COMPLETE GROUP

DRILL PIPE PERFORMANCE DATA SHEET

Pipe Size:	**4.750 in**	**Grade:**	**S135**	**Range:**	**3**
Pipe Weight:	**17.50 lb/ft**	**Upset:**	**IEU**	**Connection:**	**480 DUO**

Pipe

					NEW	API PREMIUM	
Pipe size	*in*	4.750	OD	*in*	**4.750**	4.615	
Pipe weight	*lb/ft*	17.50	Thickness	*in*	**0.337**	0.270	
Upset Type		IEU	X-Sec Area	in^2	**4.672**	3.681	
Tube grade		S135	Section Modulus	in^3	**4.817**	3.7795	
Range		3	Polar Section Modulus	in^3	**9.633**	7.5590	
Tube Yield	*ksi*	135	Tensile Yield	*lbs*	**631,000**	497,000	*See Elevator Capacity
ID	*in*	4.076	Torsional Yield	*ft-lbs*	**62,500**	49,100	
			80% Torsional Yield	*ft-lbs*	**50,000**	39,280	
			Internal Pressure Yield	*psi*	**16,800**	15,300	
			Collapse Yield	*psi*	**15,000**	9,500	
			D/t		**14.09**	17.12	
			Connection/Tube Torsional Ratio		**0.679**		

Tool Joint

					NEW	REC MIN OD
Connection Type		480 DUO	OD	*in*	**5.625**	5.625
Material Yield Strength	*ksi*	130	Tensile Yield Strength	*lbs*	**824,400**	824,400
OD	*in*	5.625	Torsional Yield Strength	*ft-lbs*	**42,400**	42,400
ID	*in*	3.750	Recommended Makeup Torque	*ft-lbs*	**25,500**	25,400
Pin Shoulder Angle	*deg*	18	Maximum Makeup Torque	*ft-lbs*	**27,600**	27,600
Pin Tool Joint Length	*in*	14.0				
Box Tool Joint Length	*in*	14.0				

Drill Pipe Assembly

Shoulder-Shoulder Length	*ft*	**45**		
Adjusted Weight	*lbs/ft*	**17.77**		
Closed End Displacement	*gal/ft*	**0.941**	*bbl/ft*	0.0224
Open End Displacement	*gal/ft*	**0.271**	*bbl/ft*	0.0065
Fluid Capacity	*gal/ft*	**0.670**	*bbl/ft*	0.0159
Drift Size	*in*	**3.625**		

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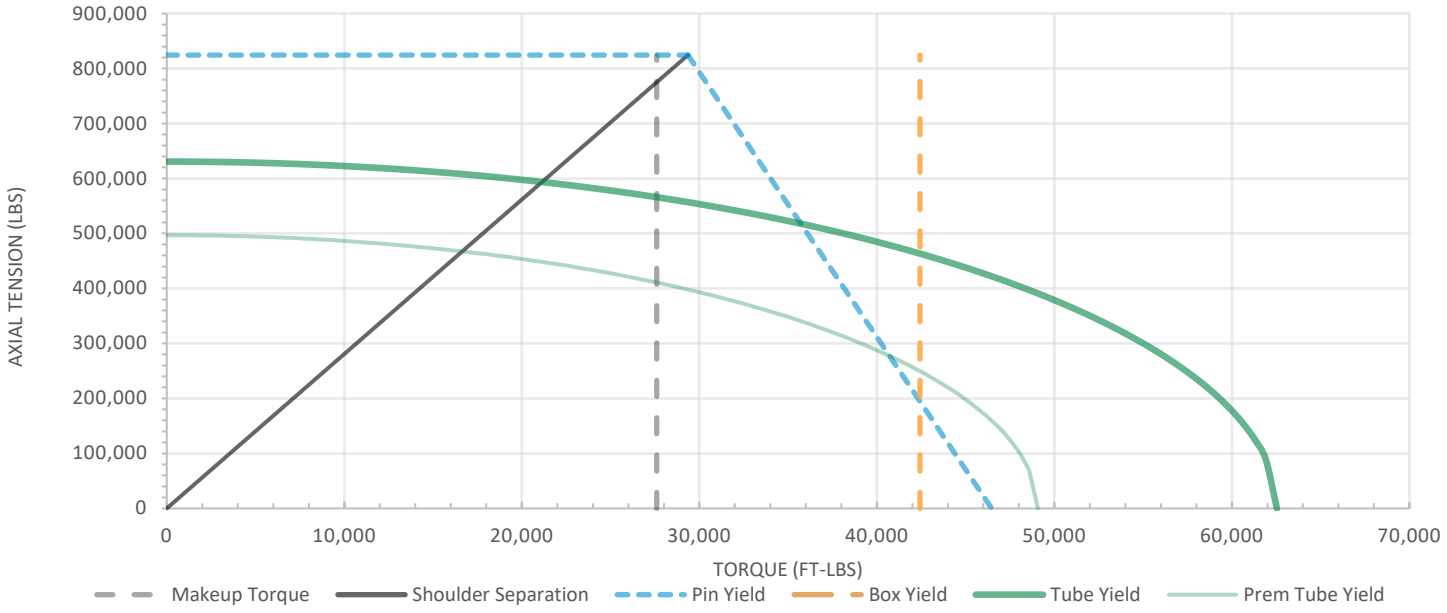
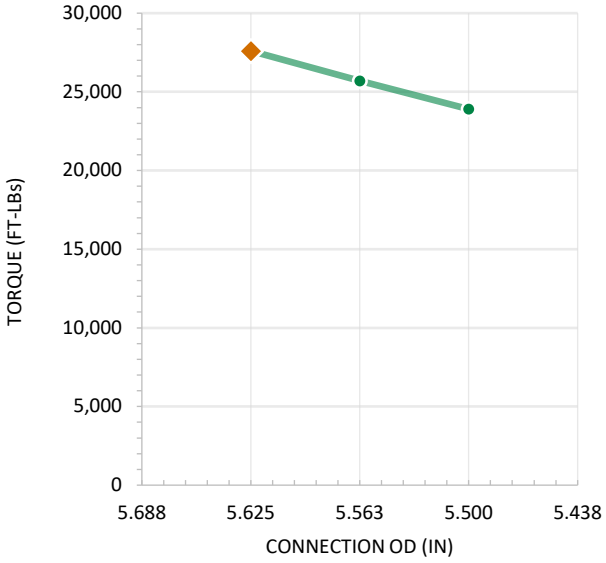
Makeup Torque Then Tension Chart



Connection Wear Chart



CONNECTION OD (in)	MAXIMUM MAKEUP TORQUE (ft-lbs)
5.625	27,600
5.563	25,700
5.500	23,900
MIN REC OD (in)	
5.625	27,600

Elevator Capacity

ELEVATOR BORE (in)

5.1250

BOX OD (in)	ELEVATOR CAPACITY NEW (lbs)
5.625	548,800
5.563	477,400
5.500	406,800

Elevator capacity based on assumed elevator bore, with no wear factor, and a contact stress of 130,000 psi. It is provided as reference only and shall not be interpreted as an engineered safe lifting load.

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