

**Drill Pipe Performance Characteristics Sheet**

Rev. 03      2021-07-14

Patent: **9,885,214**

13610 Poplar Circle  
Suite 102  
Conroe, TX 77304, U.S.A  
Phone: (936) 760-3600

Pipe Size and Weight: 5 1/2 HWDP

Pipe Grade:

Range: 2

Tool Joint: 6 5/8 X 3 1/2 PTECH55+



Pipe Body		
	New-API	Premium
OD (in)	5.500	5.100
Wall Thickness (in)	1.000	0.800
ID (in)	3.500	3.500
Calculated Plain End weights (lbs/ft)	48.038	36.722
<b>Note: Premium properties are calculated based on uniform OD and wall thickness.</b>		
Cross sectional area pipe body (in <sup>2</sup> )	14.137	10.807
Cross sectional area OD (in <sup>2</sup> )	23.758	20.428
Cross sectional area ID (in <sup>2</sup> )	9.621	9.621
Section Modulus (in <sup>3</sup> )	13.655	10.134
Polar Section Modulus (in <sup>3</sup> )	27.310	20.269
	New-API	Premium
Torsional Strength (ft-lbs)	72,200	53,600
Tensile Strength (lbs)	777,500	594,400
80% Torsional Strength (ft-lbs)	57,800	42,900
Pressure Capacity (psi)	17,500	16,000
Collapse Capacity (psi)	16,364	14,548

Tool Joint		
<b>PTECH+ CONNECTION</b>		<b>PTECH55+</b>
OD (in)	6 5/8	
ID (in)	3 1/2	
<b>Tool Joint with a Material Yield Strength of 130000 psi</b>		
Pin Tong length (in)	24	
Box Tong length (in)	27	
<b>Friction Factor</b>	<b>1.0</b>	<b>1.15</b>
<b>Torsional Strength (ft-lbs)</b>	<b>84,500</b>	<b>97,200</b>
<b>Severe Service Recommended Make-up Torque (ft-lbs)[70%]</b>	<b>59,100</b>	<b>68,000</b>
<b>Standard Service Recommended Make-up Torque (ft-lbs)[60%]</b>	<b>50,700</b>	<b>58,300</b>
<b>Min Recommended Make-up Torque (ft-lbs)</b>	<b>39,900</b>	<b>45,900</b>
Balance OD (in)	7.031	
<b>Tensile Strength (lbs)</b>	<b>1,698,500</b>	
Tool joint/Drill pipe torsional ratio (New pipe)	1.17	
Tool joint/Drill pipe torsional ratio (95% New pipe)		
Tool joint/Drill pipe torsional ratio (Prem pipe)		
Min OD for premium class (in)	5.938	

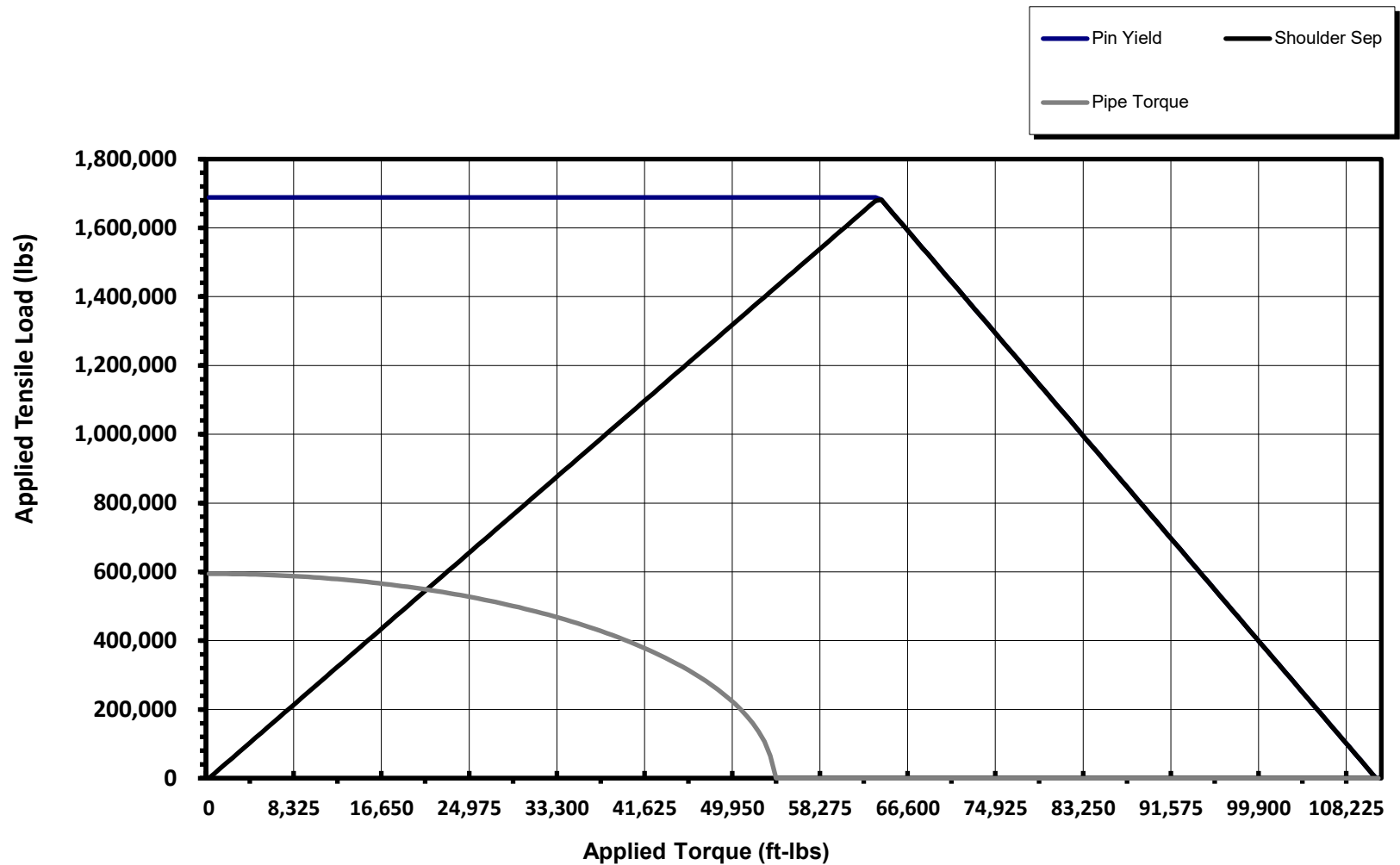
Minimum make-up is based on shoulder separation caused by bending.

Drill Pipe Assembly with PTECH55+ Tool Joint		Drill Pipe Bend Radius	
API Adjusted weight (lbs/ft)	53.49	* These calculations are based on new pipe with nominal wall	
Approximate length (ft)	31.00	Based on Bending Stress (psi) at Pipe OD	15,000
API Fluid Displacement (gal/ft)	0.818	Radius of Curvature ( R ) (ft.) (@ OD of pipe)	458.3
Fluid Capacity (gal/ft)	0.499	BUR (dogleg) deg/100 ft.	12.5
Drift Size	3.375		

This Performance Sheet was generated by Nels Wickander.

# TORQUE TENSION COMBINED LOAD CURVE

For PTECH55+ 6-5/8 X 3-1/2 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: 5.5 HWDP Premium Class.



## PTECH55+ 6 5/8 X 3 1/2 HWDP TOOL JOINT OD WEAR CURVE

