

Drill Pipe Performance Characteristics Sheet

TSC Drill Pipe



Patent: 9.885.214
Pipe Size and Weight: 2 3/8 6.65 EU
Pipe Grade: S-135
Range: 2
Tool Joint: 3 1/16 X 1 1/2 PTECH+™23



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Pipe Body		
	New-API	Premium
OD (in)	2.375	2.263
Wall Thickness (in)	0.280	0.224
ID (in)	1.815	1.815
Calculated Plain End weights (lbs/ft)	6.262	4.876
Note: Premium properties are calculated based on uniform OD and wall thickness.		
Cross sectional area pipe body (in ²)	1.843	1.435
Cross sectional area OD (in ²)	4.430	4.022
Cross sectional area ID (in ²)	2.587	2.587
Section Modulus (in ³)	0.867	0.667
Polar Section Modulus (in ³)	1.733	1.334
	New-API	Premium
Torsional Strength (ft-lbs)	11,300	8,700
Tensile Strength (lbs)	248,800	193,700
80% Torsional Strength (ft-lbs)	9,000	7,000
Pressure Capacity (psi)	27,853	25,465
Collapse Capacity (psi)	28,079	24,080

Tool Joint		
PTECH+™23		
OD (in)	3 1/16	
ID (in)	1 1/2	
Tool Joint with a Material Yield Strength of 135000 psi		
Pin Tong length (in)	10	
Box Tong length (in)	13	
Friction Factor	1.00	1.15
Torsional Strength (ft-lbs)	9,610	
Severe Service Recommended Make-up Torque (ft-lbs) [70% YS]	6,700	7,700
Standard Service Recommended Make-up Torque (ft-lbs) [60% YS]	5,800	6,700
Min Recommended Make-up Torque (ft-lbs)	5,200	6,000
Balance OD (in)	3.041	
Tensile Strength (lbs)	269,700	
Tool joint/Drill pipe torsional ratio (New pipe)	0.85	
Tool joint/Drill pipe torsional ratio (Prem pipe)	1.10	
Min Tool Joint OD for premium class (in)	2.859	
Min Tool Joint OD/Drill pipe torsional ratio (Prem pipe)	0.81	

Drill Pipe Assembly with PTECH+ Tool Joint		Drill Pipe Bend Radius	
API Adjusted weight (lbs/ft)	7.26	* These calculations are based on new pipe with nominal wall	
95% Adjusted weight (lbs/ft)	7.63	Based on Bending Stress (psi) at Pipe OD	15,000
Approximate length (ft)	32.00	Radius of Curvature (R) (ft.) (@ OD of pipe)	197.9
95% Fluid Displacement (gal/ft)	0.117	BUR (dogleg) deg/100 ft.	29.0
API Fluid Displacement (gal/ft)	0.111		
Fluid Capacity (gal/ft)	0.128		
Drift Size	1.375		

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