

# Drill Pipe Performance Sheet

8/23/2018

## Pipe Body Specification

Pipe Body OD	in	5.0
Pipe Body Wall Thickness - Nominal Weight		0.362 in - 19.5 lb/ft
Pipe Body Grade		TSS105™
Drill Pipe Length		Range 2
- Max	ft	32.0
- Min	ft	30.0
Type of Upset		IEU
Max Upset OD	in	5.125
Tong Length includes hardbanding if applicable		

## Pipe Body Performance

		Nominal	95% Inspection Class
Burst Pressure *	psi	13,300	14,400
Collapse Pressure *	psi	13,000	11,960
Slip Crushing Capacity *	lbs	387,600	367,800
- Assumed Slip Length	in	16.5	
- Assumed Transverse Load Factor (K)		4.2	
Adjusted Weight **	lbs/ft	23.82	
Fluid Displacement **	US gal/ft	0.36	
	Bbls/ft	0.0087	
Fluid Capacity **	US gal/ft	0.7	
	Bbls/ft	0.0167	
* With no axial load or bending in string      ** Best estimate with coating Note: Oil field barrel equivalent to 42 US gal      Note: Nominal burst calculated at 87.5% RBW per API			

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## Tool Joint Specification

Connection Type and Size		NC50
Benchmark		GPmark™
SmoothEdge™ Height per side	in	N/A
Tool Joint SMYS	psi	120,000
Connection OD	in	6.625
Connection ID	in	3.25
Pin Tong Length	in	9.0
Box Tong Length	in	12.0
Thread Compound Friction Factor (FF)		1.0

## Tool Joint Performance

<b>Max Make-Up Torque (Recommended)</b>	ft-lbs	<b>30,700</b>
<b>Min Make-Up Torque</b>	ft-lbs	<b>25,600</b>
Min TJ OD (API Premium)	in	6.094
Min TJ OD for Counterbore	in	0.0
Drift Size	in	3.125
The maximum make-up torque should be applied when possible. To maximize connection operational tensile, a MUT (T4) = 28,300 should be applied.		

## Advisories and Warnings for Drill Pipe

**Advisories:**

**Warnings:**

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## Combined Loading for Drill Pipe

Connection: NC50 6.625" x 3.25" (120 KSI SMYS ) Friction Factor: 1.0

Pipe: 5.0" OD 0.362" Wall Thickness TSS105™ 95% Inspection Class

At Max MUT (30700 ft-lbs )		At Min MUT (25600 ft-lbs )	
Operational Torque(ft-lbs)	Assembly Max Tension(lbs)	Operational Torque(ft-lbs)	Assembly Max Tension(lbs)
0	524100	0	524100
1600	523900	1300	523900
3200	523200	2600	523500
4800	522000	4000	522700
6400	520500	5300	521600
8000	518400	6600	520200
9500	516100	7900	518500
11100	513100	9200	516600
12700	509600	10500	514300
14300	505700	11900	511400
15900	501300	13200	508500
17500	496300	14500	505200
19100	490800	15800	501600
20700	484800	17100	497600
22300	478200	18500	492900
23900	471000	19800	488200
25400	463600	21100	483200
27000	455200	22400	477700
28600	446100	23700	471900
30200	436200	25100	465100

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## Connection Wear Table

Connection: NC50 6.625" x 3.25" (120 KSI SMYS ) Friction Factor: 1.0

Tool Joint OD (in)	Max MUT(ft-lbs)	Min MUT(ft-lbs)
6.625	30700	25600
6.557	30700	25600
6.489	30700	25600
6.42	30700	25600
6.352	29800	24800
6.284	27700	23100
6.216	25700	21400
6.148	23700	19700
6.08	21700	18100
6.011	19700	16400
5.943	17800	14900
5.875	16000	13300

## Elevator Capacity

Elevator Bore Diameter: 5.21875" Elevator SMYS: 110,100 psi Box Taper Angle: 18 deg

Connection: NC50 5.0" 0.362" wall IEU TSS105™

Tool Joint OD (in.)	Elevator Hoist Capacity (lbs)	
	No Wear	1/32" Wear Factor
6.625	1411900	1383500
6.557	1334400	1306000
6.489	1257700	1229200
6.42	1180700	1152200
6.352	1105600	1077100
6.284	1031300	1002800
6.216	957800	929300
6.148	885100	856600
6.08	813200	784700
6.011	741000	712600
5.943	670700	642300
5.875	601300	572800

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