

# Drill Pipe Performance Characteristics Sheet



**Pipe Size & Weight:** 5-1/2 24.70# IEU  
**Pipe Grade:** S-135  
**Range:** 2  
**Tool Joint Dimensions:** 6.9375" OD x 3.500" ID  
**Connection:** 5-1/2 FH DS

THIS TECHNICAL INFORMATION IS FOR REFERENCE ONLY

## Pipe Body Information

	<u>New-API</u>	<u>New 95% RBW</u>	<u>Premium</u>
OD (in)	5.500	5.500	5.334
Wall Thickness (in)	.415	.446	.332
ID (in)	4.670	4.608	4.670
Calculated Plain End weights (lbs./ft)	22.527	24.068	17.728

*\* Note: Premium Properties are calculated based on uniform OD and wall thickness.*

	<u>New-API</u>	<u>New 95% RBW</u>	<u>Premium</u>
Cross Sectional area pipe body (in <sup>2</sup> )	6.630	7.083	5.217
Cross Sectional area OD (in <sup>2</sup> )	23.758	23.758	22.346
Cross Sectional area ID (in <sup>2</sup> )	17.129	16.675	17.129
Section Modulus (in <sup>2</sup> )	7.844	8.288	6.145
Polar Section Modulus (in <sup>2</sup> )	15.688	16.575	12.290

	<u>New-API</u>	<u>New 95% RBW</u>	<u>Premium</u>
Torsional Strength (ft.-lbs.)	101,800	107,600	79,800
Tensile Strength (lbs.)	895,000	956,200	704,300
80% Torsional Strength (ft.-lbs.)	81,400	86,100	63,800
Pressure Capacity (psi)	17,826	19,163	16,298
Collapse Capacity (psi)	12,679	13,550	11,172

## Tool Joint with a Material Yield Strength of 120,000 PSI

### 5-1/2 FH

OD (in)	6-15/16"
ID (in)	3-1/2"

*\* Tool Joint with a Material Yield Strength of 120,000 psi*

Pin Tong length (in)	9"
Box Tong length (in)	12"

<b>Torsional Strength (ft.-lbs.)</b>	<b>85,700</b>
<b>Max Recommended Make-up Torque (ft.-lbs.)</b>	<b>51,400</b>
<b>Min Recommended Make-up Torque (ft.-lbs.)</b>	<b>37,300</b>

Balance OD (in)	7.213
<b>Tensile Strength (lbs.)</b>	<b>1,645,900</b>
Tool Joint / Drill Pipe torsional ratio (New Pipe)	0.84
Tool Joint / Drill Pipe torsional ratio (95% New Pipe)	0.80
Tool Joint / Drill Pipe torsional ratio (Premium Pipe)	1.07
Min OD for Premium Class (in)	6.556

*\* Note: Minimum make-up is based on shoulder seperation caused by bending.*

### Drill Pipe Assembly

API Adjusted Weight (lbs./ft.)	27.65
95% Adjusted Weight (lbs./ft.)	29.09
Approximate Length (ft.)	31.41
Fluid Displacement (gal./ft.)	0.353
Fluid Capacity (gal./ft.)	0.89
Drift Size (in)	3.375"

### Drill Pipe Bend Radius

<i>* These calculations are basaed on new pipe with nominal wall</i>	
Based on Bending Stress (psi) at Pipe OD	15,000
Radius of Curvature ® (ft.) (@ OD of pipe)	458.3
BUR (dogleg) deg/100 ft.	12.5