

### Pipe METRIC

						NEW	API PREMIUM	
Pipe size	<i>in</i>	4.500	<i>mm</i>	114.3	OD	<i>mm</i>	114.3	110.9
Pipe weight	<i>lb/ft</i>	16.60	<i>kg/m</i>	24.70	Thickness	<i>mm</i>	8.6	6.8
Upset Type		IEU			X-Sec Area	<i>cm<sup>2</sup></i>	28.4	22.4
Tube grade		S135			Section Modulus	<i>cm<sup>3</sup></i>	70.0	54.8
Range		2			Polar Section Modulus	<i>cm<sup>3</sup></i>	140.0	109.7
Tube Yield	<i>MPa</i>	931			Tensile Yield	<i>kdaN</i>	265	208
ID	<i>mm</i>	97.2			Torsional Yield	<i>N-m</i>	75,200	59,000
					80% Torsional Yield	<i>N-m</i>	60,200	47,200
					Internal Pressure Yield	<i>MPa</i>	122.0	111.7
					Collapse Yield	<i>MPa</i>	115.8	75.8
					D/t		13.35	16.19
					Connection/Tube Torsional Ratio		0.638	

### Tool Joint METRIC

					NEW	REC MIN OD
Connection Type	DS40		OD	mm	133.4	123.8
Material Yield Strength	MPa	896	Tensile Yield Strength	kdaN	374	374
OD	mm	133.4	Torsional Yield Strength	N-m	48,000	35,500
ID	mm	68.3	Recommended Makeup Torque	N-m	28,700	21,300
Pin Shoulder Angle	deg	18				
Pin Tool Joint Length	mm	356				
Box Tool Joint Length	mm	356				

### Drill Pipe Assembly METRIC

Shoulder-Shoulder Length	<i>m</i>	9.60
Adjusted Weight	<i>kg/m</i>	27.99
Closed End Displacement	<i>L/m</i>	10.57
Open End Displacement	<i>L/m</i>	3.57
Fluid Capacity	<i>L/m</i>	7.00
Drift Size	<i>mm</i>	65.1

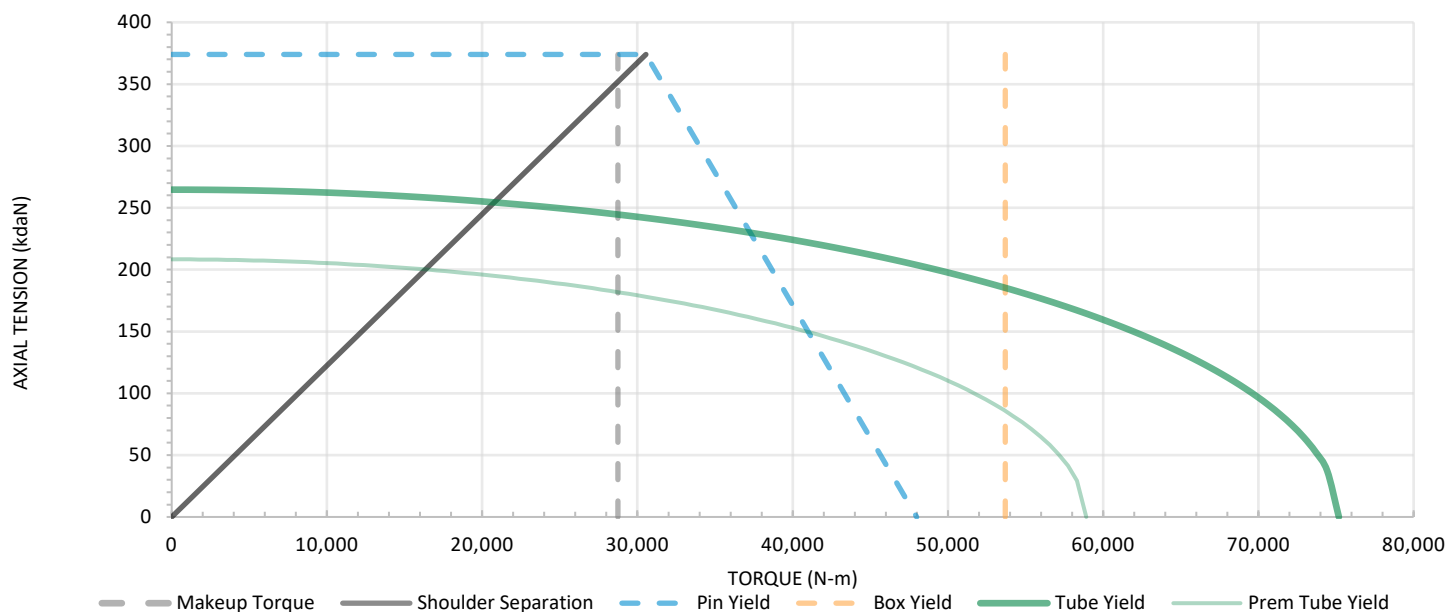
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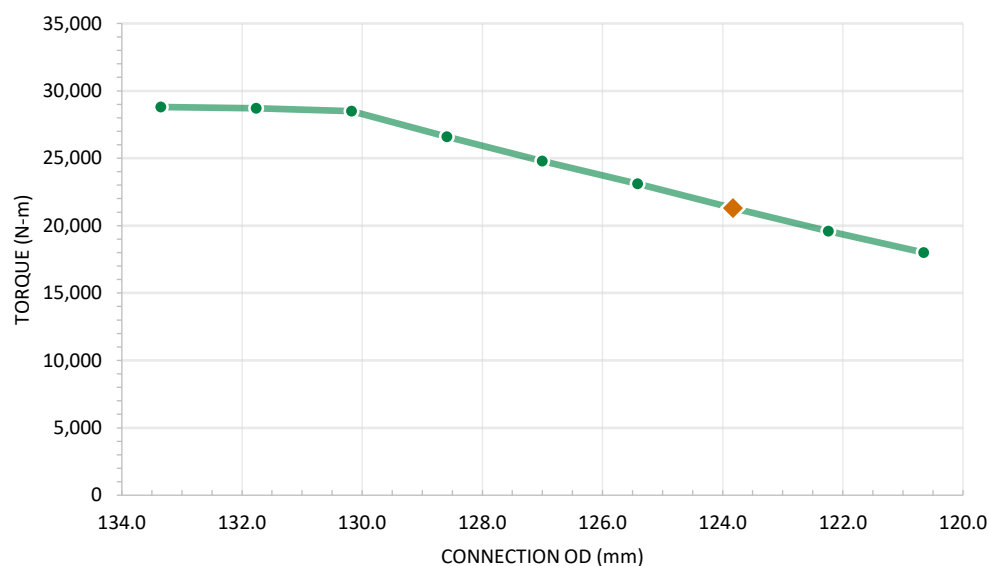
### Makeup Torque Then Tension Chart

METRIC



### Connection Wear Chart

METRIC



CONNECTION OD (mm)	MAKEUP TORQUE (N-m)
133.4	28,800
131.8	28,700
130.2	28,500
128.6	26,600
127.0	24,800
125.4	23,100
123.8	21,300
122.2	19,600
120.7	18,000
MIN REC OD (mm)	
123.8	21,300

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