

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>cm²</i>	28.4	22.4
Tube grade		S135			Section Modulus	<i>cm³</i>	70.0	54.8
Range		2			Polar Section Modulus	<i>cm³</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		0.876	

Tool Joint						METRIC		
						NEW		
Connection Type		400 DUO			OD	<i>mm</i>	133.4	
Material Yield Strength	<i>MPa</i>	896			Tensile Yield Strength	<i>kdaN</i>	409	
OD	<i>mm</i>	133.4			Torsional Yield Strength	<i>N-m</i>	65,900	
ID	<i>mm</i>	68.3			Recommended Makeup Torque	<i>N-m</i>	39,600	
Pin Shoulder Angle	<i>deg</i>	18			Maximum Makeup Torque	<i>N-m</i>	42,800	
Pin Tool Joint Length	<i>mm</i>	356						
Box Tool Joint Length	<i>mm</i>	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	

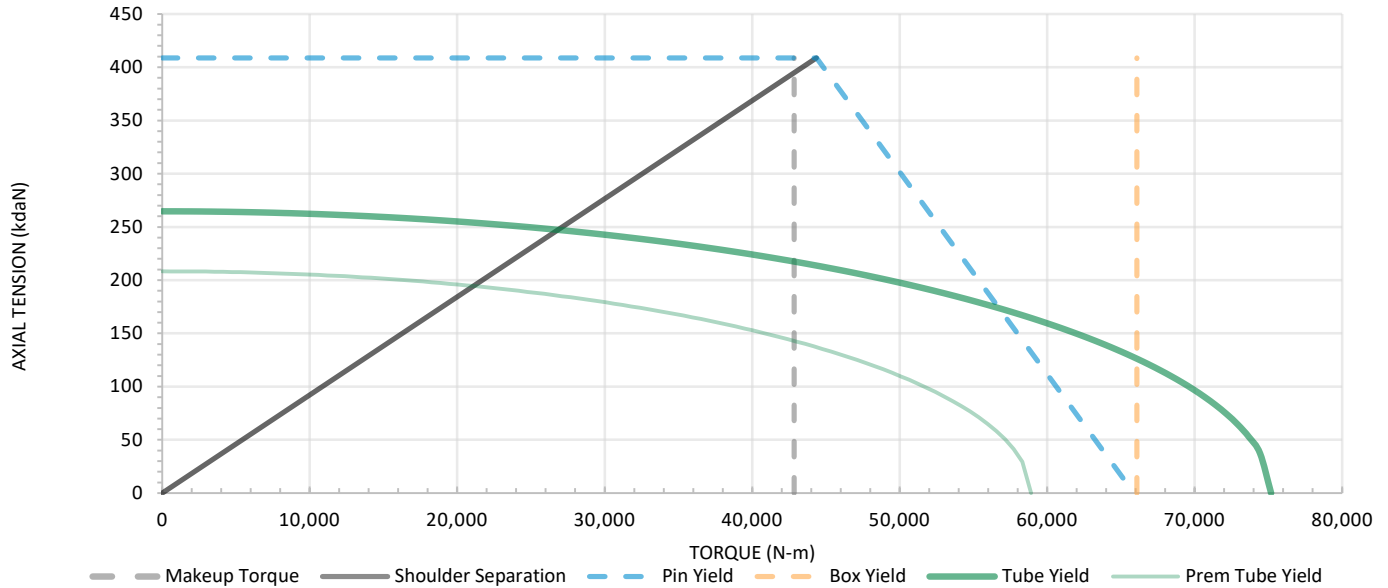
The information contained in this data sheet and other attached documentation is for reference use only. It is not intended to imply any explicit recommendation regarding processes, procedures, or performance of the end product. It is the responsibility of the end user to verify and determine the appropriate use of the technical information - no expressed or implied warranty by Complete Tubular Products is intended.

Calculations are based on uniform wall thickness and outside diameter – no safety factor has been applied. The information provided for inspection classes is based on uniform wear and is not intended to recommend or confirm operational limits of any used product. It is recommended that drilling torque not exceed 80% of the makeup torque, however it is the responsibility of the end user to determine the acceptable use of the end product including appropriate performance ratings and safety factors where applicable. All connection torque calculations have been performed using a thread compound friction factor of 1.0. Complete Tubular Products does not endorse any specific thread compound and waives all responsibility in determining appropriate makeup torque values for any specific drilling circumstance. Modifying makeup torque values for any reason shall be done at the end users discretion and risk.

The information in this publication is subject to change without notice, please contact Complete Tubular Products for the latest publication

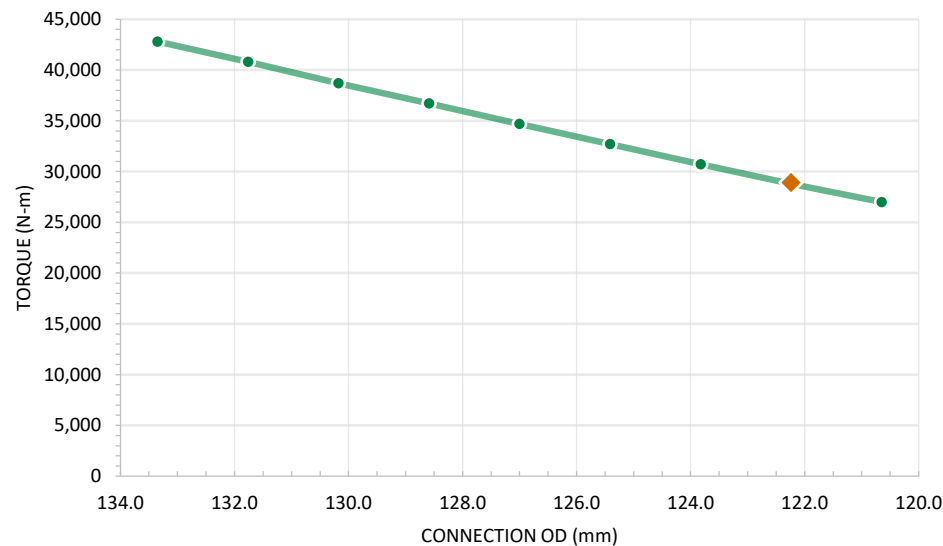
Makeup Torque Then Tension Chart

METRIC



Connection Wear Chart

METRIC



CONNECTION OD (mm)	MAXIMUM MAKEUP TORQUE (N-m)
133.4	42,800
131.8	40,800
130.2	38,700
128.6	36,700
127.0	34,700
125.4	32,700
123.8	30,700
122.2	28,800
120.7	27,000
MIN REC OD (mm)	122.2
MIN REC OD (mm)	28,900

The information contained in this data sheet and other attached documentation is for reference use only. It is not intended to imply any explicit recommendation regarding processes, procedures, or performance of the end product. It is the responsibility of the end user to verify and determine the appropriate use of the technical information - no expressed or implied warranty by Complete Tubular Products is intended.

Calculations are based on uniform wall thickness and outside diameter – no safety factor has been applied. The information provided for inspection classes is based on uniform wear and is not intended to recommend or confirm operational limits of any used product. It is recommended that drilling torque not exceed 80% of the makeup torque, however it is the responsibility of the end user to determine the acceptable use of the end product including appropriate performance ratings and safety factors where applicable. All connection torque calculations have been performed using a thread compound friction factor of 1.0. Complete Tubular Products does not endorse any specific thread compound and waives all responsibility in determining appropriate makeup torque values for any specific drilling circumstance. Modifying makeup torque values for any reason shall be done at the end users discretion and risk.

The information in this publication is subject to change without notice, please contact Complete Tubular Products for the latest publication