00	E-75	IEU	0,430	3,640	2-7/8	412 000	36 900	13 000	12 500	NC46	6-1/4	3	9	12	120 000	39 000	23 400	1 050 000	b	1,06	23,15	729	0,52	0,88	0,35	5-1/2	14 300	4-1/2	
4-1/2	20,00	E-75	IEU	0,430	3,640	2-7/8	412 000	36 900	13 000	12 500	NC46 VAM EIS	6-1/4	3	9	12	130 000	60 200	36 100	1 140 000	b	1,63	23,15	729	0,52	0,88	0,35	5-7/16	24 200	4-1/2	
4-1/2	20,00	E-75	EU	0,430	3,640	3-1/2	412 000	36 900	13 000	12 500	NC50	6-5/8	3-5/8	9	12	120 000	40 900	24 500	1 030 000	b	1,11	23,07	727	0,54	0,89	0,35	5-13/16	14 100	4-1/2	
4-1/2	20,00	E-75	EU	0,430	3,640	3-3/8	412 000	36 900	13 000	12 500	NC50 VAM EIS	6-5/8	3-1/2	9	12	130 000	68 200	40 900	1 200 000	b	1,85	23,33	735	0,54	0,89	0,36	5-27/32	27 700	4-1/2	
4-1/2	20,00	X-95	IEU	0,430	3,640	3-1/8	522 000	46 700	16 400	15 900	4 1/2 H-90	6	3-1/4	9	12	120 000	38 500	23 100	938 000	b	0,82	22,15	698	0,53	0,87	0,34	5-9/16	17 900	4-1/2	
4-1/2	20,00	X-95	IEU	0,430	3,640	3-1/8	522 000	46 700	16 400	15 900	4 1/2 OH	6-1/4	3-1/4	9	12	120 000	40 100	24 100	1 040 000	b	0,86	22,69	715	0,53	0,88	0,35	5-11/16	18 100	4-1/2	
4-1/2	20,00	X-95	IEU	0,430	3,640	2-5/8	522 000	46 700	16 400	15 900	NC46	6-1/4	2-3/4	9	12	120 000	44 400	26 600	1 180 000	b	0,95	23,57	742	0,52	0,88	0,36	5-21/32	18 100	4-1/2	
4-1/2	20,00	X-95	IEU	0,430	3,640	2-7/8	522 000	46 700	16 400	15 900	NC46 VAM EIS	6-1/4	3	9	12	130 000	60 200	36 100	1 140 000	b	1,29	23,15	729	0,52	0,88	0,35	5-7/16	24 200	4-1/2	
4-1/2	20,00	X-95	EU	0,430	3,640	3-3/8	522 000	46 700	16 400	15 900	NC50	6-5/8	3-1/2	9	12	120 000	44 500	26 700	1 110 000	b	0,95	23,33	735	0,54	0,89	0,36	5-15/16	17 500	4-1/2	
4-1/2	20,00	X-95	EU	0,430	3,640	3-3/8	522 000	46 700	16 400	15 900	NC50 VAM EIS	6-3/8	3-1/2	9	12	130 000	67 700	40 600	1 200 000	b	1,45	22,76	717	0,54	0,88	0,35	5-27/32	27 700	4-1/2	
4-1/2	20,00	VM-95 SS	IEU	0,430	3,640	2-5/8	522 000	46 700	16 400	15 900	NC46	6-1/4	2-3/4	9	12	110 000	40 700	24 400	1 090 000	b	0,87	23,57	742	0,52	0,88	0,36	5-23/32	18 000	4-1/2	
4-1/2	20,00	VM-95 SS	IEU	0,430	3,640	3-1/8	522 000	46 700	16 400	15 900	NC46 VAM EIS	6	3-1/4	9	12	110 000	41 400	24 800	826 000	b	0,89	22,15	698	0,53	0,87	0,34	5-7/16	18 100	4-1/2	
4-1/2	20,00	G-105	IEU	0,430	3,640	2-7/8	577 000	51 700	18 100	17 600	4 1/2 H-90	6	3	9	12	120 000	44 900	27 000	1 090 000	b	0,87	22,61	712	0,52	0,87	0,35	5-5/8	19 600	4-1/2	
4-1/2	20,00	G-105	IEU	0,430	3,640	2-7/8	577 000	51 700	18 100	17 600	4 1/2 OH	6-1/4	3	9	12	120 000	46 100	27 700	1 190 000	b	0,89	23,15	729	0,52	0,88	0,35	5-3/4	19 700	4-1/2	
4-1/2	20,00	G-105	IEU	0,430	3,640	2-3/8	577 000	51 700	18 100	17 600	NC46	6-1/4	2-1/2	9	12	120 000	49 300	29 600	1 310 000	b	0,95	23,96	755	0,51	0,88	0,37	5-23/32	19 600	4-1/2	
4-1/2	20,00	G-105	IEU	0,430	3,640	2-7/8	577 000	51 700	18 100	17 600	NC46 VAM EIS	6-1/4	3	9	12	130 000	60 200	36 100	1 140 000	b	1,17	23,15	729	0,52	0,88	0,35	5-7/16	24 200	4-1/2	
4-1/2	20,00	G-105	EU	0,430	3,640	3-3/8	577 000	51 700	18 100	17 600	NC50	6-5/8	3-1/2	9	12	120 000	44 500	26 700	1 110 000	b	0,86	23,33	735	0,54	0,89	0,36	6-1/32	20 100	4-1/2	
4-1/2	20,00	G-105	EU	0,430	3,640	3-3/8	577 000	51 700	18 100	17 600	NC50 VAM EIS	6-3/8	3-1/2	9	12	130 000	67 700	40 600	1 200 000	b	1,31	22,76	717	0,54	0,88	0,35	5-27/32	27 700	4-1/2	
4-1/2	20,00	G-105	IEU	0,430	3,640	3-3/8	577 000	51 700	18 100	17 600	VAM EXPRESS VX46	6	3-1/2	11	14	130 000	60 200	37 600	1 110 000	p	1,17	22,14	697	0,54	0,87	0,34	5-5/8	26 600	4-1/2	
4-1/2	20,00	VM-105 SS	IEU	0,430	3,640	2-5/8	577 000	51 700	18 100	17 600	NC46	6-1/4	2-3/4	9	12	110 000	40 700	24 400	1 090 000	B	0,79	23,57	742	0,52	0,88	0,36	5-25/32	19 500	4-1/2	
4-1/2	20,00	VM-105 SS	IEU	0,430	3,640	2-7/8	577 000	51 700	18 100	17 600	NC46 VAM EIS	6	3	9	12	110 000	50 600	30 300	961 000	b	0,98	22,61	712	0,52	0,87	0,35	5-7/16	20 500	4-1/2	
4-1/2	20,00	S-135	IEU	0,430	3,640	2-5/8	742 000	66 400	23 300	22 600	4 1/2 H-90	6-3/8	2-3/4	9	12	120 000	50 900	30 500	1 220 000	B	0,77	23,85	751	0,51	0,88	0,36	5-13/16	24 900	4-1/2	
4-1/2	20,00	S-135	IEU	0,430	3,640	2-5/8	742 000	66 400	23 300	22 600	4 1/2 OH	6-3/8	2-3/4	9	12	120 000	51 700	31 000	1 330 000	B	0,78	23,85	751	0,51	0,88	0,36	5-31/32	25 500	4-1/2	
4-1/2	20,00	S-135	IEU	0,430	3,640	2-1/8	742 000	66 400	23 300	22 600	NC46	6-1/4	2-1/4	9	12	120 000	53 800	32 300	1 420 000	b	0,81	24,31	766	0,50	0,88	0,37	5-15/16	25 300	4-1/2	
4-1/2	20,00	S-135	IEU	0,430	3,640	2-7/8	742 000	66 400	23 300	22 600	NC46 VAM EIS	6-1/4	3	9	12	130 000	60 200	36 100	1 140 000	b	0,91	23,15	729	0,52	0,88	0,35	5-15/32	25 000	4-1/2	
4-1/2	20,00	S-135	EU	0,430	3,640	2-7/8	742 000	66 400	23 300	22 600	NC50	6-5/8	3	9	12	120 000	57 500	34 500	1 420 000	b	0,87	24,29	765	0,52	0,89	0,37	6-7/32	25 600	4-1/2	
4-1/2	20,00	S-135	EU	0,430	3,640	3-3/8	742 000	66 400	23 300	22 600	NC50 VAM EIS	6-3/8	3-1/2	9	12	130 000	67 700	40 600	1 200 000	b	1,02	22,76	717	0,54	0,88	0,35	5-27/32	27 700	4-1/2	
4-1/2	20,00	S-135	IEU	0,430	3,640	3-1/8	742 000	66 400	23 300	22 600	VAM EXPRESS VX46	6-1/4	3-1/4	11	14	130 000	76 700	47 800	1 280 000	b	1,15	23,29	734	0,53	0,88	0,36	5-5/8	30 000	4-1/2	

* Notes:

- 1) Capital "P" or "B" indicates a Torsional Ratio less than 0.80.
- 2) API recommends a Torsional Ratio of 0.80 or greater.
- 3) VAM EIS and VAM EXPRESS are proprietary threads of VAM Drilling.
- 4) Tong lengths are a minimum of 2" longer API standard.



DRILL PIPE AND TOOL-JOINT DATA

5"

TUBE											TOOL JOINT										DRILL PIPE ASSEMBLY, API Range 2 Length (based on 31 1/2 ft shoulder to shoulder)									
OD	Nominal Weight	Grade	Type Upset	Wall Thickness	Tube ID	Drift	Tensile Yield	Torsional Yield	Collapse Pressure	Burst Pressure	Connection Description * (3)	OD	ID	Tong Length * (4)		Material Yield Strength	Torsional Yield	Make-up Torque	Tensile Yield	Pin or Box Weak	Torsional Ratio * (2)	Approx. Weight/Foot	Approx. Weight	Capacity	Displacement		Premium OD	Make-up Torque w/Premium OD	OD	
														Pin	Box										Closed Ended	Open Ended				
in	lb/ft			in	in	in	lb	ft-lb	psi	psi		in	in	in	in	psi	ft-lb	ft-lb	lb			lb/ft	lb	gal/ft	gal/ft	gal/ft	in	ft-lb	in	
5	19.50	E-75	IEU	0,362	4,276	3-5/8	396 000	41 200	9 960	9 500	5 1/2 FH	7	3-3/4	10	12	120 000	62 900	37 700	1 450 000	p	1,53	23,43	738	0,73	1,08	0,36	6-13/32	17 100	5	
5	19.50	E-75	IEU	0,362	4,276	3-5/8	396 000	41 200	9 960	9 500	NCS0	6-5/8	3-3/4	9	12	120 000	37 300	22 400	939 000	b	0,91	22,32	703	0,73	1,07	0,34	5-7/8	15 800	5	
5	19.50	E-75	IEU	0,362	4,276	3-3/8	396 000	41 200	9 960	9 500	NCS0 VAM EIS	6-3/8	3-1/2	9	12	130 000	67 700	40 600	1 200 000	b	1,64	22,28	702	0,72	1,06	0,34	5-27/32	27 700	5	
5	19.50	X-95	IEU	0,362	4,276	3-5/8	501 000	52 100	12 000	12 000	5 1/2 FH	7	3-3/4	10	12	120 000	62 900	37 700	1 450 000	p	1,21	23,43	738	0,73	1,08	0,36	6-1/2	20 200	5	
5	19.50	X-95	IEU	0,362	4,276	3-3/8	501 000	52 100	12 000	12 000	NCS0	6-3/8	3-1/2	9	12	120 000	44 500	26 700	1 110 000	b	0,85	22,28	702	0,72	1,06	0,34	6-1/32	20 100	5	
5	19.50	X-95	IEU	0,362	4,276	3-3/8	501 000	52 100	12 000	12 000	NCS0 VAM EIS	6-3/8	3-1/2	9	12	130 000	67 700	40 600	1 200 000	b	1,30	22,28	702	0,72	1,06	0,34	5-27/32	27 700	5	
5	19.50	VM-95 SS	IEU	0,362	4,276	3-1/8	501 000	52 100	12 000	12 000	NCS0	6-5/8	3-1/4	9	12	110 000	46 900	28 200	1 160 000	b	0,90	23,35	735	0,71	1,07	0,36	6-3/32	20 100	5	
5	19.50	VM-95 SS	IEU	0,362	4,276	3-3/8	501 000	52 100	12 000	12 000	NCS0 VAM EIS	6-3/8	3-1/2	9	12	110 000	57 300	34 400	1 020 000	b	1,10	22,28	702	0,72	1,06	0,34	5-27/32	23 500	5	
5	19.50	G-105	IEU	0,362	4,276	3-5/8	554 000	57 600	13 000	13 300	5 1/2 FH	7	3-3/4	10	12	120 000	62 900	37 700	1 450 000	p	1,09	23,43	738	0,73	1,08	0,36	6-9/16	22 300	5	
5	19.50	G-105	IEU	0,362	4,276	3-1/8	554 000	57 600	13 000	13 300	NCS0	6-5/8	3-1/4	9	12	120 000	51 200	30 700	1 270 000	b	0,89	23,35	735	0,71	1,07	0,36	6-3/32	21 900	5	
5	19.50	G-105	IEU	0,362	4,276	3-3/8	554 000	57 600	13 000	13 300	NCS0 VAM EIS	6-3/8	3-1/2	9	12	130 000	67 700	40 600	1 200 000	b	1,17	22,28	702	0,72	1,06	0,34	5-27/32	27 700	5	
5	19.50	G-105	IEU	0,362	4,276	3-7/8	554 000	57 600	13 000	13 300	VAM EXPRESS VX50	6-1/2	4	11	14	130 000	68 400	42 700	1 130 000	b	1,19	22,03	694	0,73	1,07	0,34	6-1/32	29 000	5	
5	19.50	VM-105 SS	IEU	0,362	4,276	3-1/8	554 000	57 600	13 000	13 300	NCS0	6-5/8	3-1/4	9	12	110 000	46 900	28 200	1 160 000	b	0,81	23,35	735	0,71	1,07	0,36	6-5/32	21 800	5	
5	19.50	VM-105 SS	IEU	0,362	4,276	3-3/8	554 000	57 600	13 000	13 300	NCS0 VAM EIS	6-3/8	3-1/2	9	12	110 000	57 300	34 400	1 020 000	b	0,99	22,28	702	0,72	1,06	0,34	5-27/32	23 500	5	
5	19.50	S-135	IEU	0,362	4,276	3-3/8	712 000	74 100	15 700	17 100	5 1/2 FH	7-1/4	3-1/2	10	12	120 000	72 200	43 300	1 620 000	b	0,97	24,67	777	0,72	1,09	0,38	6-3/4	28 700	5	
5	19.50	S-135	IEU	0,362	4,276	2-5/8	712 000	74 100	15 700	17 100	NCS0	6-5/8	2-3/4	9	12	120 000	63 400	38 000	1 550 000	b	0,86	24,23	763	0,70	1,07	0,37	6-5/16	28 400	5	
5	19.50	S-135	IEU	0,362	4,276	3-3/8	712 000	74 100	15 700	17 100	NCS0 VAM EIS	6-5/8	3-1/2	9	12	130 000	68 200	40 900	1 200 000	b	0,92	22,85	720	0,72	1,07	0,35	5-7/8	28 700	5	
5	19.50	S-135	IEU	0,362	4,276	3-5/8	712 000	74 100	15 700	17 100	VAM EXPRESS VX50	6-1/2	3-3/4	11	14	130 000	78 900	49 200	1 330 000	p	1,06	22,64	713	0,73	1,07	0,35	6-1/32	33 300	5	
5	19.50	VM-150	IEU	0,362	4,276	3-3/8	791 000	82 300	16 900	19 000	NCS0 VAM EIS	6-1/2	3-1/2	9	12	130 000	67 900	40 800	1 200 000	b	0,82	22,56	711	0,72	1,06	0,34	5-31/32	31 500	5	
5	19.50	VM-150	IEU	0,362	4,276	3-5/8	791 000	82 300	16 900	19 000	VAM EXPRESS VX50	6-5/8	3-3/4	11	14	130 000	83 800	52 300	1 330 000	b	1,02	22,98	724	0,73	1,08	0,35	6-1/32	33 300	5	
5	25.60	E-75	IEU	0,500	4,000	3-3/8	530 000	52 300	13 500	13 100	5 1/2 FH	7	3-1/2	10	12	120 000	62 900	37 700	1 620 000	p	1,20	29,39	926	0,64	1,08	0,45	6-1/2	20 200	5	
5	25.60	E-75	IEU	0,500	4,000	3-3/8	530 000	52 300	13 500	13 100	NCS0	6-5/8	3-1/2	9	12	120 000	44 500	26 700	1 110 000	b	0,85	28,28	891	0,64	1,07	0,43	6-1/32	20 100	5	
5	25.60	E-75	IEU	0,500	4,000	3-3/8	530 000	52 300	13 500	13 100	NCS0 VAM EIS	6-5/8	3-1/2	9	12	130 000	68 200	40 900	1 200 000	b	1,30	28,28	891	0,64	1,07	0,43	5-27/32	27 700	5	
5	25.60	X-95	IEU	0,500	4,000	3-3/8	672 000	66 200	17 100	16 600	5 1/2 FH	7	3-1/2	10	12	120 000	62 900	37 700	1 620 000	p	0,95	29,39	926	0,64	1,08	0,45	6-21/32	25 500	5	
5	25.60	X-95	IEU	0,500	4,000	2-7/8	672 000	66 200	17 100	16 600	NCS0	6-5/8	3	9	12	120 000	57 500	34 500	1 420 000	b	0,87	29,24	921	0,62	1,07	0,45	6-7/32	25 600	5	
5	25.60	X-95	IEU	0,500	4,000	3-3/8	672 000	66 200	17 100	16 600	NCS0 VAM EIS	6-5/8	3-1/2	9	12	130 000	68 200	40 900	1 200 000	b	1,03	28,28	891	0,64	1,07	0,43	5-27/32	27 700	5	
5	25.60	G-105	IEU	0,500	4,000	3-3/8	742 000	73 200	18 900	18 400	5 1/2 FH	7-1/4	3-1/2	10	12	120 000	72 200	43 300	1 620 000	b	0,99	30,06	947	0,64	1,09	0,46	6-23/32	27 600	5	
5	25.60	G-105	IEU	0,500	4,000	2-5/8	742 000	73 200	18 900	18 400	NCS0	6-5/8	2-3/4	9	12	120 000	63 400	38 000	1 550 000	b	0,87	29,66	934	0,62	1,07	0,45	6-9/32	27 400	5	
5	25.60	G-105	IEU	0,500	4,000	3-3/8	742 000	73 200	18 900	18 400	NCS0 VAM EIS	6-5/8	3-1/2	9	12	130 000	68 200	40 900	1 200 000	b	0,93	28,28	891	0,64	1,07	0,43	5-27/32	27 700	5	
5	25.60	G-105	IEU	0,500	4,000	3-5/8	742 000	73 200	18 900	18 400	VAM EXPRESS VX50	6-1/2	3-3/4	11	14	130 000	78 900	49 200	1 330 000	p	1,08	28,02	882	0,64	1,07	0,43	6-1/32	33 300	5	
5	25.60	S-135	IEU	0,500	4,000	3-1/8	954 000	94 100	24 300	23 600	5 1/2 FH	7-1/4	3-1/4	10	12	120 000	78 700	47 200	1 780 000	p	0,84	30,58	963	0,63	1,09	0,47	6-15/16	35 400	5	
5	25.60	S-135	IEU	0,500	4,000	2-5/8	954 000	94 100	24 300	23 600	NCS0	6-5/8	2-3/4	9	12	120 000	63 400	38 000	1 550 000	b	0,67	29,66	934	0,62	1,07	0,45	6-17/32	35 200	5	
5	25.60	S-135	IEU	0,500	4,000	3-1/8	954 000	94 100	24 300	23 600	NCS0 VAM EIS	6-5/8	3-1/4	9	12	130 000	80 900	48 500	1 370 000	b	0,86	28,78	907	0,63	1,07	0,44	6	35 800	5	
5	25.60	S-135	IEU	0,500	4,000	3-3/8	954 000	94 100	24 300	23 600	VAM EXPRESS VX50	6-5/8	3-1/2	11	14	130 000	92 400	57 700	1 510 000	p	0,98	28,92	911	0,63	1,08	0,44	6-1/32	37 200	5	

* Notes:

- 1) Capital "P" or "B" indicates a Torsional Ratio less than 0.80.
- 2) API recommends a Torsional Ratio of 0.80 or greater.
- 3) VAM EIS and VAM EXPRESS are proprietary threads of VAM Drilling.
- 4) Tong lengths are a minimum of 2" longer API standard.



DRILL PIPE AND TOOL-JOINT DATA

5 1/2"

TUBE											TOOL JOINT								DRILL PIPE ASSEMBLY, API Range 2 Length (based on 31 1/2 ft shoulder to shoulder)										
OD	Nominal Weight	Grade	Type Upset	Wall Thickness	Tube ID	Drift	Tensile Yield	Torsional Yield	Collapse Pressure	Burst Pressure	Connection Description * (3)	OD	ID	Tong Length * (4)		Material Yield Strength	Torsional Yield	Make-up Torque	Tensile Yield	Pin or Box Weak	Torsional Ratio * (2)	Approx. Weight/Foot	Approx. Weight	Capacity	Displacement		Premium OD	Make-up Torque w/Premium OD	Tube OD
														Pin	Box										Closed Ended	Open Ended			
in	lb/ft			in	in	in	lb	ft-lb	psi	psi		in	in	in	in	psi	ft-lb	ft-lb	lb			lb/ft	lb	gal/ft	gal/ft	gal/ft	in	ft-lb	in
5-1/2	21,90	E-75	IEU	0,361	4,778	3-7/8	437 000	50 700	8 410	8 610	5 1/2 FH	7	4	10	12	120 000	55 700	33 400	1 270 000	b	1,10	25,17	793	0,90	1,29	0,38	6-15/32	19 200	5-1/2
5-1/2	21,90	E-75	IEU	0,361	4,778	3-7/8	437 000	50 700	8 410	8 610	5 1/2 FH VAM EIS	7	4	10	12	130 000	82 400	49 500	1 370 000	b	1,63	25,17	793	0,90	1,29	0,38	6-7/16	32 800	5-1/2
5-1/2	21,90	X-95	IEU	0,361	4,778	3-5/8	554 000	64 200	10 000	10 900	5 1/2 FH	7	3-3/4	10	12	120 000	62 900	37 700	1 450 000	p	0,98	25,75	811	0,89	1,29	0,39	6-5/8	24 400	5-1/2
5-1/2	21,90	X-95	IEU	0,361	4,778	3-7/8	554 000	64 200	10 000	10 900	5 1/2 FH VAM EIS	7	4	10	12	130 000	82 400	49 500	1 370 000	b	1,28	25,17	793	0,90	1,29	0,38	6-7/16	32 800	5-1/2
5-1/2	21,90	VM-95 SS	IEU	0,361	4,778	3-7/8	554 000	64 200	10 000	10 900	5 1/2 FH	7	4	10	12	110 000	51 000	30 600	1 160 000	B	0,79	25,17	793	0,90	1,29	0,38	6-11/16	24 300	5-1/2
5-1/2	21,90	VM-95 SS	IEU	0,361	4,778	3-7/8	554 000	64 200	10 000	10 900	5 1/2 FH VAM EIS	7	4	10	12	110 000	69 800	41 900	1 160 000	b	1,09	25,17	793	0,90	1,29	0,38	6-7/16	27 700	5-1/2
5-1/2	21,90	G-105	IEU	0,361	4,778	3-3/8	612 000	71 000	10 800	12 100	5 1/2 FH	7-1/4	3-1/2	10	12	120 000	72 200	43 300	1 620 000	b	1,02	26,96	849	0,88	1,29	0,41	6-23/32	27 600	5-1/2
5-1/2	21,90	G-105	IEU	0,361	4,778	3-7/8	612 000	71 000	10 800	12 100	5 1/2 FH VAM EIS	7	4	10	12	130 000	82 400	49 500	1 370 000	b	1,16	25,17	793	0,90	1,29	0,38	6-7/16	32 800	5-1/2
5-1/2	21,90	G-105	IEU	0,361	4,778	4-3/8	612 000	71 000	10 800	12 100	VAM EXPRESS VX57	7	4-1/2	12	15	130 000	75 600	47 200	1 180 000	b	1,06	24,67	777	0,92	1,30	0,38	6-15/32	32 700	5-1/2
5-1/2	21,90	VM-105 SS	IEU	0,361	4,778	3-5/8	612 000	71 000	10 800	12 100	5 1/2 FH	7-1/4	3-3/4	10	12	110 000	58 800	35 300	1 330 000	b	0,83	26,42	832	0,89	1,29	0,40	6-25/32	27 400	5-1/2
5-1/2	21,90	VM-105 SS	IEU	0,361	4,778	3-7/8	612 000	71 000	10 800	12 100	5 1/2 FH VAM EIS	7	4	10	12	110 000	69 800	41 900	1 160 000	b	0,98	25,17	793	0,90	1,29	0,38	6-7/16	27 700	5-1/2
5-1/2	21,90	S-135	IEU	0,361	4,778	2-7/8	787 000	91 300	12 700	15 500	5 1/2 FH	7-1/2	3	10	12	120 000	86 800	52 100	1 930 000	b	0,95	28,68	903	0,87	1,31	0,44	6-15/16	35 400	5-1/2
5-1/2	21,90	S-135	IEU	0,361	4,778	3-7/8	787 000	91 300	12 700	15 500	5 1/2 FH VAM EIS	7	4	10	12	130 000	82 400	49 500	1 370 000	b	0,90	25,17	793	0,90	1,29	0,38	6-1/2	35 000	5-1/2
5-1/2	21,90	S-135	IEU	0,361	4,778	3-7/8	787 000	91 300	12 700	15 500	VAM EXPRESS VX54	6-3/4	4	12	15	130 000	89 000	55 500	1 340 000	p	0,97	25,32	798	0,90	1,28	0,39	6-7/32	36 200	5-1/2
5-1/2	21,90	S-135	IEU	0,361	4,778	4-3/8	787 000	91 300	12 700	15 500	VAM EXPRESS VX57	7	4-1/2	12	15	130 000	75 600	47 200	1 180 000	b	0,83	24,67	777	0,92	1,30	0,38	6-9/16	36 200	5-1/2
5-1/2	24,70	E-75	IEU	0,415	4,670	3-7/8	497 000	56 600	10 500	9 900	5 1/2 FH	7	4	10	12	120 000	55 700	33 400	1 270 000	b	0,98	27,59	869	0,86	1,29	0,42	6-9/16	22 300	5-1/2
5-1/2	24,70	E-75	IEU	0,415	4,670	3-7/8	497 000	56 600	10 500	9 900	5 1/2 FH VAM EIS	7	4	10	12	130 000	82 400	49 500	1 370 000	b	1,46	27,59	869	0,86	1,29	0,42	6-7/16	32 800	5-1/2
5-1/2	24,70	X-95	IEU	0,415	4,670	3-3/8	630 000	71 700	12 900	12 500	5 1/2 FH	7-1/4	3-1/2	10	12	120 000	72 200	43 300	1 620 000	b	1,01	29,38	925	0,85	1,29	0,45	6-23/32	27 600	5-1/2
5-1/2	24,70	X-95	IEU	0,415	4,670	3-7/8	630 000	71 700	12 900	12 500	5 1/2 FH VAM EIS	7	4	10	12	130 000	82 400	49 500	1 370 000	b	1,15	27,59	869	0,86	1,29	0,42	6-7/16	32 800	5-1/2
5-1/2	24,70	VM-95 SS	IEU	0,415	4,670	3-7/8	630 000	71 700	12 900	12 500	5 1/2 FH	7	4	10	12	110 000	51 000	30 600	1 160 000	B	0,71	27,59	869	0,86	1,29	0,42	6-25/32	27 400	5-1/2
5-1/2	24,70	VM-95 SS	IEU	0,415	4,670	3-7/8	630 000	71 700	12 900	12 500	5 1/2 FH VAM EIS	7	4	10	12	110 000	69 800	41 900	1 160 000	b	0,97	27,59	869	0,86	1,29	0,42	6-7/16	27 700	5-1/2
5-1/2	24,70	G-105	IEU	0,415	4,670	3-3/8	696 000	79 200	14 000	13 900	5 1/2 FH	7-1/4	3-1/2	10	12	120 000	72 200	43 300	1 620 000	b	0,91	29,38	925	0,85	1,29	0,45	6-25/32	29 800	5-1/2
5-1/2	24,70	G-105	IEU	0,415	4,670	3-7/8	696 000	79 200	14 000	13 900	5 1/2 FH VAM EIS	7	4	10	12	130 000	82 400	49 500	1 370 000	b	1,04	27,59	869	0,86	1,29	0,42	6-7/16	32 800	5-1/2
5-1/2	24,70	G-105	IEU	0,415	4,670	4-3/8	696 000	79 200	14 000	13 900	VAM EXPRESS VX57	7	4-1/2	12	15	130 000	75 600	47 200	1 180 000	b	0,95	27,05	852	0,88	1,30	0,41	6-15/32	32 700	5-1/2
5-1/2	24,70	VM-105 SS	IEU	0,415	4,670	3-3/8	696 000	79 200	14 000	13 900	5 1/2 FH	7-1/2	3-1/2	10	12	110 000	66 200	39 700	1 480 000	b	0,84	30,09	948	0,85	1,31	0,46	6-7/8	30 400	5-1/2
5-1/2	24,70	VM-105 SS	IEU	0,415	4,670	3-7/8	696 000	79 200	14 000	13 900	5 1/2 FH VAM EIS	7	4	10	12	110 000	69 800	41 900	1 160 000	b	0,88	27,59	869	0,86	1,29	0,42	6-17/32	30 600	5-1/2
5-1/2	24,70	S-135	IEU	0,415	4,670	2-7/8	895 000	102 000	17 000	17 800	5 1/2 FH	7-1/2	3	10	12	120 000	86 800	52 100	1 930 000	b	0,85	31,09	979	0,83	1,31	0,48	7-1/32	38 900	5-1/2
5-1/2	24,70	S-135	IEU	0,415	4,670	3-5/8	895 000	102 000	17 000	17 800	5 1/2 FH VAM EIS	7	3-3/4	10	12	130 000	97 200	58 300	1 570 000	p	0,95	28,17	887	0,85	1,29	0,43	6-1/2	39 300	5-1/2
5-1/2	24,70	S-135	IEU	0,415	4,670	3-7/8	895 000	102 000	17 000	17 800	VAM EXPRESS VX54	6-3/4	4	12	15	130 000	89 000	55 500	1 340 000	p	0,87	27,71	873	0,86	1,28	0,42	6-11/32	40 500	5-1/2
5-1/2	24,70	S-135	IEU	0,415	4,670	4-1/8	895 000	102 000	17 000	17 800	VAM EXPRESS VX57	7	4-1/4	12	15	130 000	94 200	58 800	1 400 000	p	0,92	27,78	875	0,87	1,30	0,42	6-17/32	40 300	5-1/2
5-1/2	24,70	VM-150	IEU	0,415	4,670	3-5/8	994 000	113 000	18 400	19 800	5 1/2 FH VAM EIS	7-1/4	3-3/4	10	12	130 000	99 100	59 500	1 570 000	b	0,88	28,83	908	0,85	1,29	0,44	6-19/32	42 700	5-1/2
5-1/2	24,70	VM-150	IEU	0,415	4,670	4-1/8	994 000	113 000	18 400	19 800	VAM EXPRESS VX57	7	4-1/4	12	15	130 000	94 200	58 800	1 400 000	p	0,83	27,78	875	0,87	1,30	0,42	6-21/32	45 000	5-1/2

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DRILL PIPE AND TOOL-JOINT DATA

5 7/8"

TUBE											TOOL JOINT										DRILL PIPE ASSEMBLY, API Range 2 Length (based on 31 1/2 ft shoulder to shoulder)									
OD	Nominal Weight	Grade	Type Upset	Wall Thickness	Tube ID	Drift	Tensile Yield	Torsional Yield	Collapse Pressure	Burst Pressure	Connection Description * (3)	OD	ID	Tong Length * (4)		Material Yield Strength	Torsional Yield	Make-up Torque	Tensile Yield	Pin or Box Weak	Torsional Ratio * (2)	Approx. Weight/Foot	Approx. Weight	Capacity	Displacement		Premium OD	Make-up Torque w/Premium OD	OD	
														Pin	Box										Closed Ended	Open Ended				
in	lb/ft			in	in	in	lb	ft-lb	psi	psi		in	in	in	in	psi	ft-lb	ft-lb	lb	* (1)		lb/ft	lb	gal/ft	gal/ft	gal/ft	in	ft-lb	in	
5-7/8	23,40	G-105	IEU	0,361	5,153	4-1/8	657 000	82 000	9 360	11 300	6 5/8 REG VAM EIS	7	4-1/4	10	13	120 000	75 200	45 100	1 240 000	b	0,92	26,42	832	1,04	1,45	0,40	6-5/8	31 600	5-7/8	
5-7/8	23,40	G-105	IEU	0,361	5,153	4-3/8	657 000	82 000	9 360	11 300	VAM EXPRESS VX57	7	4-1/2	12	15	130 000	75 600	47 200	1 180 000	b	0,92	26,35	830	1,05	1,45	0,40	6-15/32	32 700	5-7/8	
5-7/8	23,40	S-135	IEU	0,361	5,153	4-1/8	844 000	105 000	10 800	14 500	6 5/8 REG VAM EIS	7	4-1/4	10	13	120 000	75 200	45 100	1 240 000	B	0,71	26,42	832	1,04	1,45	0,40	6-7/8	40 500	5-7/8	
5-7/8	23,40	S-135	IEU	0,361	5,153	4-1/8	844 000	105 000	10 800	14 500	VAM EXPRESS VX57	7	4-1/4	12	15	130 000	94 200	58 800	1 400 000	p	0,89	27,06	853	1,04	1,45	0,41	6-9/16	41 500	5-7/8	
5-7/8	26,70	G-105	IEU	0,415	5,045	4-3/8	747 000	91 700	12 400	13 000	VAM EXPRESS VX57	7	4-1/2	12	15	130 000	75 600	47 200	1 180 000	b	0,82	28,93	911	1,01	1,45	0,44	6-9/16	36 200	5-7/8	
5-7/8	26,70	S-135	IEU	0,415	5,045	4-1/8	961 000	118 000	14 900	16 700	6 5/8 REG VAM EIS	7	4-1/4	10	13	120 000	75 200	45 100	1 240 000	B	0,64	29,03	914	1,00	1,45	0,44	7	45 100	5-7/8	
5-7/8	26,70	S-135	IEU	0,415	5,045	4-1/8	961 000	118 000	14 900	16 700	VAM EXPRESS VX57	7	4-1/4	12	15	130 000	94 200	58 800	1 400 000	P	0,80	29,65	934	1,00	1,45	0,45	6-11/16	46 300	5-7/8	

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DRILL PIPE AND TOOL-JOINT DATA

6 5/8"

TUBE											TOOL JOINT									DRILL PIPE ASSEMBLY, API Range 2 Length (based on 31 1/2 ft shoulder to shoulder)									
OD	Nominal Weight	Grade	Type Upset	Wall Thickness	Tube ID	Drift	Tensile Yield	Torsional Yield	Collapse Pressure	Burst Pressure	Connection Description * (3)	OD	ID	Tong Length * (4)		Material Yield Strength	Torsional Yield	Make-up Torque	Tensile Yield	Pin or Box Weak	Torsional Ratio * (2)	Approx. Weight/Foot	Approx. Weight	Capacity	Displacement		Premium OD	Make-up Torque w/Premium OD	Tube OD
														Pin	Box										Closed Ended	Open Ended			
in	lb/ft			in	in	in	lb	ft-lb	psi	psi		in	in	in	in	psi	ft-lb	ft-lb	lb			lb	gal/ft	gal/ft	gal/ft	in	ft-lb	in	
6-5/8	25,20	E-75	IEU	0,330	5,965	4-7/8	489 000	70 600	4 790	6 540	6 5/8 FH	8	5	10	13	120 000	73 200	43 900	1 450 000	b	1,04	29,17	919	1,40	1,85	0,45	7-7/16	26 800	6-5/8
6-5/8	25,20	E-75	IEU	0,330	5,965	4-7/8	489 000	70 600	4 790	6 540	6 5/8 FH VAM EIS	8	5	10	13	130 000	108 000	64 700	1 570 000	b	1,53	29,17	919	1,40	1,85	0,45	7-3/8	42 900	6-5/8
6-5/8	25,20	X-95	IEU	0,330	5,965	4-7/8	620 000	89 400	5 320	8 280	6 5/8 FH	8	5	10	13	120 000	73 200	43 900	1 450 000	b	0,82	29,17	919	1,40	1,85	0,45	7-5/8	35 100	6-5/8
6-5/8	25,20	X-95	IEU	0,330	5,965	4-7/8	620 000	89 400	5 320	8 280	6 5/8 FH VAM EIS	8	5	10	13	130 000	108 000	64 700	1 570 000	b	1,21	29,17	919	1,40	1,85	0,45	7-3/8	42 900	6-5/8
6-5/8	25,20	G-105	IEU	0,330	5,965	4-5/8	685 000	98 800	5 500	9 150	6 5/8 FH	8-1/4	4-3/4	10	13	120 000	85 500	51 300	1 680 000	b	0,86	30,71	967	1,39	1,86	0,47	7-11/16	38 000	6-5/8
6-5/8	25,20	G-105	IEU	0,330	5,965	4-7/8	685 000	98 800	5 500	9 150	6 5/8 FH VAM EIS	8	5	10	13	130 000	108 000	64 700	1 570 000	b	1,09	29,17	919	1,40	1,85	0,45	7-3/8	42 900	6-5/8
6-5/8	25,20	G-105	IEU	0,330	5,965	5-3/8	685 000	98 800	5 500	9 150	VAM EXPRESS VX65	8	5-1/2	12	17	130 000	107 000	66 800	1 450 000	b	1,08	28,68	903	1,42	1,86	0,44	7-1/2	45 100	6-5/8
6-5/8	25,20	G-105	IEU	0,330	5,965	5-3/4	685 000	98 800	5 500	9 150	VAM EXPRESS VX69	8-1/4	5-7/8	12	17	130 000	116 000	72 500	1 500 000	p	1,17	28,14	887	1,45	1,88	0,43	7-27/32	49 600	6-5/8
6-5/8	25,20	S-135	IEU	0,330	5,965	4-1/8	881 000	127 000	6 040	11 800	6 5/8 FH	8-1/2	4-1/4	10	13	120 000	108 000	65 000	2 100 000	b	0,85	32,94	1 038	1,37	1,87	0,50	7-29/32	48 200	6-5/8
6-5/8	25,20	S-135	IEU	0,330	5,965	4-5/8	881 000	127 000	6 040	11 800	6 5/8 FH VAM EIS	8-1/4	4-3/4	10	13	130 000	132 000	79 300	1 820 000	b	1,04	30,71	967	1,39	1,86	0,47	7-3/8	49 400	6-5/8
6-5/8	25,20	S-135	IEU	0,330	5,965	5-3/8	881 000	127 000	6 040	11 800	VAM EXPRESS VX65	8	5-1/2	12	17	130 000	107 000	66 800	1 450 000	b	0,84	28,68	903	1,42	1,86	0,44	7-5/8	51 300	6-5/8
6-5/8	25,20	S-135	IEU	0,330	5,965	5-5/8	881 000	127 000	6 040	11 800	VAM EXPRESS VX69	8-1/4	5-3/4	12	17	130 000	123 000	76 900	1 640 000	p	0,97	28,65	902	1,44	1,88	0,44	7-27/32	54 100	6-5/8
6-5/8	27,70	E-75	IEU	0,362	5,901	4-7/8	534 000	76 300	5 890	7 170	6 5/8 FH	8	5	10	13	120 000	73 200	43 900	1 450 000	b	0,96	30,97	976	1,38	1,85	0,47	7-1/2	29 600	6-5/8
6-5/8	27,70	E-75	IEU	0,362	5,901	4-7/8	534 000	76 300	5 890	7 170	6 5/8 FH VAM EIS	8	5	10	13	130 000	108 000	64 700	1 570 000	b	1,41	30,97	976	1,38	1,85	0,47	7-3/8	42 900	6-5/8
6-5/8	27,70	X-95	IEU	0,362	5,901	4-5/8	677 000	96 600	6 760	9 080	6 5/8 FH	8-1/4	4-3/4	10	13	120 000	85 500	51 300	1 680 000	b	0,88	32,50	1 024	1,36	1,86	0,50	7-11/16	38 000	6-5/8
6-5/8	27,70	X-95	IEU	0,362	5,901	4-7/8	677 000	96 600	6 760	9 080	6 5/8 FH VAM EIS	8	5	10	13	130 000	108 000	64 700	1 570 000	b	1,12	30,97	976	1,38	1,85	0,47	7-3/8	42 900	6-5/8
6-5/8	27,70	G-105	IEU	0,362	5,901	4-5/8	748 000	107 000	7 100	10 000	6 5/8 FH	8-1/4	4-3/4	10	13	120 000	85 500	51 300	1 680 000	b	0,80	32,50	1 024	1,36	1,86	0,50	7-3/4	40 900	6-5/8
6-5/8	27,70	G-105	IEU	0,362	5,901	4-7/8	748 000	107 000	7 100	10 000	6 5/8 FH VAM EIS	8	5	10	13	130 000	108 000	64 700	1 570 000	b	1,01	30,97	976	1,38	1,85	0,47	7-3/8	42 900	6-5/8
6-5/8	27,70	G-105	IEU	0,362	5,901	5-3/8	748 000	107 000	7 100	10 000	VAM EXPRESS VX65	8	5-1/2	12	17	130 000	107 000	66 800	1 450 000	b	1,00	30,44	959	1,40	1,86	0,47	7-1/2	45 100	6-5/8
6-5/8	27,70	G-105	IEU	0,362	5,901	5-3/4	748 000	107 000	7 100	10 000	VAM EXPRESS VX69	8-1/4	5-7/8	12	17	130 000	116 000	72 500	1 500 000	p	1,09	29,91	942	1,42	1,88	0,46	7-27/32	49 600	6-5/8
6-5/8	27,70	S-135	IEU	0,362	5,901	4-1/8	962 000	137 000	7 810	12 900	6 5/8 FH	8-1/2	4-1/4	10	13	120 000	108 000	65 000	2 100 000	b	0,79	34,73	1 094	1,34	1,87	0,53	8	52 700	6-5/8
6-5/8	27,70	S-135	IEU	0,362	5,901	4-5/8	962 000	137 000	7 810	12 900	6 5/8 FH VAM EIS	8-1/4	4-3/4	10	13	130 000	132 000	79 300	1 820 000	b	0,96	32,50	1 024	1,36	1,86	0,50	7-7/16	52 300	6-5/8
6-5/8	27,70	S-135	IEU	0,362	5,901	5-1/8	962 000	137 000	7 810	12 900	VAM EXPRESS VX65	8	5-1/4	12	17	130 000	126 000	78 800	1 720 000	p	0,92	31,36	988	1,38	1,86	0,48	7-17/32	54 300	6-5/8
6-5/8	27,70	S-135	IEU	0,362	5,901	5-1/2	962 000	137 000	7 810	12 900	VAM EXPRESS VX69	8-1/2	5-5/8	12	17	130 000	147 000	91 800	1 790 000	b	1,07	31,88	1 004	1,40	1,89	0,49	7-27/32	58 300	6-5/8
6-5/8	30,27	VM-150	IEU	0,460	5,705	4-7/8	1 340 000	185 000	15 400	18 200	VAM EXPRESS VX65	8-1/2	5	12	17	130 000	159 000	99 600	1 980 000	b	0,86	39,48	1 244	1,29	1,89	0,60	7-25/32	74 300	6-5/8

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