

Pipe				METRIC				
				NEW	API PREMIUM			
Pipe size	<i>in</i>	4.000	<i>mm</i>	101.6	OD	<i>mm</i>	101.6	97.7
Pipe weight	<i>lb/ft</i>	15.70	<i>kg/m</i>	23.36	Thickness	<i>mm</i>	9.7	7.7
Upset Type		IU			X-Sec Area	<i>cm²</i>	27.9	21.8
Tube grade		S135			Section Modulus	<i>cm³</i>	58.6	45.6
Range		2			Polar Section Modulus	<i>cm³</i>	117.3	91.2
Tube Yield	<i>MPa</i>	931			Tensile Yield	<i>kdaN</i>	259	203
ID	<i>mm</i>	82.3			Torsional Yield	<i>N-m</i>	63,000	48,900
					80% Torsional Yield	<i>N-m</i>	50,400	39,200
					Internal Pressure Yield	<i>MPa</i>	154.4	141.3
					Collapse Yield	<i>MPa</i>	160.0	128.2
					D/t		10.53	12.66
					Connection/Tube Torsional Ratio		0.759	

Tool Joint				METRIC				
				NEW				
Connection Type		390 DUO			OD	<i>mm</i>	123.8	
Material Yield Strength	<i>MPa</i>	896			Tensile Yield Strength	<i>kdaN</i>	326	
OD	<i>mm</i>	123.8			Torsional Yield Strength	<i>N-m</i>	47,900	
ID	<i>mm</i>	68.3			Recommended Makeup Torque	<i>N-m</i>	28,700	
Pin Shoulder Angle	<i>deg</i>	18			Maximum Makeup Torque	<i>N-m</i>	31,000	
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>	25.55
				Closed End Displacement	<i>L/m</i>	8.41
				Open End Displacement	<i>L/m</i>	3.26
				Fluid Capacity	<i>L/m</i>	5.15
				Drift Size	<i>mm</i>	65.1

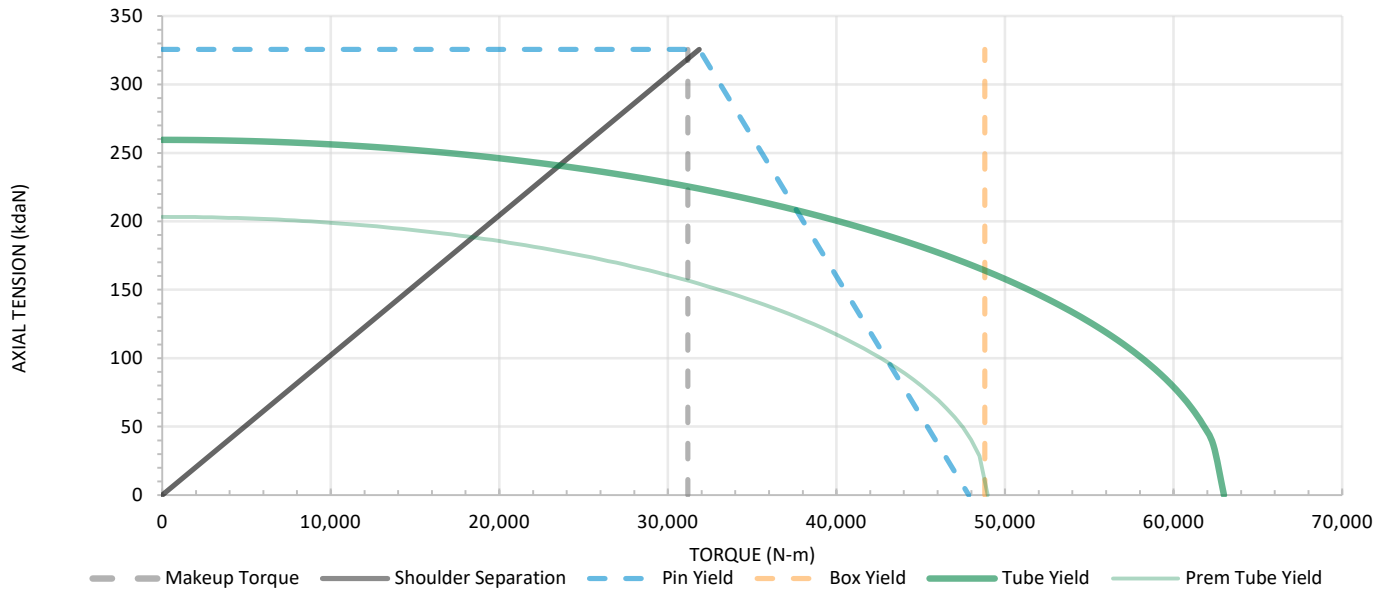
The information contained in this data sheet and other attached documentation is for reference use only. It is not intended to imply any explicit recommendation regarding processes, procedures, or performance of the end product. It is the responsibility of the end user to verify and determine the appropriate 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

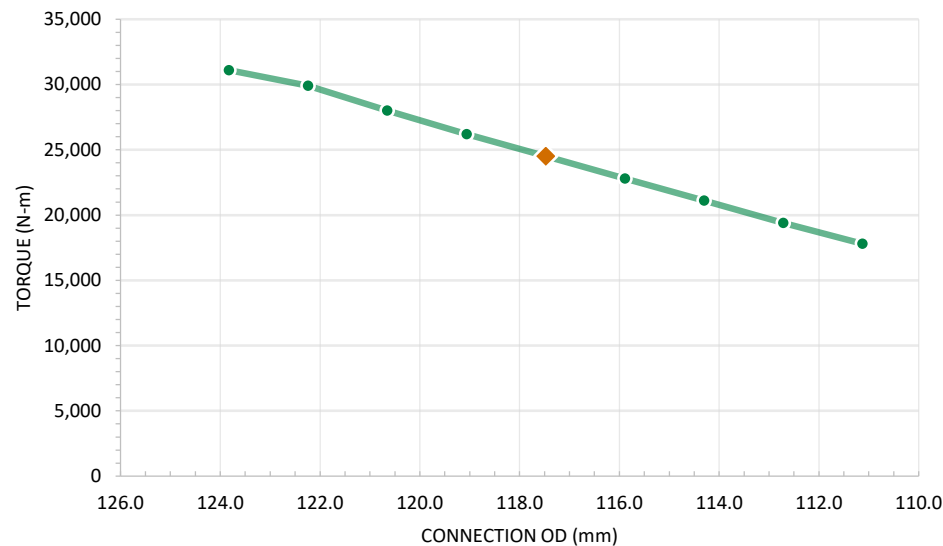
Makeup Torque Then Tension Chart

METRIC



Connection Wear Chart

METRIC



CONNECTION OD (mm)	MAXIMUM MAKEUP TORQUE (N-m)
123.8	31,100
122.2	29,900
120.7	28,000
119.1	26,200
117.5	24,500
115.9	22,800
114.3	21,100
112.7	19,400
111.1	17,800
MIN REC OD (mm)	
117.5	24,500

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