

Drill Pipe Performance Characteristics Sheet

PTECH Drilling Tubulars, LLC

Pipe Size and Weight: 5 44.80 EU

Pipe Grade: HWDP

Range: 2

Patent Pending

Tool Joint: 5 7/8 X 3 PTECH47+

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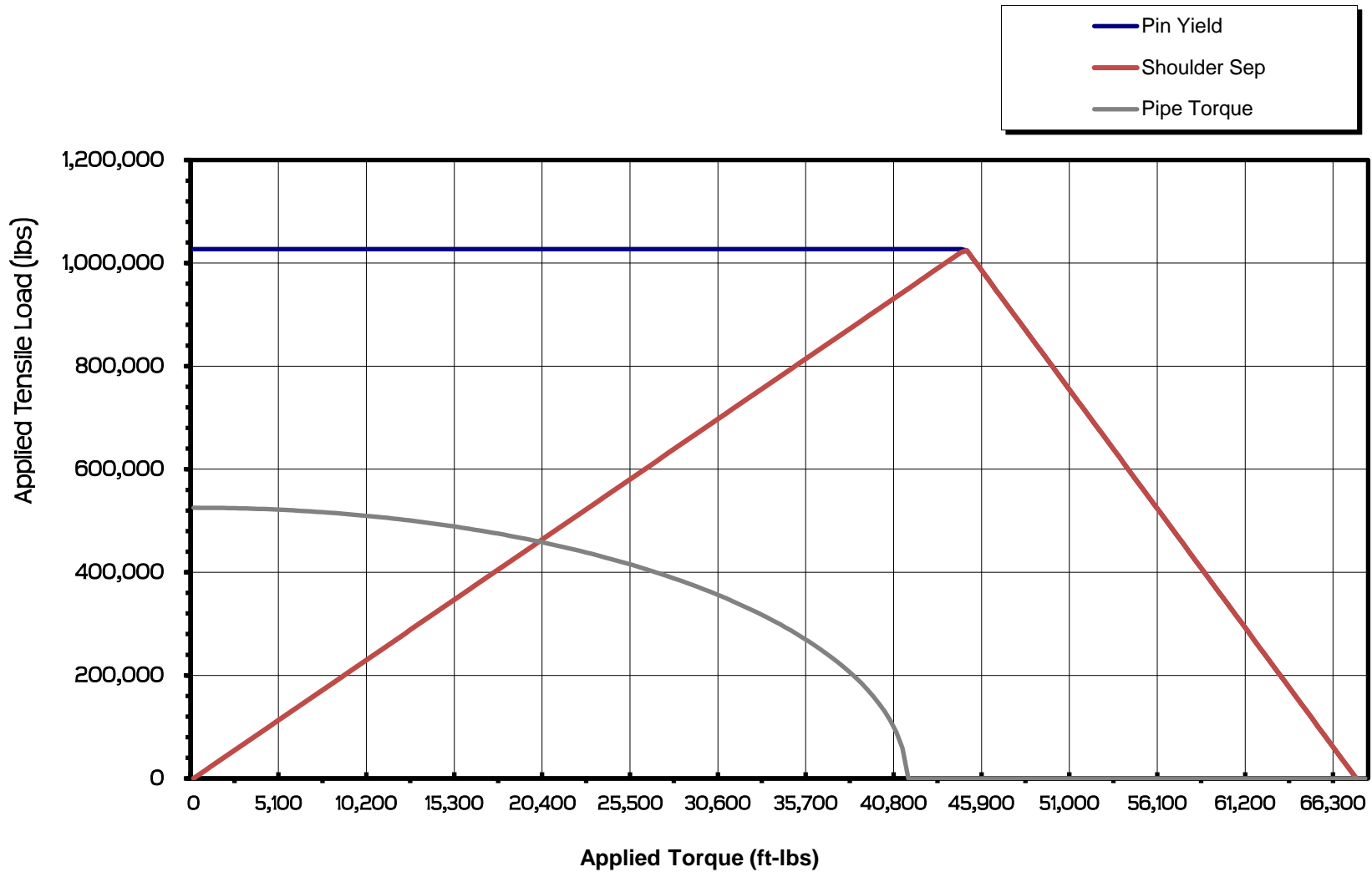
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Revision 0

Pipe Body		
	New-API	Premium
OD (in)	5.000	4.600
Wall Thickness (in)	1.000	0.800
ID (in)	3.000	3.000
Calculated Plain End weights (lbs/ft)	42.700	32.452
Note: Premium properties are calculated based on uniform OD and wall thickness.		
Cross sectional area pipe body (in ²)	12.566	9.550
Cross sectional area OD (in ²)	19.635	16.619
Cross sectional area ID (in ²)	7.069	7.069
Section Modulus (in ³)	10.681	7.827
Polar Section Modulus (in ³)	21.363	15.654
	New-API	Premium
Torsional Strength (ft-lbs)	56,500	41,400
Tensile Strength (lbs)	691,200	525,300
80% Torsional Strength (ft-lbs)	45,200	33,100
Pressure Capacity (psi)	19,250	17,600
Collapse Capacity (psi)	17,600	15,803
Tool Joint		
	PTECH47+ OD (in) 5 7/8 ID (in) 3 Tool Joint with a Material Yield Strength of 110000 psi Pin Tong length (in) 13 Box Tong length (in) 15 Torsional Strength (ft-lbs) 60,800 Recommended Make-up Torque (ft-lbs) 36,500 Min Recommended Make-up Torque (ft-lbs) 30,400 Balance OD (in) 6.035 Tensile Strength (lbs) 1,034,300 Tool joint/Drill pipe torsional ratio (New pipe) 1.08 Tool joint/Drill pipe torsional ratio (95% New pipe) #DIV/0! Tool joint/Drill pipe torsional ratio (Prem pipe) 1.47 Min OD for premium class (in) 5.594	
Drill Pipe Assembly with PTECH+ Tool Joint	Drill Pipe Bend Radius	
API Adjusted weight (lbs/ft) 44.80 Approximate length (ft) 31.50 API Fluid Displacement (gal/ft) 0.685 Fluid Capacity (gal/ft) 0.365 Drift Size 2.875	* 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 Tool Joint with a Material Strength of 110000 psi, using a Coefficient of Friction factor of 0.08 and a Safety Factor of 1.0. On Pipe: 5 44.80 HWDP Premium Class.



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

