

Drill Pipe Performance Characteristics Sheet

TSC Drill Pipe



Patent: 9,885,214

Pipe Size and Weight: 5 19.50 IEU

Pipe Grade: S-135

Range: 2

Tool Joint: 5 7/8 X 3 3/8 PTECH+™47



110 Cypress Station Drive
Suite 160
Houston, TX 77090
Phone: (832) 230-8228
Fax: (281) 741-9914

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Pipe Body		
	New-API	Premium
OD (in)	5.000	4.855
Wall Thickness (in)	0.362	0.290
ID (in)	4.276	4.276
Calculated Plain End weights (lbs/ft)	17.923	14.114
Note: Premium properties are calculated based on uniform OD and wall thickness.		
Cross sectional area pipe body (in ²)	5.275	4.154
Cross sectional area OD (in ²)	19.635	18.514
Cross sectional area ID (in ²)	14.360	14.360
Section Modulus (in ³)	5.708	4.476
Polar Section Modulus (in ³)	11.415	8.953
New-API Premium		
Torsional Strength (ft-lbs)	74,100	58,100
Tensile Strength (lbs)	712,100	560,800
80% Torsional Strength (ft-lbs)	59,300	46,500
Pressure Capacity (psi)	17,105	15,638
Collapse Capacity (psi)	18,133	10,024

Tool Joint		
PTECH+™47		
	OD (in)	5 7/8
	ID (in)	3 3/8
Tool Joint with a Material Yield Strength of 135000 psi		
	Pin Tong length (in)	13
	Box Tong length (in)	15
Friction Factor		
	1.0	1.15
	Torsional Strength (ft-lbs)	64,430
	Severe Service Recommended Make-up Torque (ft-lbs) [70%]	45,100
	Standard Service Recommended Make-up Torque (ft-lbs) [60%]	38,700
	Min Recommended Make-up Torque (ft-lbs)	32,200
	Balance OD (in)	5.834
	Tensile Strength (lbs)	1,015,900
	Tool joint/Drill pipe torsional ratio (New pipe)	0.87
	Tool joint/Drill pipe torsional ratio (Prem pipe)	1.11
	Min OD for premium class (in)	5.595

Drill Pipe Assembly with PTECH+ Tool Joint		Drill Pipe Bend Radius	
API Adjusted weight (lbs/ft)	22.05	* These calculations are based on new pipe with nominal wall	
Approximate length (ft)	32.00	Based on Bending Stress (psi) at Pipe OD	15,000
API Fluid Displacement (gal/ft)	0.337	Radius of Curvature (R) (ft.) (@ OD of pipe)	416.7
Fluid Capacity (gal/ft)	0.712	BUR (dogleg) deg/100 ft.	13.8
Drift Size	3.250		

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