

Heavy Weight Drill Pipe Performance Sheet

6/23/2020

Pipe Body Specification		
Nominal OD	in	5.5
Nominal ID	in	3.25
Design		Welded
Heavy Weight Type		Standard
Pipe Body Grade		Standard HW
Approximate Length	ft	31.5
Max Upset OD	in	5.688
Tong Length includes hardbanding if applicable		

HWDP Assembly Performance		
Adjusted Weight *	lbs/ft	61.52
Fluid Displacement *	US gal/ft	0.94
	bbls/ft	0.0224
Fluid Capacity *	US gal/ft	0.43
	bbls/ft	0.0103
Drift Size	in	3.0
Pipe Burst **	psi	19,690
Pipe Collapse **	psi	17,897
Pipe Cross Sectional Area of OD	in ²	23.76
Pipe Cross Sectional Area of ID	in ²	8.296
Pipe Section Modulus	in ³	14.342
Pipe Polar Section Modulus	in ³	29
Pipe Tensile Strength	lbs	850,400
Pipe Torsional Strength	ft-lbs	75,900
Tool Joint/Pipe Body Torsional Ratio		1.05
* 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 DS, Section DS-16 of the drilling manual, it is recommended that drilling torque should not exceed 80% of MUT.

Tool Joint Specification		
Connection Type and Size		5-1/2 FH
SmoothEdge™ Height	in	N/A
Tool Joint SMYS	psi	120,000
Connection OD	in	7.5
Connection ID	in	3.25
Pin Tong	in	24.0
Box Tong	in	24.0
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	47,800
Tension at Shoulder Separation @ Max. MUT	lbs	N/A
Tension at Connection Yield @ Max. MUT	lbs	1,539,600
Min. Make-Up Torque		39,800
Tension at Shoulder Separation @ Min. MUT	lbs	1,616,300
Tension at Connection Yield @ Min. MUT	lbs	1,757,000
Tensile Strength	lbs	1,757,000
Torsional Strength	ft-lbs	79,700
Min. TJ OD for Counterbore	in	N/A
Balanced OD	in	7.259
The maximum make-up torque should be applied when possible. To maximize connection operational tensile, a MUT (T4) = 43,300 should be applied.		

Advisories and Warnings for HWDP

Advisories:

Warnings:

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Connection Wear Table

Connection: 5-1/2 FH 7.5" x 3.25" (120 KSI SMYS) Friction Factor: 1.0

Tool Joint OD (in)	Max MUT	Min MUT
7.5	47800	39800
7.432	47800	39800
7.364	47800	39800
7.295	47800	39800
7.227	46600	38800
7.159	44000	36600
7.091	41400	34500
7.023	38800	32400
6.955	36300	30300
6.886	33800	28200
6.818	31400	26100
6.75	29000	24100

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