

Drill Pipe Performance Characteristics Sheet



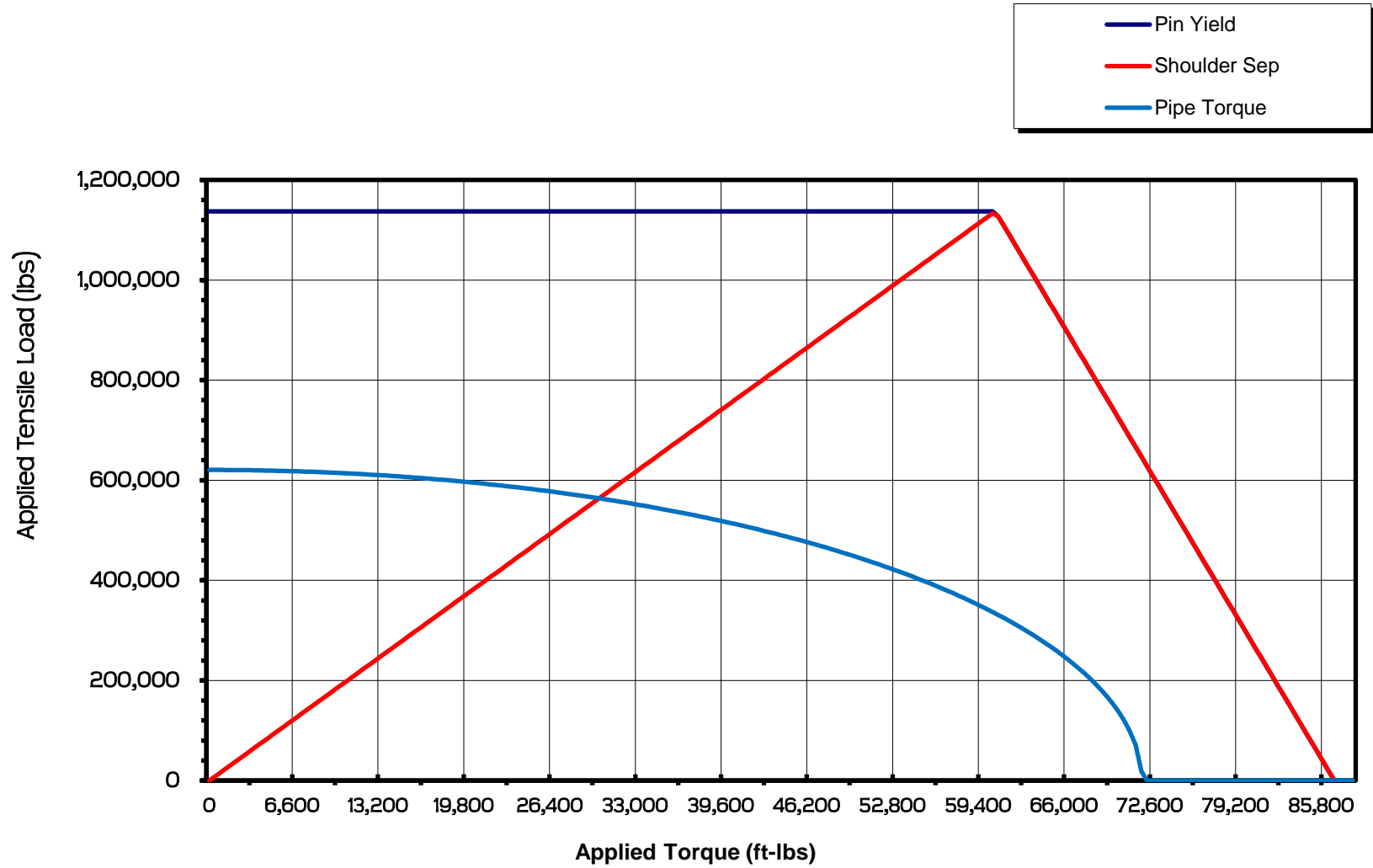
Pipe Size and Weight: 5 1/2 21.90 IEU
Pipe Grade: S-135
Range: 2
Tool Joint: 6 5/8 X 4 1/4 PTECH55M+

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Pipe Body			
	New-API	New-95%RBW	Premium
OD (in)	5.500	5.500	5.356
Wall Thickness (in)	0.361	0.388	0.289
ID (in)	4.778	4.724	4.778
Calculated Plain End weights (lbs/ft)	19.804	21.177	15.621
Note: Premium properties are calculated based on uniform OD and wall thickness.			
Cross sectional area pipe body (in ²)	5.828	6.232	4.597
Cross sectional area OD (in ²)	23.758	23.758	22.527
Cross sectional area ID (in ²)	17.930	17.526	17.930
Section Modulus (in ³)	7.031	7.445	5.527
Polar Section Modulus (in ³)	14.062	14.891	11.054
	New-API	New-95%RBW	Premium
Torsional Strength (ft-lbs)	91,300	96,700	71,800
Tensile Strength (lbs)	786,800	841,400	620,600
80% Torsional Strength (ft-lbs)	73,000	77,400	57,400
Pressure Capacity (psi)	15,507	16,670	14,177
Collapse Capacity (psi)	16,559	17,707	7,491
Tool Joint			
PTECH+ CONNECTION		PTECH55M+	
	OD (in)	6 5/8	
	ID (in)	4 1/4	
Tool Joint with a Material Yield Strength of 135000 psi			
	Pin Tong length (in)	13	
	Box Tong length (in)	15	
	Torsional Strength (ft-lbs)	86,600	
	Recommended Make-up Torque (ft-lbs)	52,000	1.15 59,800
	Min Recommended Make-up Torque (ft-lbs)	40,900	1.15 47,000
	Balance OD (in)	6.605	
	Tensile Strength (lbs)	1,147,500	
	Tool joint/Drill pipe torsional ratio (New pipe)	0.95	
	Tool joint/Drill pipe torsional ratio (95% New pipe)	0.90	
	Tool joint/Drill pipe torsional ratio (Prem pipe)	1.21	
	Min OD for premium class (in)	6.156	
Minimum make-up is based on shoulder separation caused by bending.			
Drill Pipe Assembly with PTECH55M+ Tool Joint	Drill Pipe Bend Radius		
API Adjusted weight (lbs/ft)	24.22	* These calculations are based on new pipe with nominal wall	
95% Adjusted weight (lbs/ft)	25.48	Based on Bending Stress (psi) at Pipe OD	
Approximate length (ft)	31.50	15,000	
95% Fluid Displacement (gal/ft)	0.390	Radius of Curvature (R) (ft.) (@ OD of pipe)	
API Fluid Displacement (gal/ft)	0.370	458.3	
Fluid Capacity (gal/ft)	0.907	BUR (dogleg) deg/100 ft.	
Drift Size	4.125	12.5	

TORQUE TENSION COMBINED LOAD CURVE

For PTECH55M+ 6 5/8 X 4 1/4 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: 5.5 21.90 S-135 Premium Class.



PTECH55M+ 6 5/8 X 4 1/4 TOOL JOINT OD WEAR CURVE

