

Drill Pipe Performance Characteristics Sheet

PTECH Drilling Tubulars, LLC

Pipe Size and Weight: 5 19.50 IEU

Pipe Grade: S-135

Range: 2

Patent Pending

Tool Joint: 5 7/8 X 3 3/8 PTECH47+

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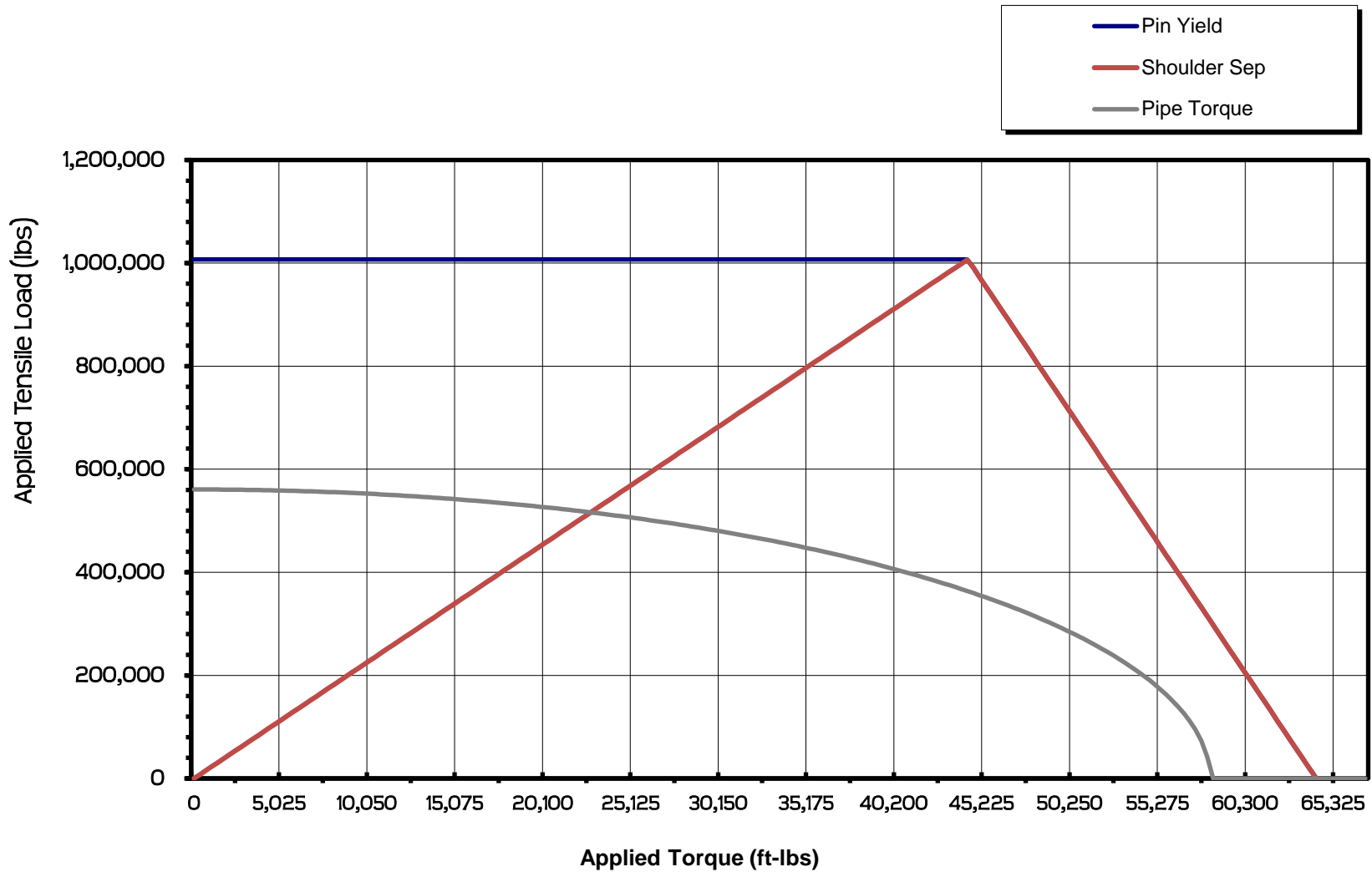
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Revision 3

Pipe Body			
	New-API	New-95%RBW	Premium
OD (in)	5.000	5.000	4.855
Wall Thickness (in)	0.362	0.389	0.290
ID (in)	4.276	4.222	4.276
Calculated Plain End weights (lbs/ft)	17.923	19.154	14.114
Note: Premium properties are calculated based on uniform OD and wall thickness.			
Cross sectional area pipe body (in ²)	5.275	5.637	4.154
Cross sectional area OD (in ²)	19.635	19.635	18.514
Cross sectional area ID (in ²)	14.360	13.998	14.360
Section Modulus (in ³)	5.708	6.035	4.476
Polar Section Modulus (in ³)	11.415	12.070	8.953
	New-API	New-95%RBW	Premium
Torsional Strength (ft-lbs)	74,100	78,300	58,100
Tensile Strength (lbs)	712,100	761,000	560,800
80% Torsional Strength (ft-lbs)	59,300	62,600	46,500
Pressure Capacity (psi)	17,105	18,387	15,638
Collapse Capacity (psi)	18,133	19,379	10,024
Tool Joint			
PTECH+ CONNECTION		PTECH47+	
	OD (in)	5 7/8	
	ID (in)	3 3/8	
Tool Joint with a Material Yield Strength of 135000 psi			
	Pin Tong length (in)	13	
	Box Tong length (in)	15	
	Torsional Strength (ft-lbs)	64,190	
	Recommended Make-up Torque (ft-lbs)	38,500	
	Min Recommended Make-up Torque (ft-lbs)	34,700	
	Balance OD (in)	5.834	
	Tensile Strength (lbs)	1,015,900	
	Tool joint/Drill pipe torsional ratio (New pipe)	0.87	
	Tool joint/Drill pipe torsional ratio (95% New pipe)	0.82	
	Tool joint/Drill pipe torsional ratio (Prem pipe)	1.10	
	Min OD for premium class (in)	5.594	
Drill Pipe Assembly with PTECH+ Tool Joint	Drill Pipe Bend Radius		
API Adjusted weight (lbs/ft) 21.81 95% Adjusted weight (lbs/ft) 22.95 Approximate length (ft) 32.00 95% Fluid Displacement (gal/ft) 0.351 API Fluid Displacement (gal/ft) 0.334 Fluid Capacity (gal/ft) 0.716 Drift Size 3.250	* These calculations are based on new pipe with nominal wall Based on Bending Stress (psi) at Pipe OD 15,000 Radius of Curvature (R) (ft.) (@ OD of pipe) 416.7 BUR (dogleg) deg/100 ft. 13.8		

TORQUE TENSION COMBINED LOAD CURVE

For PTECH47+ 5 7/8 X 3 3/8 Tool Joint with a Material Strength of 135000 psi, using a Coefficient of Friction factor of 0.08 and a Safety Factor of 1.0. On Pipe: 5 19.50 S-135 Premium Class.



PTECH47+ 5 7/8 X 3 3/8 TOOL JOINT OD WEAR CURVE

