

Heavy Weight Drill Pipe Performance Sheet

9/26/2019

Pipe Body Specification		
Nominal OD	in	5.0
Nominal ID	in	3.0
Design		Welded
Heavy Weight Type		Standard
Pipe Body Grade		Standard HW
Approximate Length	ft	32.4
Max Upset OD	in	5.125
Tong Length includes hardbanding if applicable		

HWDP Assembly Performance		
Adjusted Weight *	lbs/ft	50.64
Fluid Displacement *	US gal/ft	0.77
	bbls/ft	0.0184
Fluid Capacity *	US gal/ft	0.37
	bbls/ft	0.0087
Drift Size	in	2.75
Pipe Burst **	psi	19,250
Pipe Collapse **	psi	17,600
Pipe Cross Sectional Area of OD	in ²	19.63
Pipe Cross Sectional Area of ID	in ²	7.069
Pipe Section Modulus	in ³	10.681
Pipe Polar Section Modulus	in ³	21
Pipe Tensile Strength	lbs	691,200
Pipe Torsional Strength	ft-lbs	56,500
Tool Joint/Pipe Body Torsional Ratio		1.02
* At Nominal Wall Thickness Note: Nominal burst calculated at 87.5% RBW per API		
** With no axial load or bending in string Note: Oil field barrel equivalent to 42 US gal		

The Technical information contained herein, including the product performance sheet and other attached documents, is for reference only and should not be consider as a recommendation. The user is fully responsible for the accuracy and suitability of use of the technical information. NOV Grant Prideco cannot assume responsibility for the results obtained through the use of this material. No expressed or implied warranty is intended. HW Drill Pipe assembly properties are calculated based on uniform OD and wall thickness. No safety factor is applied. The information provided for various inspection classes and for various wear conditions (remaining body wall) is for information only and does not represent or imply acceptable operating limits. It is the responsibility of the customer and the end user to determine the appropriate performance ratings, acceptable use of the product, maintain safe operating practices, and to apply a prudent safety factor suitable for the application. For API connections that have different pin and box IDs, tool joint ID refers to the pin ID. Per Chapter B, Section 4 VII of the drilling manual, it is recommended that drilling torque should not exceed 80% of MUT.

Tool Joint Specification		
Connection Type and Size		NC50
SmoothEdge™ Height	in	N/A
Tool Joint SMYS	psi	120,000
Connection OD	in	6.625
Connection ID	in	3.0
Pin Tong	in	30.0
Box Tong	in	30.0
Thread Compound Friction Factor (FF)		1.0
Number of Wearpads		1
Wearpad Length (per Wearpad)	in	26.0

Tool Joint Performance		
Max. Make-Up Torque (Recommended)	ft-lbs	34,500
Tension at Shoulder Separation @ Max. MUT	lbs	N/A
Tension at Connection Yield @ Max. MUT	lbs	1,177,400
Min. Make-Up Torque		28,800
Tension at Shoulder Separation @ Min. MUT	lbs	1,330,000
Tension at Connection Yield @ Min. MUT	lbs	1,397,300
Tensile Strength	lbs	1,397,300
Torsional Strength	ft-lbs	57,500
Min. TJ OD for Counterbore	in	N/A
Balanced OD	in	6.505
The maximum make-up torque should be applied when possible. To maximize connection operational tensile, a MUT (T4) = 30,200 should be applied.		

Advisories and Warnings for HWDP

Advisories:

Warnings:

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Connection Wear Table

Connection: NC50 6.625" x 3.0" (120 KSI SMYS) Friction Factor: 1.0

Tool Joint OD (in)	Max MUT	Min MUT
6.625	34500	28800
6.557	34500	28800
6.489	34000	28300
6.42	31900	26500
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

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