

Heavy Weight Drill Pipe Performance Sheet

8/18/2016

Pipe Body Specification		
Nominal OD	in	3.5
Nominal ID	in	2.25
Design		Welded
Heavy Weight Type		Standard
Pipe Body Grade		Standard HW
Approximate Length	ft	31.1
Max Upset OD	in	3.875
Tong Length includes hardbanding if applicable		

HWDP Assembly Performance		
Adjusted Weight *	lbs/ft	24.26
Fluid Displacement *	US gal/ft	0.37
	bbls/ft	0.0088
Fluid Capacity *	US gal/ft	0.21
	bbls/ft	0.0049
Drift Size	in	2.0
Pipe Burst **	psi	17,190
Pipe Collapse **	psi	16,135
Pipe Cross Sectional Area of OD	in ²	9.62
Pipe Cross Sectional Area of ID	in ²	3.976
Pipe Section Modulus	in ³	3.49
Pipe Polar Section Modulus	in ³	7
Pipe Tensile Strength	lbs	310,500
Pipe Torsional Strength	ft-lbs	18,500
Tool Joint/Pipe Body Torsional Ratio		1.17
* 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		NC38
SmoothEdge™ Height	in	N/A
Tool Joint SMYS	psi	120,000
Connection OD	in	5.0
Connection ID	in	2.25
Pin Tong	in	24.0
Box Tong	in	24.0
Friction Factor of Thread Compound		1.0
Number of Wearpads		1
Wearpad Length (per Wearpad)	in	26.0

Tool Joint Performance		
Min. TJ OD for Counterbore	in	N/A
Max. Make-Up Torque (Recommended)	ft-lbs	13,000
Tension at Shoulder Separation @ Max. MUT	lbs	607,900
Tension at Connection Yield @ Max. MUT	lbs	607,900
Min. Make-Up Torque	ft-lbs	10,800
Tension at Shoulder Separation @ Min. MUT	lbs	617,900
Tension at Connection Yield @ Min. MUT	lbs	682,700
Tensile Strength	lbs	682,700
Torsional Strength	ft-lbs	21,700
Balanced OD	in	4.834
The maximum make-up torque should be applied when possible. To maximize connection operational tensile, a MUT (T4) = 11,900 should be applied.		

Advisories and Warnings for HWDP

Advisories:

Warnings:

Connection Wear Table

Connection: NC38 5.0" x 2.25" (120 KSI SMYS)

Tool Joint OD (in)	Max MUT	Min MUT
5.0	13000	10800
4.932	13000	10800
4.864	13000	10800
4.795	12300	10300
4.727	11100	9300
4.659	9900	8300
4.591	8800	7300
4.523	7700	6400
4.455	6500	5500
4.386	5500	4500
4.318	4400	3700
4.25	3400	2800

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