

Drill Pipe Performance Characteristics Sheet

PTECH Drilling Tubulars, LLC

Pat. 9,943,993

Pipe Size and Weight: 2 7/8 10.40 EU

Pipe Grade: S-135

Range: 2

Tool Joint: 3 5/8 X 2 PTECH28+

13618 Poplar Circle


Suite 302

Conroe, TX 77304, U.S.A.

Phone: (936) 760-3600

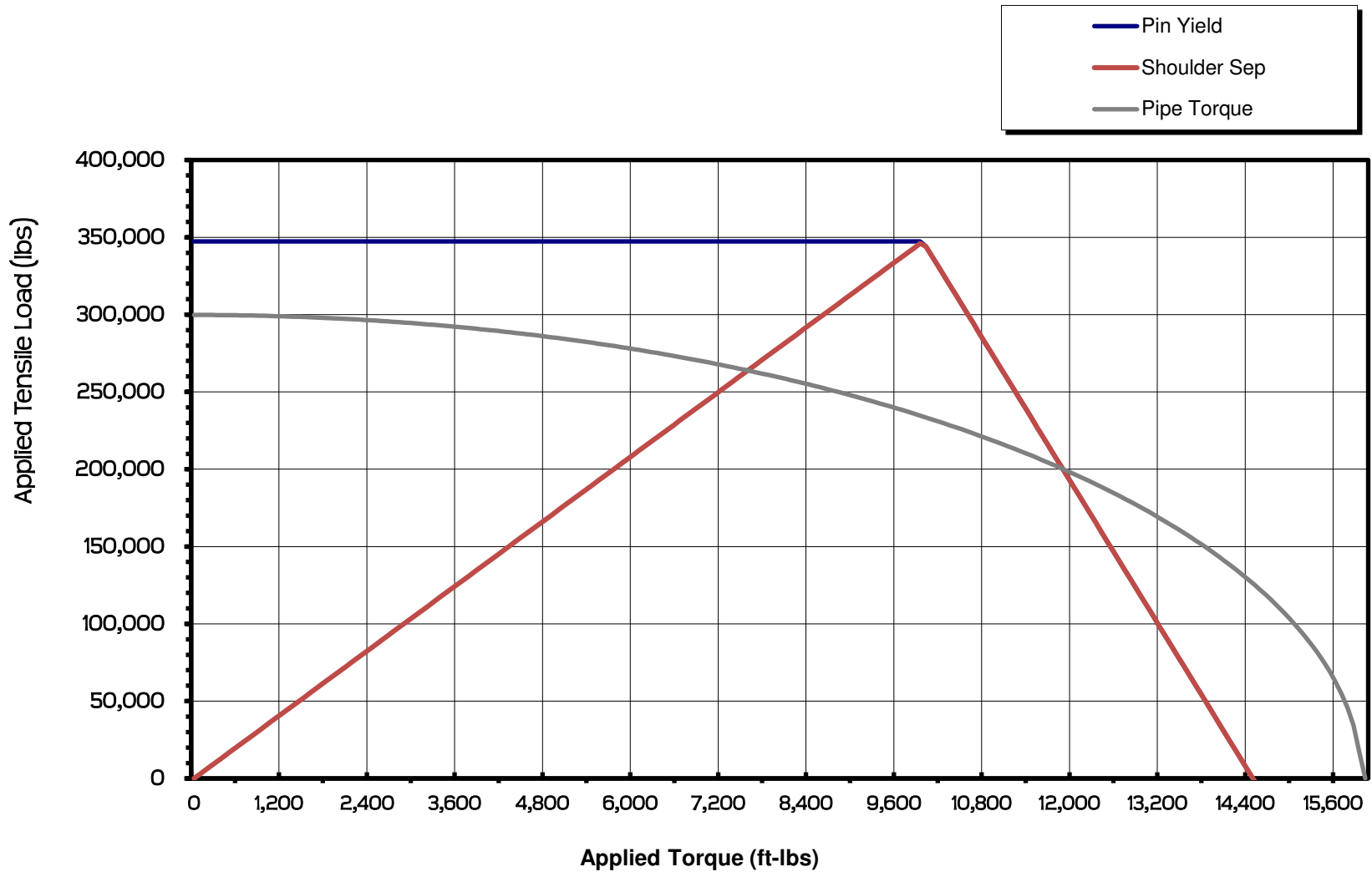
Fax: (936) 521-5130

Revision 1

Pipe Body			
	New-API	New-95%RBW	Premium
OD (in)	2.875	2.875	2.730
Wall Thickness (in)	0.362	0.389	0.290
ID (in)	2.151	2.097	2.151
Calculated Plain End weights (lbs/ft)	9.711	10.327	7.545
Note: Premium properties are calculated based on uniform OD and wall thickness.			
Cross sectional area pipe body (in ²)	2.858	3.039	2.220
Cross sectional area OD (in ²)	6.492	6.492	5.854
Cross sectional area ID (in ²)	3.634	3.453	3.634
Section Modulus (in ³)	1.602	1.673	1.228
Polar Section Modulus (in ³)	3.204	3.346	2.456
	New-API	New-95%RBW	Premium
Torsional Strength (ft-lbs)	20,800	21,700	15,900
Tensile Strength (lbs)	385,800	410,300	299,800
80% Torsional Strength (ft-lbs)	16,600	17,400	12,700
Pressure Capacity (psi)	29,747	31,978	27,197
Collapse Capacity (psi)	29,716	31,599	25,602
Tool Joint			
		PTECH28+	
		OD (in)	3 5/8
		ID (in)	2
Tool Joint with a Material Yield Strength of 135000 psi			
		Pin Tong length (in)	10
		Box Tong length (in)	13
		Torsional Strength (ft-lbs)	14,460
		Recommended Make-up Torque (ft-lbs)	8,700
		Min Recommended Make-up Torque (ft-lbs)	7,800
		Balance OD (in)	3.602
		Tensile Strength (lbs)	352,600
		Tool joint/Drill pipe torsional ratio (New pipe)	0.70
		Tool joint/Drill pipe torsional ratio (95% New pipe)	0.67
		Tool joint/Drill pipe torsional ratio (Prem pipe)	0.91
		Min OD for premium class (in)	3.516
Drill Pipe Assembly with PTECH+ Tool Joint	Drill Pipe Bend Radius		
API Adjusted weight (lbs/ft)	10.93	* These calculations are based on new pipe with nominal wall	
95% Adjusted weight (lbs/ft)	11.51	Based on Bending Stress (psi) at Pipe OD	15,000
Approximate length (ft)	32.00	Radius of Curvature (R) (ft.) (@ OD of pipe)	239.6
95% Fluid Displacement (gal/ft)	0.176	BUR (dogleg) deg/100 ft.	23.9
API Fluid Displacement (gal/ft)	0.167		
Fluid Capacity (gal/ft)	0.182		
Drift Size	1.875		

TORQUE TENSION COMBINED LOAD CURVE

For PTECH28+ 3 5/8 X 2 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: 2.875 10.40 S-135 Premium Class.



PTECH28+ 3 5/8 X 2 TOOL JOINT OD WEAR CURVE

