

# Heavy Weight Drill Pipe Data

Pipe Body							Tool Joint			
Tube OD	Construction	Tube ID	Central Upset Ø	Tube Yield	Torsional Strength	Tensile Strength	Connection	TJ OD	TJ ID	TJ Yield
in		in	in	ksi	ft-lbs	lbs		in	in	ksi
2-7/8	Integral	1-1/2	3-3/8	110	22,900	520,000	2 7/8 PAC	3-1/8	1-1/2	110
2-7/8	Integral	1-1/2	3-3/8	110	22,900	520,000	NC26	3-5/8	1-1/2	110
2-7/8	Integral	2-1/16	3-3/8	110	18,100	347,000	NC31	4-1/8	2-1/16	110
2-7/8	Integral	2-1/8	3-3/8	110	17,300	324,000	2 7/8 OH	3-7/8	2-1/8	110
2-7/8	Integral	2-1/8	3-3/8	110	17,300	324,000	2 7/8 SL H-90	4	2-1/8	110
2-7/8	Integral	2-1/8	3-3/8	110	17,300	324,000	2 7/8 SL H-90	4-1/8	2-1/8	110
2-7/8	Integral	2-1/8	3-3/8	110	17,300	324,000	NC31	4-1/8	2-1/8	110
3-1/2	Welded	2-1/16	4	55	19,600	345,000	NC31	4-1/8	2-1/16	120
3-1/2	Welded	2-1/16	4	55	19,600	345,000	NC38	4-3/4	2-1/16	120
3-1/2	Welded	2-1/16	4	55	19,600	345,000	NC38	4-3/4	2-1/16	120
3-1/2	Welded	2-1/16	4	55	19,600	345,000	NC38	4-3/4	2-1/8	120
3-1/2	Welded	2-1/16	4	55	19,600	345,000	NC38	4-3/4	2-3/16	120
3-1/2	Welded	2-1/16	4	55	19,600	345,000	NC38	4-3/4	2-1/4	120
3-1/2	Welded	2-1/16	4	55	19,600	345,000	NC38	4-3/4	2-5/16	120
3-1/2	Welded	2-1/16	4	55	19,600	345,000	NC38	4-3/4	2-3/8	120
3-1/2	Welded	2-1/16	4	55	19,600	345,000	NC38	4-3/4	2-7/16	120
3-1/2	Welded	2-1/16	4	55	19,600	345,000	NC38	4-3/4	2-9/16	120
3-1/2	Welded	2-1/16	4	55	19,600	345,000	NC38	5	2-7/16	120
3-1/2	Welded	2-1/16	4	55	19,600	345,000	NC38	5	2-1/4	120
3-1/2	Welded	2-1/16	4	55	19,600	345,000	NC38	5	2-1/8	120
3-1/2	Welded	2-1/16	4	55	19,600	345,000	NC38	5	2-1/16	120
3-1/2	Welded	2-1/4	4	55	18,500	310,000	NC31	4-1/8	2-1/16	120
3-1/2	Welded	2-1/4	4	55	18,500	310,000	NC38	4-3/4	2-1/16	120
3-1/2	Welded	2-1/4	4	55	18,500	310,000	NC38	4-3/4	2-1/16	120
3-1/2	Welded	2-1/4	4	55	18,500	310,000	NC38	4-3/4	2-1/8	120
3-1/2	Welded	2-1/4	4	55	18,500	310,000	NC38	4-3/4	2-3/16	120
3-1/2	Welded	2-1/4	4	55	18,500	310,000	NC38	4-3/4	2-1/4	120
3-1/2	Welded	2-1/4	4	55	18,500	310,000	NC38	4-3/4	2-5/16	120
3-1/2	Welded	2-1/4	4	55	18,500	310,000	NC38	4-3/4	2-3/8	120
3-1/2	Welded	2-1/4	4	55	18,500	310,000	NC38	4-3/4	2-7/16	120
3-1/2	Welded	2-1/4	4	55	18,500	310,000	NC38	4-3/4	2-9/16	120
3-1/2	Welded	2-1/4	4	55	18,500	310,000	NC38	5	2-7/16	120
3-1/2	Welded	2-1/4	4	55	18,500	310,000	NC38	5	2-1/4	120
3-1/2	Welded	2-1/4	4	55	18,500	310,000	NC38	5	2-1/8	120
3-1/2	Welded	2-1/4	4	55	18,500	310,000	NC38	5	2-1/16	120

## 2-7/8" – 3-1/2"

Recommended Make-Up Torque ft-lbs	Tool Joint				Slick			Spiraled		
	Torsional Strength	Tensile Strength	Box Length	Pin Length	Central Upset Length	Total Weight	Weight per foot	Unspiraled Upset Length	Total Weight	Weight per foot
	ft-lbs	lbs	in	in	in	lbs	lbs/ft	in	lbs	lbs/ft
4,150	5,220	250,000	21	27	24	532	17.26	25	634	20.60
4,670	8,220	358,000	21	27	24	565	18.38	25	668	21.72
6,500	11,400	432,000	21	27	24	440	14.33	25	543	17.68
4,690	8,260	328,000	21	27	24	399	12.98	25	502	16.32
6,050	10,600	362,000	21	27	24	409	13.31	25	512	16.65
6,050	10,600	362,000	21	27	24	420	13.66	25	523	17.00
6,140	10,800	410,000	21	27	24	419	13.63	25	521	16.98
7,490	12,500	472,000	21	27	24	729	23.75	25	859	27.98
10,800	18,100	587,000	21	27	24	785	25.60	25	915	29.83
11,500	19,200	867,000	21	27	24	785	25.60	25	915	29.83
11,500	19,200	842,000	21	27	24	785	25.60	25	915	29.83
11,500	19,200	817,000	21	27	24	785	25.60	25	915	29.83
11,500	19,200	791,000	21	27	24	785	25.60	25	915	29.83
11,500	19,200	764,000	21	27	24	785	25.60	25	915	29.83
11,500	19,200	736,000	21	27	24	785	25.60	25	915	29.83
11,500	19,200	708,000	21	27	24	785	25.60	25	915	29.83
11,500	19,200	649,000	21	27	24	785	25.60	25	915	29.83
13,200	22,000	708,000	21	27	24	811	26.44	25	941	30.67
14,900	24,800	791,000	21	27	24	811	26.44	25	941	30.67
15,900	26,500	842,000	21	27	24	811	26.44	25	941	30.67
16,100	26,800	867,000	21	27	24	811	26.44	25	941	30.67
7,490	12,500	472,000	21	27	24	663	21.60	25	793	25.82
10,800	18,100	587,000	21	27	24	719	23.44	25	849	27.67
11,500	19,200	867,000	21	27	24	719	23.44	25	849	27.67
11,500	19,200	842,000	21	27	24	719	23.44	25	849	27.67
11,500	19,200	817,000	21	27	24	719	23.44	25	849	27.67
11,500	19,200	791,000	21	27	24	719	23.44	25	849	27.67
11,500	19,200	764,000	21	27	24	719	23.44	25	849	27.67
11,500	19,200	736,000	21	27	24	719	23.44	25	849	27.67
11,500	19,200	708,000	21	27	24	719	23.44	25	849	27.67
11,500	19,200	649,000	21	27	24	719	23.44	25	849	27.67
13,200	22,000	708,000	21	27	24	745	24.28	25	874	28.51
14,900	24,800	791,000	21	27	24	745	24.28	25	874	28.51
15,900	26,500	842,000	21	27	24	745	24.28	25	874	28.51
16,100	26,800	867,000	21	27	24	745	24.28	25	874	28.51

# Heavy Weight Drill Pipe Data

		Pipe Body					Tool Joint			
Tube OD	Construction	Tube ID	Central Upset Ø	Tube Yield	Torsional Strength	Tensile Strength	Connection	TJ OD	TJ ID	TJ Yield
in		in	in	ksi	ft-lbs	lbs		in	in	ksi
4	Welded	2-1/2	4-1/2	55	28,200	421,000	NC38	4-3/4	2-9/16	120
4	Welded	2-1/2	4-1/2	55	28,200	421,000	NC38	4-7/8	2-9/16	120
4	Welded	2-1/2	4-1/2	55	28,200	421,000	NC38	5	2-9/16	120
4	Welded	2-1/2	4-1/2	55	28,200	421,000	NC38	4-7/8	2-7/16	120
4	Welded	2-1/2	4-1/2	55	28,200	421,000	NC38	5	2-7/16	120
4	Welded	2-1/2	4-1/2	55	28,200	421,000	NC38	5	2-1/4	120
4	Welded	2-1/2	4-1/2	55	28,200	421,000	NC40	5-1/2	2-7/16	120
4	Welded	2-1/2	4-1/2	55	28,200	421,000	NC46	6	3-1/4	120
4	Welded	2-1/2	4-1/2	55	28,200	421,000	NC46	6	3	120
4	Welded	2-9/16	4-1/2	55	27,600	408,000	NC38	4-3/4	2-9/16	120
4	Welded	2-9/16	4-1/2	55	27,600	408,000	NC38	4-7/8	2-9/16	120
4	Welded	2-9/16	4-1/2	55	27,600	408,000	NC38	5	2-9/16	120
4-1/2	Welded	2-1/2	5	55	42,800	605,000	NC40	5-1/2	2-13/16	120
4-1/2	Welded	2-1/2	5	55	42,800	605,000	NC46	6-1/4	3-1/4	120
4-1/2	Welded	2-1/2	5	55	42,800	605,000	NC50	6-5/8	3-3/4	120
4-1/2	Welded	2-1/2	5	55	42,800	605,000	NC46	6-1/4	3	120
4-1/2	Welded	2-1/2	5	55	42,800	605,000	NC46	6-1/4	2-7/8	120
4-1/2	Welded	2-1/2	5	55	42,800	605,000	NC46	6-1/4	2-13/16	120
4-1/2	Welded	2-1/2	5	55	42,800	605,000	NC46	6-1/4	2-3/4	120
4-1/2	Welded	2-1/2	5	55	42,800	605,000	NC50	6-5/8	3-1/2	120
4-1/2	Welded	2-1/2	5	55	42,800	605,000	NC46	6-1/4	2-1/2	120
4-1/2	Welded	2-1/2	5	55	42,800	605,000	NC46	6-1/4	2-1/4	120
4-1/2	Welded	2-1/2	5	55	42,800	605,000	NC50	6-5/8	3	120
4-1/2	Welded	2-13/16	5	55	40,100	533,000	NC40	5-1/2	2-13/16	120
4-1/2	Welded	2-13/16	5	55	40,100	533,000	NC50	6-5/8	3-3/4	120
4-1/2	Welded	2-13/16	5	55	40,100	533,000	NC46	6-1/4	3	120
4-1/2	Welded	2-13/16	5	55	40,100	533,000	NC46	6-1/4	2-13/16	120
4-1/2	Welded	2-13/16	5	55	40,100	533,000	NC46	6-1/4	2-3/4	120
4-1/2	Welded	2-13/16	5	55	40,100	533,000	NC50	6-5/8	3-1/2	120
4-1/2	Welded	2-13/16	5	55	40,100	533,000	NC50	6-5/8	3	120
5	Welded	3	5-1/2	55	56,500	691,000	NC50	6-5/8	3	120
5	Welded	3	5-1/2	55	56,500	691,000	5 1/2 FH	7	3-3/4	120
5	Welded	3	5-1/2	55	56,500	691,000	NC50	6-5/8	2-3/4	120
5	Welded	3	5-1/2	55	56,500	691,000	5 1/2 FH	7-1/4	3-1/2	120

# 4" – 5"

	Recommended Make-Up Torque ft-lbs	Tool Joint				Slick			Spiraled		
		Torsional Strength	Tensile Strength	Box Length	Pin Length	Central Upset Length	Total Weight	Weight per foot	Unspiraled Upset Length	Total Weight	Weight per foot
		ft-lbs	lbs	in	in	in	lbs	lbs/ft	in	lbs	lbs/ft
4	11,500	19,200	649,000	21	27	24	893	29.13	25	1,045	34.07
4	12,100	20,100	649,000	21	27	24	906	29.53	25	1,057	34.47
4	12,100	20,100	649,000	21	27	24	918	29.94	25	1,070	34.88
4	13,200	22,000	708,000	21	27	24	906	29.53	25	1,057	34.47
4	13,200	22,000	708,000	21	27	24	918	29.94	25	1,070	34.88
4	14,900	24,800	791,000	21	27	24	918	29.94	25	1,070	34.88
4	17,900	29,800	897,000	21	27	24	971	31.69	25	1,122	36.64
4	19,900	33,200	901,000	21	27	24	1,032	33.69	25	1,183	38.64
4	23,400	39,000	1,050,000	21	27	24	1,032	33.69	25	1,183	38.64
4	11,500	19,200	649,000	21	27	24	867	28.28	25	1,019	33.22
4	12,100	20,100	649,000	21	27	24	880	28.68	25	1,031	33.62
4	12,100	20,100	649,000	21	27	24	892	29.10	25	1,044	34.04
4-1/2	14,000	23,300	712,000	21	27	24	1,277	41.70	25	1,451	47.37
4-1/2	19,900	33,200	901,000	21	27	24	1,369	44.71	25	1,543	50.38
4-1/2	22,400	37,300	939,000	21	27	24	1,421	46.40	25	1,595	52.07
4-1/2	23,400	39,000	1,050,000	21	27	24	1,369	44.71	25	1,543	50.38
4-1/2	25,000	41,700	1,120,000	21	27	24	1,369	44.71	25	1,543	50.38
4-1/2	25,800	43,100	1,150,000	21	27	24	1,369	44.71	25	1,543	50.38
4-1/2	26,600	44,400	1,180,000	21	27	24	1,369	44.71	25	1,543	50.38
4-1/2	26,700	44,500	1,110,000	21	27	24	1,421	46.40	25	1,595	52.07
4-1/2	29,600	49,300	1,310,000	21	27	24	1,369	44.71	25	1,543	50.38
4-1/2	32,300	53,800	1,420,000	21	27	24	1,369	44.71	25	1,543	50.38
4-1/2	34,500	57,500	1,420,000	21	27	24	1,421	46.40	25	1,595	52.07
4-1/2	14,000	23,300	712,000	21	27	24	1,141	37.27	25	1,315	42.94
4-1/2	22,400	37,300	939,000	21	27	24	1,285	41.97	25	1,459	47.64
4-1/2	23,400	39,000	1,050,000	21	27	24	1,233	40.28	25	1,407	45.94
4-1/2	25,800	43,100	1,150,000	21	27	24	1,233	40.28	25	1,407	45.94
4-1/2	26,600	44,400	1,180,000	21	27	24	1,233	40.28	25	1,407	45.94
4-1/2	26,700	44,500	1,110,000	21	27	24	1,285	41.97	25	1,459	47.64
4-1/2	34,500	57,500	1,420,000	21	27	24	1,285	41.97	25	1,459	47.64
5	34,500	57,500	1,420,000	21	27	24	1,536	50.17	25	1,732	56.56
5	37,700	62,900	1,450,000	21	27	24	1,587	51.88	25	1,782	58.28
5	38,000	63,400	1,550,000	21	27	24	1,536	50.17	25	1,732	56.56
5	43,300	72,200	1,620,000	21	27	24	1,625	53.13	25	1,821	59.53

# Heavy Weight Drill Pipe Data

Tube OD	Construction	Pipe Body					Tool Joint			
		Tube ID	Central Upset Ø	Tube Yield	Torsional Strength	Tensile Strength	Connection	TJ OD	TJ ID	TJ Yield
		in	in	ksi	ft-lbs	lbs		in	in	ksi
5-1/2	Welded	3-5/8	6	55	70,100	739,000	5 1/2 FH	7-1/4	3-1/2	120
5-1/2	Welded	3-5/8	6	55	70,100	739,000	5 1/2 FH	7-1/2	3	120
5-1/2	Welded	3-7/8	6	55	65,100	658,000	5 1/2 FH	7-1/4	3-1/2	120
5-1/2	Welded	3-7/8	6	55	65,100	658,000	5 1/2 FH	7-1/2	3	120
6-5/8	Welded	5	7	55	102,000	816,000	6 5/8 FH	8-1/4	4-3/4	120
6-5/8	Welded	5	7	55	102,000	816,000	6 5/8 FH	8-1/2	4-1/4	120

# 5-1/2" – 6-5/8"

Recommended Make-Up Torque ft-lbs	Tool Joint				Slick			Spiraled		
	Torsional Strength	Tensile Strength	Box Length	Pin Length	Central Upset Length	Total Weight	Weight per foot	Unspiraled Upset Length	Total Weight	Weight per foot
	ft-lbs	lbs	in	in	in	lbs	lbs/ft	in	lbs	lbs/ft
43,300	72,200	1,620,000	21	27	24	1,662	54.34	25	1,880	61.47
52,100	86,800	1,930,000	21	27	24	1,701	55.62	25	1,919	62.75
43,300	72,200	1,620,000	21	27	24	1,509	49.33	25	1,727	56.47
52,100	86,800	1,930,000	21	27	24	1,548	50.61	25	1,766	57.75
51,300	85,500	1,680,000	21	27	24	1,822	59.58	25	2,031	66.40
65,000	108,000	2,100,000	21	27	24	1,866	61.03	25	2,075	67.85

# Heavy Weight Drill Pipe Data **Sour Service**

Pipe Body							Tool Joint			
Tube OD	Construction	Tube ID	Central Upset Ø	Tube Yield	Torsional Strength	Tensile Strength	Connection	TJ OD	TJ ID	TJ Yield
in		in	in	ksi	ft-lbs	lbs		in	in	ksi
3-1/2	HWDP-110 HW MS	2-3/16	4	110	37,700	645,000	NC38	4-3/4	2-3/16	110
3-1/2	HWDP-110 HW MS	2-1/16	4	110	39,200	691,000	NC38	4-3/4	2-1/16	110
3-1/2	HWDP-110 HW MS	2-1/16	4	110	39,200	691,000	NC38	5	2-1/16	110
4-1/2	HWDP-110 HW MS	2-13/16	5	110	80,200	1,070,000	NC46	6-1/4	2-13/16	110
5	HWDP-110 HW MS	3	5-1/2	110	113,000	1,380,000	NC50	6-1/2	3	110
5	HWDP-110 HW MS	3	5-1/2	110	113,000	1,380,000	NC50	6-5/8	3	110
3-1/2	HWDP-65 HW MS	2-1/16	4	65	23,100	408,000	NC38	4-3/4	2-1/16	110
3-1/2	HWDP-65 HW MS	2-1/16	4	65	23,100	408,000	NC38	4-3/4	2-1/8	110
3-1/2	HWDP-65 HW MS	2-1/16	4	65	23,100	408,000	NC38	4-3/4	2-3/16	110
3-1/2	HWDP-65 HW MS	2-3/16	4	65	22,300	381,000	NC38	4-3/4	2-3/16	110
3-1/2	HWDP-65 HW MS	2-1/4	4	65	21,800	367,000	NC38	4-3/4	2-3/16	110
3-1/2	HWDP-65 HW MS	2-1/16	4	65	23,100	408,000	NC38	4-3/4	2-1/4	110
3-1/2	HWDP-65 HW MS	2-1/4	4	65	21,800	367,000	NC38	4-3/4	2-1/4	110
3-1/2	HWDP-65 HW MS	2-1/16	4	65	23,100	408,000	NC38	4-3/4	2-5/16	110
3-1/2	HWDP-65 HW MS	2-1/16	4	65	23,100	408,000	NC38	4-3/4	2-3/8	110
3-1/2	HWDP-65 HW MS	2-1/4	4	65	21,800	367,000	NC38	4-3/4	2-3/8	110
3-1/2	HWDP-65 HW MS	2-3/8	4	65	20,700	337,000	NC38	4-3/4	2-3/8	110
3-1/2	HWDP-65 HW MS	2-1/16	4	65	23,100	408,000	NC38	4-7/8	2-1/16	110
3-1/2	HWDP-65 HW MS	2-1/4	4	65	21,800	367,000	NC38	4-7/8	2-1/4	110
3-1/2	HWDP-65 HW MS	2-1/4	4	65	21,800	367,000	NC38	4-7/8	2-5/16	110
3-1/2	HWDP-65 HW MS	2-1/16	4	65	23,100	408,000	NC38	5	2-1/16	110
3-1/2	HWDP-65 HW MS	2-3/16	4	65	22,300	381,000	NC38	5	2-3/16	110
3-1/2	HWDP-65 HW MS	2-1/4	4	65	21,800	367,000	NC38	5	2-3/16	110
3-1/2	HWDP-65 HW MS	2-1/16	4	65	23,100	408,000	NC38	5	2-1/4	110
3-1/2	HWDP-65 HW MS	2-1/4	4	65	21,800	367,000	NC38	5	2-1/4	110
3-1/2	HWDP-65 HW MS	2-1/16	4	65	23,100	408,000	NC38	5	2-7/16	110
4	HWDP-65 HW MS	2-1/2	4-1/2	65	33,300	498,000	NC38	5	2-9/16	110
4	HWDP-65 HW MS	2-1/2	4-1/2	65	33,300	498,000	NC40	5-1/4	2-1/2	110
4-1/2	HWDP-65 HW MS	2-13/16	5	65	47,400	630,000	NC46	6-1/4	2-13/16	110
4-1/2	HWDP-65 HW MS	2-3/4	5	65	48,100	648,000	NC46	6-1/4	2-7/8	110
4-1/2	HWDP-65 HW MS	2-13/16	5	65	47,400	630,000	NC46	6-1/2	2-13/16	110
5	HWDP-65 HW MS	3	5-1/2	65	66,800	817,000	NC50	6-1/2	3	110
5	HWDP-65 HW MS	3	5-1/2	65	66,800	817,000	NC50	6-1/2	3-1/16	110
5	HWDP-65 HW MS	3	5-1/2	65	66,800	817,000	NC50	6-1/2	3-1/8	110
5	HWDP-65 HW MS	3-1/8	5-1/2	65	65,000	778,000	NC50	6-1/2	3-1/8	110
5	HWDP-65 HW MS	3	5-1/2	65	66,800	817,000	NC50	6-1/2	3-1/8	110
5	HWDP-65 HW MS	2-3/4	5-1/2	65	69,700	890,000	NC50	6-5/8	2-3/4	110
5	HWDP-65 HW MS	2-13/16	5-1/2	65	69,000	872,000	NC50	6-5/8	2-13/16	110
5	HWDP-65 HW MS	3	5-1/2	65	66,800	817,000	NC50	6-5/8	3	110
5	HWDP-65 HW MS	3	5-1/2	65	66,800	817,000	NC50	6-5/8	3-1/16	110
5	HWDP-65 HW MS	3-1/16	5-1/2	65	65,900	797,000	NC50	6-5/8	3-1/16	110
5	HWDP-65 HW MS	3	5-1/2	65	66,800	817,000	NC50	6-5/8	3-1/8	110
5	HWDP-65 HW MS	3	5-1/2	65	66,800	817,000	NC50	6-5/8	3-1/4	110

## 2-7/8" – 5"

Recommended Make-Up Torque ft-lbs	Tool Joint				Slick			Spiraled		
	Torsional Strength	Tensile Strength	Box Length	Pin Length	Central Upset Length	Total Weight	Weight per foot	Unspiraled Upset Length	Total Weight	Weight per foot
	ft-lbs	lbs	in	in	in	lbs	lbs/ft	in	lbs	lbs/ft
9,990	17,600	749,000	21	27	25	742	24.19	25	871	28.41
9,990	17,600	795,000	21	27	25	785	25.60	25	915	29.83
13,900	24,600	795,000	21	27	25	811	26.44	25	941	30.67
22,400	39,500	1,050,000	21	27	25	1,233	40.28	25	1,407	45.94
29,700	52,200	1,300,000	21	27	25	1,519	49.60	25	1,715	56.00
30,000	52,700	1,300,000	21	27	25	1,536	50.17	25	1,732	56.56
9,990	17,600	795,000	21	27	25	785	25.60	25	915	29.83
9,990	17,600	772,000	21	27	25	785	25.60	25	915	29.83
9,990	17,600	749,000	21	27	25	785	25.60	25	915	29.83
9,990	17,600	749,000	21	27	25	742	24.19	25	871	28.41
9,990	17,600	749,000	21	27	25	719	23.44	25	849	27.67
9,990	17,600	725,000	21	27	25	785	25.60	25	915	29.83
9,990	17,600	725,000	21	27	25	719	23.44	25	849	27.67
9,990	17,600	700,000	21	27	25	785	25.60	25	915	29.83
9,990	17,600	675,000	21	27	25	785	25.60	25	915	29.83
9,990	17,600	675,000	21	27	25	719	23.44	25	849	27.67
9,990	17,600	675,000	21	27	25	672	21.90	25	801	26.13
11,900	21,000	795,000	21	27	25	798	26.02	25	927	30.24
11,900	21,000	725,000	21	27	25	732	23.86	25	861	28.08
11,900	21,000	700,000	21	27	25	732	23.86	25	861	28.08
13,900	24,600	795,000	21	27	25	811	26.44	25	941	30.67
13,400	23,500	749,000	21	27	25	767	25.02	25	897	29.25
13,400	23,500	749,000	21	27	25	745	24.28	25	874	28.51
12,900	22,700	725,000	21	27	25	811	26.44	25	941	30.67
12,900	22,700	725,000	21	27	25	745	24.28	25	874	28.51
11,500	20,200	649,000	21	27	25	811	26.44	25	941	30.67
10,500	18,400	595,000	21	27	25	918	29.94	25	1,070	34.88
15,000	26,300	796,000	21	27	25	943	30.78	25	1,094	35.73
22,400	39,500	1,050,000	21	27	25	1,233	40.28	25	1,407	45.94
21,700	38,300	1,020,000	21	27	25	1,262	41.20	25	1,435	46.87
22,400	39,500	1,050,000	21	27	25	1,268	41.39	25	1,441	47.06
29,700	52,200	1,300,000	21	27	25	1,519	49.60	25	1,715	56.00
29,200	51,300	1,270,000	21	27	25	1,519	49.60	25	1,715	56.00
28,300	49,900	1,230,000	21	27	25	1,519	49.60	25	1,715	56.00
28,300	49,900	1,230,000	21	27	25	1,456	47.56	25	1,652	53.95
28,300	49,900	1,230,000	21	27	25	1,519	49.60	25	1,715	56.00
33,000	58,100	1,420,000	21	27	25	1,654	54.00	25	1,850	60.40
32,300	56,800	1,390,000	21	27	25	1,625	53.08	25	1,821	59.47
30,000	52,700	1,300,000	21	27	25	1,536	50.17	25	1,732	56.56
29,200	51,300	1,270,000	21	27	25	1,536	50.17	25	1,732	56.56
29,200	51,300	1,270,000	21	27	25	1,505	49.15	25	1,701	55.55
28,300	49,900	1,230,000	21	27	25	1,536	50.17	25	1,732	56.56
26,700	46,900	1,160,000	21	27	25	1,536	50.17	25	1,732	56.56



# Heavy Weight Drill Pipe Data **Sour Service**

		Pipe Body					Tool Joint				
Tube OD	Construction	Tube ID	Central Upset Ø	Tube Yield	Torsional Strength	Tensile Strength	Connection	TJ OD	TJ ID	TJ Yield	
in		in	in	ksi	ft-lbs	lbs		in	in	ksi	
5-1/2	HWDP-65 HW MS	3-1/8	6	65	91,500	1,050,000	NC50	6-7/8	3-1/4	110	
5-1/2	HWDP-65 HW MS	3-1/2	6	65	85,400	919,000	5 1/2 FH	7	3-1/2	110	
5-1/2	HWDP-65 HW MS	3-5/8	6	65	82,800	873,000	5 1/2 FH	7	3-5/8	110	
5-1/2	HWDP-65 HW MS	3-7/8	6	65	76,900	778,000	5 1/2 FH	7	3-5/8	110	
5-1/2	HWDP-65 HW MS	3-7/8	6	65	76,900	778,000	5 1/2 FH	7	3-7/8	110	
5-1/2	HWDP-65 HW MS	3-1/4	6	65	89,700	1,010,000	5 1/2 FH	7-1/4	3-1/4	100	
5-1/2	HWDP-65 HW MS	3-1/4	6	65	89,700	1,010,000	5 1/2 FH	7-1/4	3-5/16	100	
5-1/2	HWDP-65 HW MS	3-1/4	6	65	89,700	1,010,000	5 1/2 FH	7-1/4	3-1/2	100	
5-1/2	HWDP-65 HW MS	3-1/2	6	65	85,400	919,000	5 1/2 FH	7-1/4	3-1/2	100	
5-1/2	HWDP-65 HW MS	3-7/8	6	65	76,900	778,000	5 1/2 FH	7-1/4	3-1/2	100	
5-1/2	HWDP-65 HW MS	3-5/8	6	65	82,800	873,000	5 1/2 FH	7-1/4	3-5/8	100	
5-1/2	HWDP-65 HW MS	3-7/8	6	65	76,900	778,000	5 1/2 FH	7-1/4	3-7/8	100	
5-1/2	HWDP-65 HW MS	3-7/8	6	65	76,900	778,000	5 1/2 FH	7-1/4	3-7/8	100	
5-1/2	HWDP-65 HW MS	3-7/8	6	65	76,900	778,000	5 1/2 FH	7-1/2	3-1/4	100	
5-1/2	HWDP-65 HW MS	3-1/2	6	65	85,400	919,000	5 1/2 FH	7-1/2	3-1/2	100	
5-1/2	HWDP-65 HW MS	3-7/8	6	65	76,900	778,000	5 1/2 FH	7-1/2	3-7/8	100	
6-5/8	HWDP-65 HW MS	4	7-1/8	65	155,000	1,420,000	6 5/8 FH	8	4	100	
6-5/8	HWDP-65 HW MS	4	7-1/8	65	155,000	1,420,000	6 5/8 REG	8	4	100	
6-5/8	HWDP-65 HW MS	4-1/2	7-1/8	65	140,000	1,210,000	6 5/8 FH	8	4-1/2	100	
6-5/8	HWDP-65 HW MS	5	7-1/8	65	121,000	964,000	6 5/8 FH	8	4-3/4	100	
6-5/8	HWDP-65 HW MS	5	7-1/8	65	121,000	964,000	6 5/8 FH	8	5	100	
6-5/8	HWDP-65 HW MS	4-1/2	7-1/8	65	140,000	1,210,000	6 5/8 FH	8-1/4	3-1/2	100	
6-5/8	HWDP-65 HW MS	5	7-1/8	65	121,000	964,000	6 5/8 FH	8-1/4	4-1/2	100	
6-5/8	HWDP-65 HW MS	5	7-1/8	65	121,000	964,000	6 5/8 FH	8-1/4	5	100	
6-5/8	HWDP-65 HW MS	4	7-1/8	65	155,000	1,420,000	6 5/8 FH	8-1/2	4	100	
6-5/8	HWDP-65 HW MS	5	7-1/8	65	121,000	964,000	6 5/8 FH	8-1/2	4	100	
6-5/8	HWDP-65 HW MS	4-1/4	7-1/8	65	148,000	1,320,000	6 5/8 FH	8-1/2	4-1/4	100	
6-5/8	HWDP-65 HW MS	5	7-1/8	65	121,000	964,000	6 5/8 FH	8-1/2	4-1/4	100	
6-5/8	HWDP-65 HW MS	5	7-1/8	65	121,000	964,000	6 5/8 FH	8-1/2	4-1/2	100	
6-5/8	HWDP-65 HW MS	5	7-1/8	65	121,000	964,000	6 5/8 FH	8-1/2	5	100	

# 5-1/2" – 6-5/8"

Recommended Make-Up Torque ft-lbs	Tool Joint				Slick			Spiraled		
	Torsional Strength	Tensile Strength	Box Length	Pin Length	Central Upset Length	Total Weight	Weight per foot	Unspiraled Upset Length	Total Weight	Weight per foot
	ft-lbs	lbs	in	in	in	lbs	lbs/ft	in	lbs	lbs/ft
26,700	46,900	1,160,000	21	27	25	1,886	61.59	25	2,104	68.72
32,800	57,700	1,480,000	21	27	25	1,697	55.49	25	1,915	62.63
32,800	57,700	1,410,000	21	27	25	1,624	53.11	25	1,843	60.25
32,800	57,700	1,410,000	21	27	25	1,471	48.11	25	1,690	55.25
31,200	55,000	1,250,000	21	27	25	1,471	48.11	25	1,690	55.25
41,000	65,600	1,480,000	21	27	25	1,872	61.22	25	2,091	68.36
40,600	64,900	1,450,000	21	27	25	1,872	61.22	25	2,091	68.36
37,600	60,200	1,350,000	21	27	25	1,872	61.22	25	2,091	68.36
37,600	60,200	1,350,000	21	27	25	1,735	56.71	25	1,953	63.85
37,600	60,200	1,350,000	21	27	25	1,509	49.33	25	1,727	56.47
35,600	56,900	1,280,000	21	27	25	1,662	54.34	25	1,880	61.47
31,200	50,000	1,130,000	21	27	25	1,509	49.33	25	1,727	56.47
31,200	50,000	1,130,000	21	27	25	1,509	49.33	25	1,727	56.47
41,500	66,500	1,480,000	21	27	25	1,548	50.61	25	1,766	57.75
37,600	60,200	1,350,000	21	27	25	1,774	58.00	25	1,992	65.13
31,200	50,000	1,130,000	21	27	25	1,548	50.61	25	1,766	57.75
45,800	73,200	1,910,000	21	27	25	2,525	82.58	25	2,795	91.38
34,000	54,400	1,200,000	21	27	25	2,525	82.58	25	2,795	91.38
45,800	73,200	1,580,000	21	27	25	2,178	71.23	25	2,448	80.03
44,500	71,200	1,400,000	21	27	25	1,791	58.55	25	2,060	67.35
38,100	61,000	1,210,000	21	27	25	1,791	58.55	25	2,060	67.35
56,500	90,400	2,210,000	21	27	25	2,221	72.61	25	2,490	81.42
50,600	81,000	1,580,000	21	27	25	1,833	59.93	25	2,102	68.74
38,100	61,000	1,210,000	21	27	25	1,833	59.93	25	2,102	68.74
62,000	99,100	1,910,000	21	27	25	2,612	85.41	25	2,881	94.21
62,000	99,100	1,910,000	21	27	25	1,877	61.38	25	2,146	70.18
56,400	90,300	1,750,000	21	27	25	2,444	79.90	25	2,713	88.71
56,400	90,300	1,750,000	21	27	25	1,877	61.38	25	2,146	70.18
50,600	81,000	1,580,000	21	27	25	1,877	61.38	25	2,146	70.18
38,100	61,000	1,210,000	21	27	25	1,877	61.38	25	2,146	70.18

# Heavy Weight Drill Pipe Performance Datasheet

## Overview

The Heavy Weight Drill Pipe Performance Datasheet is an easy-to-use document summarizing the performances and other technical characteristics of HWDPs manufactured by ALTIFORT SMFI. This document provides key performance characteristics such as tensile strength, torsional strength and make-up torque range, as well as other product-specific performance data.

An overview of some additional information available in the HWDP Performance Datasheet is shown below. Useful datasheet definitions:

- **Torsional Ratio:** The ratio of the connection torsional strength divided by the pipe body torsional strength. API recommends a ratio of 0.80 or larger.
- **Balance OD:** The tool joint OD where the yield of the box is equal to the yield of the pin for a given tool joint ID.
- **Bending Strength Ratio (BSR):** This bending criteria is defined in the API spec RP7G as an inertia ratio between pin and box connection. A rotary shouldered connection that has a BSR of 2.5 (or 2.5:1) is generally accepted as an average balanced connection.
- **Combined Load Chart:** Chart used to determine the operation zone for tool joint in tension and torque.
- **Wear Chart:** Chart used to determine the recommended make-up torque for worn products.

