



## Drill Pipe Performance Characteristics Sheet

PTECH Canada  
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Pipe Size and weight: 4 14.00 IU  
 Pipe Grade: S-135  
 Range: 2  
 Tool Joint: 4 7/8 X 2 11/16 PTECH39+

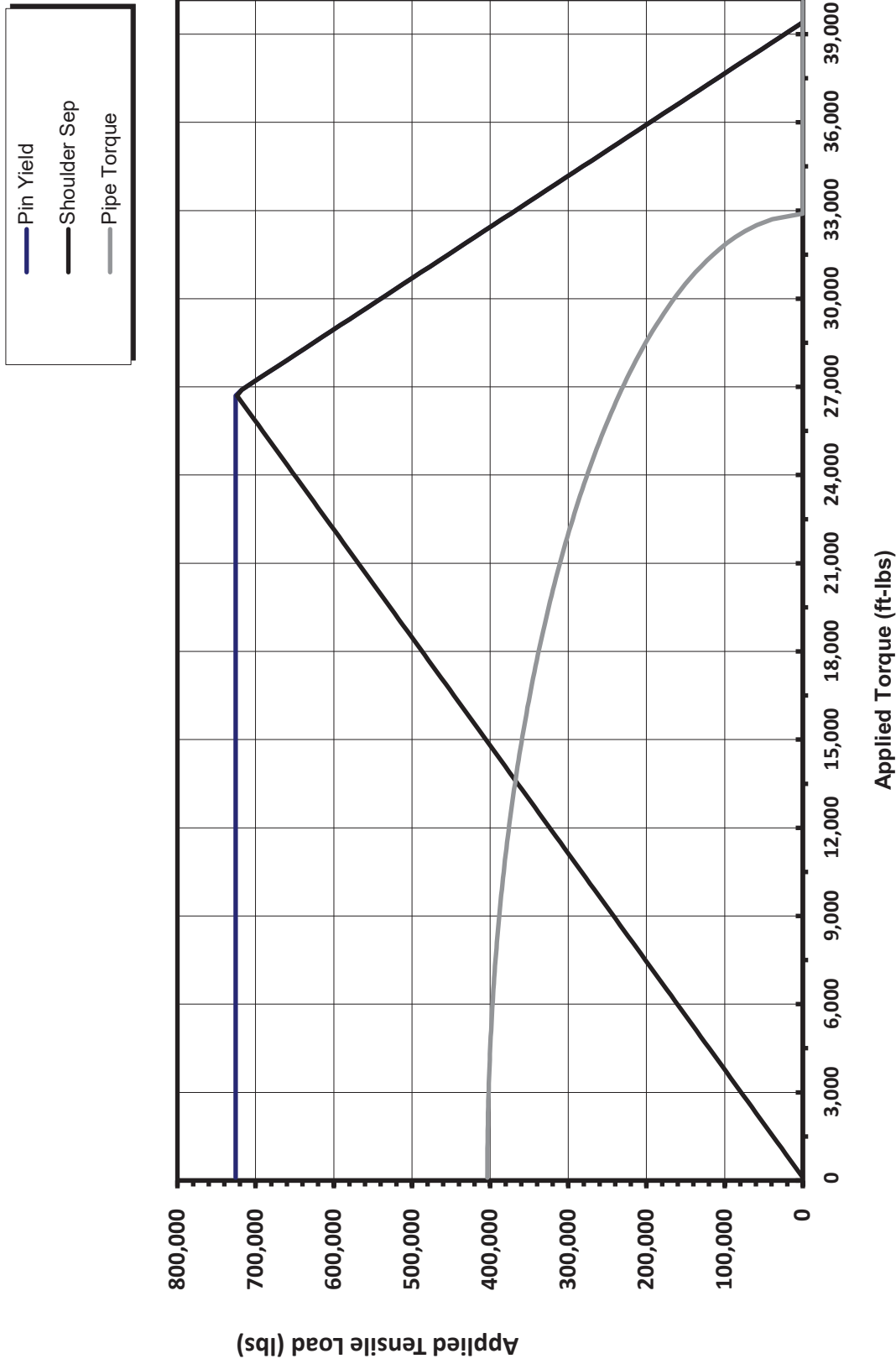
Revision 3 9/29/2020

Pipe Body			
	<b>New-API</b>	<b>New-95%RBW</b>	<b>Premium</b>
OD (in)	4.000	4.000	3.868
Wall Thickness (in)	0.330	0.355	0.264
ID (in)	3.340	3.291	3.340
Calculated Plain End weights (lbs/ft)	12.928	13.804	10.157
<b>Note: Premium properties are calculated based on uniform OD and wall thickness.</b>			
Cross sectional area pipe body (in <sup>2</sup> )	3.805	4.063	2.989
Cross sectional area OD (in <sup>2</sup> )	12.566	12.566	11.751
Cross sectional area ID (in <sup>2</sup> )	8.762	8.504	8.762
Section Modulus (in <sup>3</sup> )	3.229	3.406	2.523
Polar Section Modulus (in <sup>3</sup> )	6.458	6.812	5.046
	<b>New-API</b>	<b>New-95%RBW</b>	<b>Premium</b>
Torsional Strength (ft-lbs)	41,900	44,200	32,800
Tensile Strength (lbs)	513,600	548,400	403,500
80% Torsional Strength (ft-lbs)	33,500	35,400	26,200
Pressure Capacity (psi)	19,491	20,952	17,820
Collapse Capacity (psi)	20,437	21,822	13,832
Tool Joint			
<b>PTECH+</b> CONNECTION		<b>PTECH39+</b>	
	OD (in)	4 7/8	
	ID (in)	2 11/16	
<b>Tool Joint with a Material Yield Strength of 135000 psi</b>			
	Pin Tong length (in)	13	<b>Friction Factor 1.15</b>
	Box Tong length (in)	15	
	<b>Torsional Yield Strength (ft-lbs)</b>	<b>38,840</b>	<b>44,700</b>
	<b>Severe Service Level Recommended Make-up Torque (ft-lbs)(70%)</b>	<b>27,200</b>	<b>31,300</b>
	<b>Standard Service Level Recommended Make-up Torque (ft-lbs)(60%)</b>	<b>23,300</b>	<b>26,800</b>
	<b>Min Recommended Make-up Torque (ft-lbs)</b>	<b>18,300</b>	<b>21,000</b>
	Balance OD (in)	4.888	
	<b>Tensile Strength (lbs)</b>	<b>732,800</b>	
	Tool joint/Drill pipe torsional ratio (New pipe)	0.93	
	Tool joint/Drill pipe torsional ratio (95% New pipe)	0.88	
	Tool joint/Drill pipe torsional ratio (Prem pipe)	1.18	
	Min OD for premium class (in)	4.531	
Minimum make-up is based on shoulder separation caused by bending.			
Drill Pipe Assembly with PTECH+ Tool Joint			Drill Pipe Bend Radius
API Adjusted weight (kg/m)(lbs/ft)	23.51	15.80	* 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) 333.3
95% Adjusted weight (kg/m)(lbs/ft)	24.71	16.61	
Approximate length (M)(ft)	9.60	31.50	
Fluid Displacement CuM/M)(gal/ft)	0.00300	0.242	BUR (dogleg) deg/100 ft. 17.2
Fluid Capacity (CuM/M)(gal/ft)	0.00541	0.435	
Drift Size (mm)(in)	65.09	2.563	

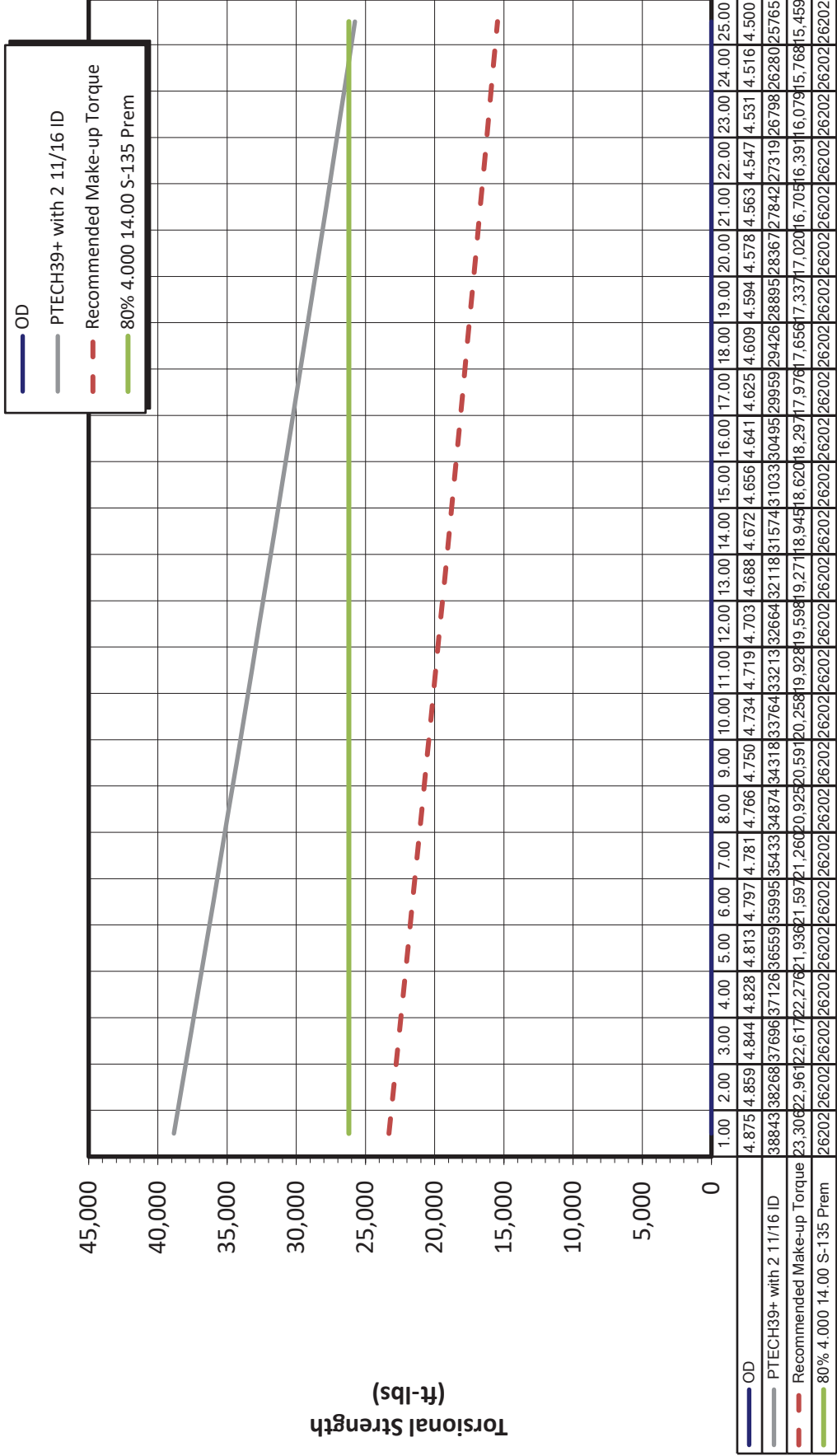
This Performance Sheet was generated by Nels Wickander.

# TORQUE TENSION COMBINED LOAD CURVE

For PTECH39+ 4 7/8 X 2 11/16 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: 4 14.00 S-135 Premium Class.



# PTECH39+ 4 7/8 X 2 11/16 TOOL JOINT OD WEAR CURVE



Tool Joint Box OD (in.)