Heavy Weight Drill Pipe Performance Sheet

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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	31.8
Max Upset OD	in	5.688
Tong Length includes hardbanding if applicable		

HWDP Assembly Performance		
Adjusted Weight *	lbs/ft	57.45
Fluid Displacement *	US gal/ft	0.878
	bbls/ft	0.0209
Fluid Capacity *	US gal/ft	0.431
	bbls/ft	0.01026
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		1.14
* At Nominal Wall Thickness	** With no axial load or bending in string	
Note:Nominal burst calculated at 87.5% RBW per API	Note:Oil field barrel equivalent to 42 US gal	

Tool Joint Specification		
Connection Type and Size		Delta™ 544
SmoothEdge™ Height	in	N/A
Tool Joint SMYS	psi	130,000
Connection OD	in	6.625
Connection ID	in	3.25
Connection ID Chamfer	in	4.0
Pin Tong	in	27.0
Box Tong	in	27.0
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	**52,000**
Tension at Shoulder Separation @ Max. MUT	lbs	1,682,300
Tension at Connection Yield @ Max. MUT	lbs	1,745,500
Min. Make-Up Torque	ft-lbs	**43,300**
Tension at Shoulder Separation @ Min. MUT	lbs	1,401,900
Tension at Connection Yield @ Min. MUT	lbs	1,745,500
Tensile Strength	lbs	1,745,500
Torsional Strength	ft-lbs	86,600
Min. TJ OD for Counterbore	in	6.232
Balanced OD	in	6.981
The maximum make-up torque should be applied when possible.		

Advisories and Warnings for HWDP

Advisories:

- Unbalanced connection.

Warnings:

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.

All references to any internal standards or specifications are per the current edition/revision at the point of manufacturing, unless otherwise stated. All references to any external standards or specifications are per the current edition/revision at the original purchase order (P.O.) date, unless otherwise stated.

Connection Wear Table		
Connection: Delta™ 544 6.625 " x 3.25 " (130 KSI SMYS) Friction Factor: 1.0		
Tool Joint OD (in)	**Max MUT (ft-lbs)**	**Min MUT (ft-lbs)**
6.625	52000	43300
6.589	50600	42200
6.554	49300	41100
6.518	48000	40000
6.482	46700	38900
6.446	45400	37800
6.411	44200	36800
6.375	42900	35700
6.339	41600	34700
6.303	40400	33600
6.268	39200	32600
6.232	37900	31600

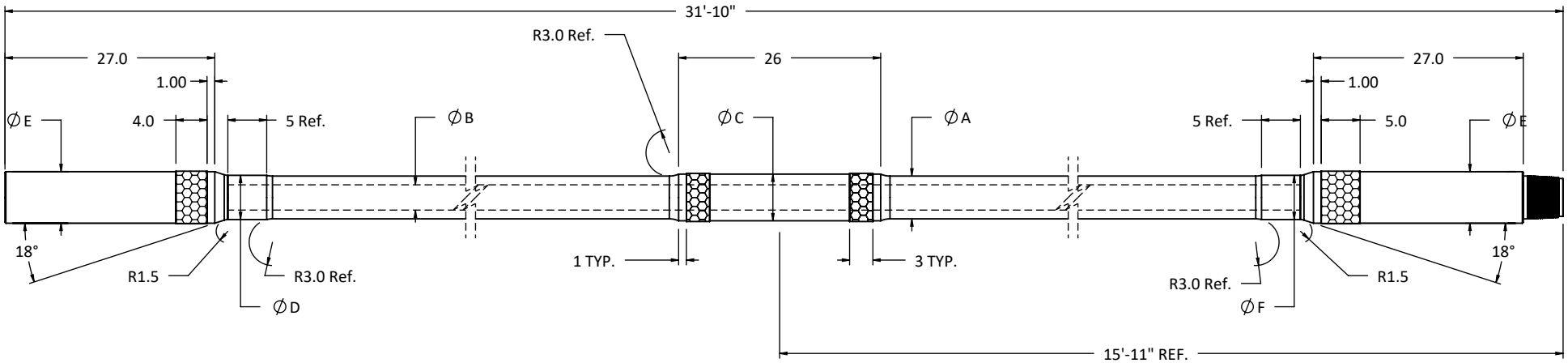
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Duraband NC 3/32 in. Raised Hardbanding
on Box Tool Joint

3/32in. Raised Duraband NC Hardbanding On Wearpad(s)

Duraband NC 3/32 in. Raised Hardbanding
on Pin Tool Joint



Delta™ 544
Standard Box
w/ Xmark™ + Benchmark
ID Chamfer 4

Delta™ 544
Standard Pin
w/ Xmark™ + Benchmark
ID Chamfer 4

	Tube					Tool Joint		Drift
Nominal HWDP Size (In)	Tube Dia. ∅A (In)	Nominal Tube ID ∅B (in)	OD of Wearpad(s) ∅C (in)	OD of Box End Upset ∅D (in)	OD of Pin End Upset ∅F (in)	Outside Dia. ∅E (in)	Inside Dia. (in)	Min OD of 10ft Long Drift Bar (in)
5.5	5.5	3.25	6	5.688	5.688	6.625	3.25	3

Symbol Designates where hardbanding is to be applied.

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UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE NOMINAL

TITLE:

HWDP Line Drawing

HWDP - Standard
5.5 in. x 3.25 in. x Range 2 Overall
6.625 in. x 27 in. Pin TJ Tong And 27 in. Box TJ Tong
Delta™ 544 Xmark™ + Box x Delta™ 544 Xmark™ + Pin

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