QUALITY RENTAL TOOLS

*"If the operations of your company demands quality equipment then demand **Quality Rental Tools**"*

Best Practices to Extend the Life of the Drillstring

Proper running and handling procedures are imperative to maximize performance, extend life, and reduce the Total Cost of Ownership of drill pipe and BHA components. These procedures help prevent downhole make-up, shoulder-separation, washout and high break-out torque. While the procedures can vary according to the specific connection, they are commonly referred to as the 5 Cs.

1. Clean
All connections (drill pipe, subs, lift plugs, saver subs, etc.) and thread protectors should be clean. Thread compound should be free of contamination.

2. Coverage
100% of connection thread, seal, and shoulder surfaces should be uniformly covered with a light coat of thread compound. Excessive dope can have a negative effect.

3. Control
Drilling tubulars should be handled, stabbed, made-up properly, and aligned under complete control.

4. Clamp Pressure
Pressure should be minimized and tongs should be positioned away from the box shoulder face.

5. Calibration
Torque and handling equipment should be properly adjusted and calibrated.

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Drill Pipe Connection	Minimum Distance to Clamp from Make-Up Shoulder
API	As per API
GPDS™ and uGPDS™	½ inch from Make-Up Shoulder
HT™	2 inches from Make-Up Shoulder
XT™ and uXT™ size 43 and smaller size 46 and larger	 1 ½ inches from Make-Up Shoulder 2 inches from Make-Up Shoulder
Clamp as far as possible from the box face on the thicker section of the tool joint	

Drill Pipe Specifications (Pipe Dope Friction Factor 1.0)

Pipe OD (in)	Connection	TJ OD (in)	TJ ID (in)	Grade	Range	Wall (in)	Tube ID (in)	Nominal Weight (lbs/ft)	Recommended Make-up Torque (ft-lbs)	Minimum Make-up Torque (ft-lbs)
3 1/2	3 1/2" IF, NC38	4.875	2.563	S-135	2	0.337	2.602	15.50	12,057	11,500
4	Delta 391	4.875	2.688	S-135	2	0.330	3.340	14.00	21,400	17,800
4	XT™39	4.875	2.688	S-135	2	0.330	3.340	14.00	21,200	17,700
4 1/2	GPDS™42	5.375	2.813	S-135	2	0.337	3.826	16.60	24,900	20,800
4 1/2	Delta 425	5.375	3.000	S-135	2	0.337	3.826	16.60	30,300	21,600
5 1/2	Delta 544	6.625	4.000	S-135	2	0.361	4.788	21.90	58,700	41,900

Heavy Weight Drill Pipe Specifications (Pipe Dope Friction Factor 1.0)

Pipe OD (in)	Connection	TJ OD (in)	TJ ID (in)	Tube ID (in)	Adjusted Weight (lbs/ft)	TJ Torsional Yield (ft-lbs)	Recommended Make-up Torque (ft-lbs)	Minimum Make-up Torque (ft-lbs)	Type	Design
3 1/2	3 1/2" IF, NC38	4.875	2.375	2.250	23.90	20,999	13,740	11,930	Welded	Conventional
3 1/2	3 1/2" IF, NC38	4.875	2.375	2.250	23.90	20,999	13,740	11,930	Welded	Spiral
4	XT™39	4.875	2.562	2.562	28.92	37,000	22,200	12,400	Welded	Conventional
4	XT™39	4.875	2.562	2.562	28.92	37,000	22,200	12,400	Welded	Tri-Spiral
4	Delta 391	4.875	2.563	2.563	28.92	36,800	22,100	18,400	Welded	Conventional
4	NC40	5.250	2.688	2.5625	34.10	23,404	15,800	13,300	Welded	Spiral
4 1/2	GPDS™42	5.375	2.750	2.750	36.84	42,800	25,700	21,400	Welded	Conventional
4 1/2	Delta 425	5.375	2.750	2.750	37.17	48,700	34,100	24,300	Welded	Conventional
4 1/2	uXT™40	5.250	2.750	2.750	36.84	49,800	34,900	24,900	Welded	Conventional
4 1/2	NC46	6.250	2.875	2.750	41.10	38,253	25,835	21,735	Welded	Conventional
4 1/2	NC46	6.250	2.875	2.750	46.30	38,253	25,835	21,735	Welded	Spiral
5	NC50	6.625	3.062	3.0625	50.10	51,330	34,765	29,165	Welded	Conventional
5	NC50	6.625	3.062	3.0625	50.10	51,330	34,765	29,165	Welded	Spiral
5 1/2	FH	7.500	3.500	3.375	60.30	60,177	44,810	37,610	Welded	Conventional
5 1/2	Delta 544	6.625	3.250	3.250	57.45	86,600	60,200	43,300	Welded	Conventional
5.875	XT57™	7.000	4.000	4.000	57.42	106,200	63,700	53,100	Welded	Tri-Spiral
6 5/8	FH	8.000	4.500	4.499	70.40	88,000	50,500	43,900	Welded	Conventional
6 5/8	FH	8.500	4.500	4.500	77.78	97,200	58,300	48,600	Welded	Conventional
6 5/8	FH	8.250	4.500	4.500	81.90	97,500	50,500	48,800	Welded	Spiral
6 5/8	FH	8.250	4.500	4.500	75.41	97,200	58,300	48,600	Welded	Tri-Spiral

Drill Collar Specifications (Pipe Dope Friction Factor 1.0)

Pipe OD (in)	Connection	Connection OD (in)	Connection ID (in)	Adjusted Weight (lbs/ft)	Connection Torsional Yield (ft-lbs)	Recommended Make-up Torque (ft-lbs)	Minimum Make-up Torque (ft-lbs)	Design
3 1/8	2 7/8 Pac	3.125	1.250	21.90	6,103	4,855	3,400	Slick
4 3/4	NC38	4.750	2.250	44.40	17,576	9,985	8,800	Spiral

4 7/8	XT39™	4.875	2.563	45.92	35,300	21,200	17,700	Spiral
4 7/8	NC38	4.875	2.250	47.50	20,999	11,930	10,000	Spiral
6 3/4	NC50	6.750	2.813	100.53	57,000	35,500	32,300	Spiral
8	6 5/8 Reg	8.000	2.813	150.00	100,000	58,680	53,000	Spiral
9 1/2	7 5/8 Reg	9.500	3.250	208.00	141,729	97,440	81,200	Spiral

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The various characteristics are for reference only. Information was accumulated from public domain sources as well as the OEM. Always contact your provider for the applicable specification sheets.