COMPLETE

DRILL PIPE PERFORMANCE DATA SHEET

Pipe Size: 4.750 in (121mm) Grade: S135 Range: 3
Pipe Weight: 18.11lb/ft (26.95kg/n Upset: IEU Connection: 450 DUO

								CDN
						NEW	API PREN	ишм
in	4.750	mm	120.7	OD	mm	120.7	117.	1
lb/ft	18.11	kg/m	26.95	Thickness	mm	8.9	7.1	
	IEU			X-Sec Area	cm ²	31.2	24.6	5
	S135		Se	ection Modulus	cm³	81.3	63.7	,
	3		Polar Se	ection Modulus	cm³	162.6	127.	5
МРа	931			Tensile Yield	kdaN	290	229	
ID mm				Torsional Yield	ft-lbs	64,400	50,50	00
			80%	Torsional Yield	ft-lbs	51,500	40,40	00
			Interna	l Pressure Yield	МРа	120.0	109.	6
				Collapse Yield	МРа	111.7	72.4	l.
				D/t		13.57	16.4	6
			ion/Tube	Torsional Ratio		0.942		
								CDN
						NEW		
	450 DUO			OD	mm	142.9		
МРа	896		Tensile	e Yield Strength	kdaN	473		
mm	142.9		Torsiona	l Yield Strength	ft-lbs	60,700		
mm	73.0	Recomi	mended N	Makeup Torque	ft-lbs	36,400		
deg	18	M	aximum N	Makeup Torque	ft-lbs	39,400		
mm	356							
mm	356							
								CDN
		Sł	noulder-S	houlder Length	m	13.26		
				_	kg/m	29.22		
		(Closed End	d Displacement	L/m	11.70	m³/m	0.01170
				•	•		•	
			Open En	d Displacement	L/m	3.73	m³/m	0.00373
			Open En	d Displacement Fluid Capacity	L/m L/m	3.73 7.97	m ³/m m ³/m	0.00373 0.00797
	MPa mm MPa mm mm deg mm	Ib/ft 18.11 IEU S135 3 MPa 931 mm 102.9 450 DUO MPa 896 mm 142.9 mm 73.0 deg 18 mm 356	Ib/ft	Ib/ft	Ib/ft 18.11 kg/m 26.95 Thickness IEU X-Sec Area S135 Section Modulus 3 Polar Section Modulus MPa 931 Tensile Yield 80% Torsional Yield 80% Torsional Yield Internal Pressure Yield Collapse Yield D/t Connection/Tube Torsional Ratio 450 DUO OD MPa 896 Tensile Yield Strength mm 142.9 Torsional Yield Strength mm 73.0 Recommended Makeup Torque deg 18 Maximum Makeup Torque mm 356 mm 356 Shoulder-Shoulder Length	IBU X-Sec Area cm² S135 Section Modulus cm³ RPa 931 Tensile Yield kdaN RPa 102.9 Torsional Yield ft-lbs Row Torsional Yield ft-lbs Internal Pressure Yield MPa Collapse Yield MPa D/t Connection/Tube Torsional Ratio 450 DUO OD mm MPa 896 Tensile Yield Strength kdaN RPa 142.9 Torsional Yield Strength ft-lbs Recommended Makeup Torque ft-lbs Red 18 Maximum Makeup Torque ft-lbs Red 356 Red Shoulder-Shoulder Length MAD Shoulder-Shoulder Length MAD Adjusted Weight kg/m	in 4.750 mm 120.7 OD mm 120.7 Ib/ft 18.11 kg/m 26.95 Thickness mm 8.9 IEU X-Sec Area cm² 31.2 \$135 Section Modulus cm³ 81.3 3 Polar Section Modulus cm³ 162.6 MPa 931 Tensile Yield kdaN 290 mm 102.9 Torsional Yield ft-lbs 64,400 80% Torsional Yield ft-lbs 51,500 Internal Pressure Yield MPa 120.0 Collapse Yield MPa 111.7 D/t 13.57 Connection/Tube Torsional Ratio 0.942 0.942 MPa 896 Tensile Yield Strength kdaN 473 mm 142.9 Torsional Yield Strength ft-lbs 60,700 mm 73.0 Recommended Makeup Torque ft-lbs 36,400 deg 18 Maximum Makeup Torque ft-lbs 39,400 mm 356 mm 356 Shoulder-Shoulder Length ft M	in 4.750 mm 120.7 OD mm 120.7 117. lb/ft 18.11 kg/m 26.95 Thickness mm 8.9 7.1 IEU X-Sec Area cm² 31.2 24.6 S135 Section Modulus cm³ 81.3 63.7 3 Polar Section Modulus cm³ 162.6 127. MPa 931 Tensile Yield kdaN 290 229 mm 102.9 Torsional Yield ft-lbs 64,400 50,50 80% Torsional Yield ft-lbs 51,500 40,40 Internal Pressure Yield MPa 120.0 109. Collapse Yield MPa 111.7 72.4 D/t 13.57 16.4 Connection/Tube Torsional Ratio 0.942 MPa 896 Tensile Yield Strength kdaN 473 mm 142.9 Torsional Yield Strength ft-lbs 36,400 deg 18 Maximum Makeup

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.

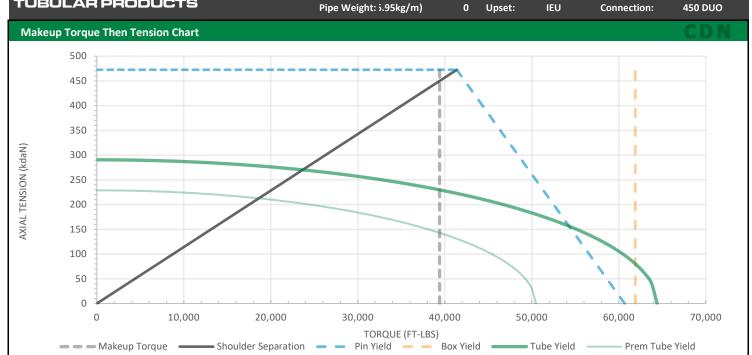
Calculations are based on uniform wall thickness and outside diameter – no safety factor has been applied. The information provided for inspection classes is based on uniform wear and is not intended to recommend or confirm operational limits of any used product. It is recommended that drilling torque 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.

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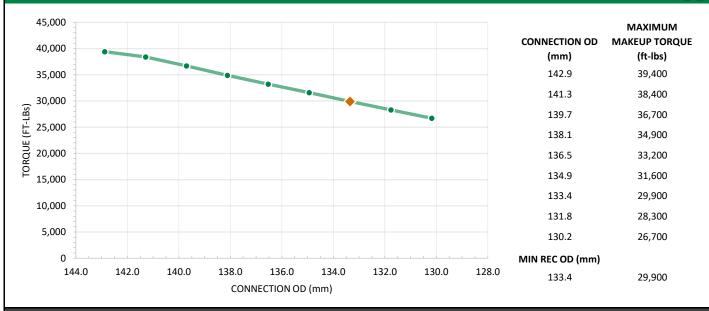
COMPLETE TUBULAR PRODUCTS

DRILL PIPE PERFORMANCE DATA SHEET

Pipe Size: (121mm) 0 Grade: S135 Range: 3



Connection Wear Chart



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