

Drill Pipe Performance Characteristics Sheet


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Patents 9,493,993
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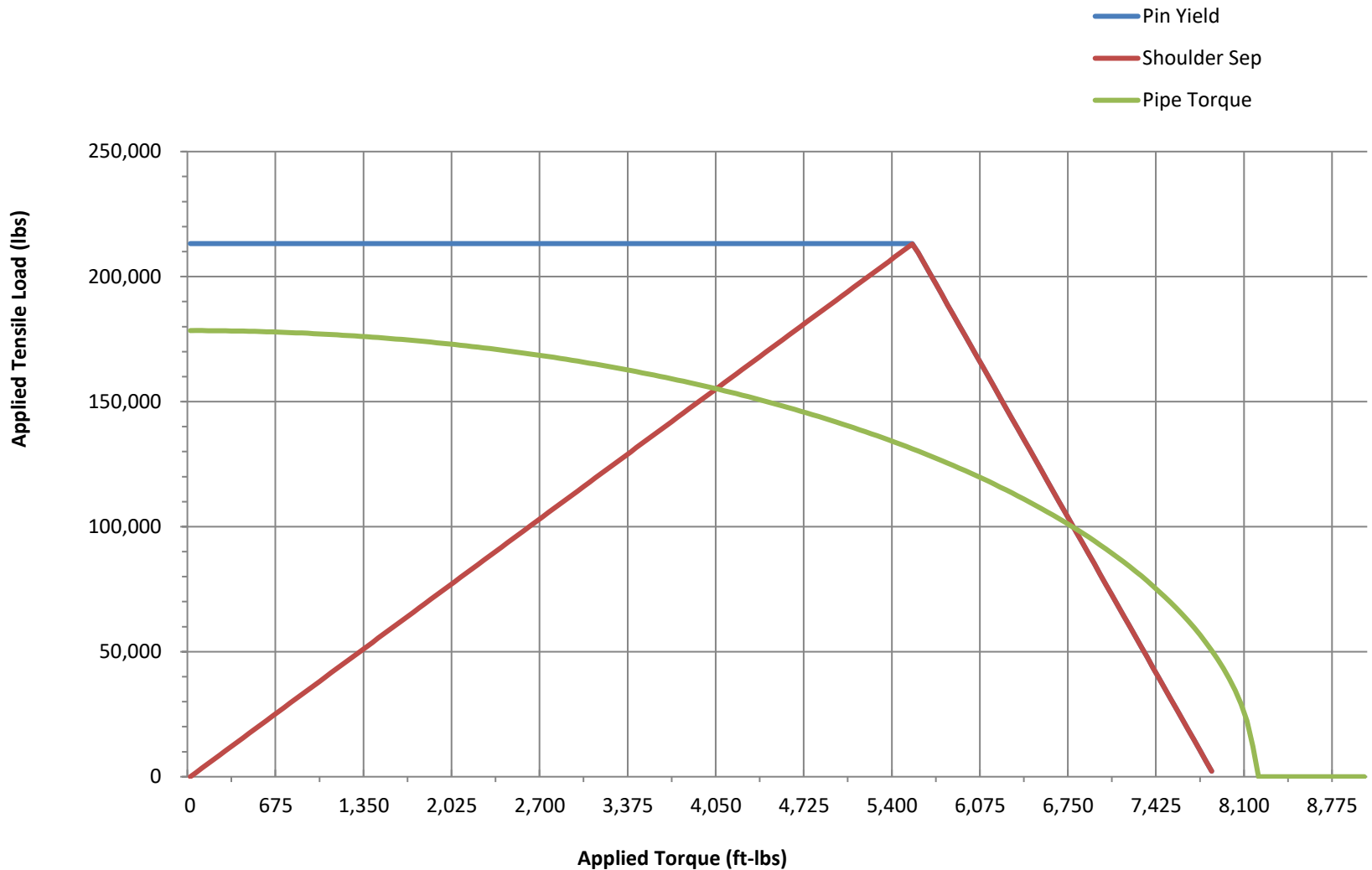
Pipe Size and Weight: 2 3/8 5.80 EU
Pipe Grade: S-135
Range: 2
Tool Joint: 3 1/16 X 1.805 PTECH24+

Revision 6 12/2/2021

Pipe Body			
	New-API	New-95%RBW	Premium
OD (in)	2.375	2.375	2.273
Wall Thickness (in)	0.254	0.273	0.203
ID (in)	1.867	1.829	1.867
Calculated Plain End weights (lbs/ft)	5.751	6.127	4.491
Note: Premium properties are calculated based on uniform OD and wall thickness.			
Cross sectional area pipe body (in ²)	1.692	1.803	1.322
Cross sectional area OD (in ²)	4.430	4.430	4.059
Cross sectional area ID (in ²)	2.738	2.627	2.738
Section Modulus (in ³)	0.813	0.853	0.629
Polar Section Modulus (in ³)	1.626	1.705	1.258
	New-API	New-95%RBW	Premium
Torsional Strength (ft-lbs)	10,600	11,100	8,200
Tensile Strength (lbs)	228,500	243,400	178,400
80% Torsional Strength (ft-lbs)	8,500	8,900	6,600
Pressure Capacity (psi)	25,266	27,161	23,101
Collapse Capacity (psi)	25,788	27,473	21,976
Tool Joint			
		PTECH24+	
	OD (in)	3 1/16	
	ID (in)	1.805	
Tool Joint with a Material Yield Strength of 135000 psi			
	Pin Tong length (in)	7	
	Box Tong length (in)	10	
	Friction Factor	1.0	1.15
	Torsional Yield Strength (ft-lbs)	7,850	9,000
	Severe Service Recommended Make-up Torque (ft-lbs) [70%]	5,500	6,300
	Standard Service Recommended Make-up Torque (ft-lbs) [60%]	4,700	5,400
	Min Recommended Make-up Torque (ft-lbs)	3,900	4,500
	Balance OD (in)	3.009	
	Tensile Strength (lbs)	217,600	
	Tool joint/Drill pipe torsional ratio (New pipe)	0.74	
	Tool joint/Drill pipe torsional ratio (95% New pipe)	0.71	
	Tool joint/Drill pipe torsional ratio (Prem pipe)	0.96	
	Min OD for premium class (in)	2.922	
Drill Pipe Assembly with PTECH+ Tool Joint	Drill Pipe Bend Radius		
API Adjusted weight (lbs/ft) 6.42 95% Adjusted weight (lbs/ft) 6.78 Approximate length (ft) 32.00 95% Fluid Displacement (gal/ft) 0.104 API Fluid Displacement (gal/ft) 0.098 Fluid Capacity (gal/ft) 0.139 Drift Size 1.711	* 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) 197.9 BUR (dogleg) deg/100 ft. 29.0		

This Performance Sheet was generated by Nels Wickander.

For PTECH24+ 3 1/16 X 1.805 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: 2.375 5.80 S-135 Premium Class.



PTECH24+ 3 1/16 X 1.805 TOOL JOINT OD WEAR CURVE

