

Landing String Performance Sheet

2023

Pipe Body Specification		
Pipe Body OD	in	5.875
Pipe Body Wall Thickness - Nominal Weight		0.750 in - 41.05 lb/ft
Pipe Body Grade		S135
Drill Pipe Length		Range 2
- Max	ft	32.0
- Min	ft	30.0
Type of Upset		IEU
Max Upset OD	in	6.0
Tong Length includes hardbanding if applicable		

Pipe Body Performance			
		Nominal	90% Inspection Class
Burst Pressure *	psi	30,160	31,000
Collapse Pressure *	psi	30,070	28,080
Slip Crushing Capacity *	lbs	1,258,800	1,123,900
- Assumed Slip Length	in	16.5	
- Assumed Transverse Load Factor (K)		2.6	
Adjusted Weight **	lbs/ft	48.18	
Fluid Displacement **	US gal/ft	0.74	
	Bbls/ft	0.0175	
Fluid Capacity **	US gal/ft	0.72	
	Bbls/ft	0.0171	

* With no bending or axial load in the string as applicable ** 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		XT™ 57
Benchmark		GPmark™
SmoothEdge™ Height per side	in	0.09375
Tool Joint SMYS	psi	120,000
Connection OD	in	7.25
Connection ID	in	3.625
Pin Tong Length	in	10.0
Box Tong Length	in	15.0
Thread Compound Friction Factor (FF)		1.0

Tool Joint Performance		
Recommended Make-Up Torque (T4)	ft-lbs	66,600
Min Make-Up Torque	ft-lbs	66,400
Min TJ OD (API Premium)	in	6.895
Min TJ OD for Counterbore	in	6.563
Drift Size	in	3.5

The maximum make-up torque should be applied when possible.
 To maximize connection operational tensile, a MUT (T4) = 66,600 should be applied.

Advisories and Warnings for Landing String

- Advisories:**
- Connection torsional strength is less than 80% pipe body torsional strength.
 - Elevator capacity is less than new tube tensile. Consider increasing tool joint OD or adding SmoothEdge Option.
- Warnings:**

Landing String Rating lbs	1123900
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Note: Rating based on a 90% inspection class pipebody, TJ tensile, elevator OD, and no applied drilling torque

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Combined Loading for Landing String			
Connection: XT™ 57 7.25" x 3.625" (120 KSI SMYS) Friction Factor: 1.0			
Pipe: 5.875" OD 0.750" Wall Thickness S135 90% Inspection Class			
At T4 MUT (66600 ft-lbs)		At Min MUT (66400 ft-lbs)	
Operational Torque(ft-lbs)	Assembly Max Tension(lbs)	Operational Torque(ft-lbs)	Assembly Max Tension(lbs)
0	1445700	0	1445700
2400	1445500	2400	1445500
4900	1445000	4800	1445000
7300	1444200	7300	1444200
9700	1443000	9700	1443000
12200	1441400	12100	1441400
14600	1439500	14500	1439600
17100	1437200	17000	1437300
19500	1434600	19400	1434700
21900	1431700	21800	1431800
24400	1428300	24200	1428600
26800	1424600	26700	1424800
29200	1420700	29100	1420800
31700	1416200	31500	1416500
34100	1411500	33900	1411900
36600	1406200	36400	1406600
39000	1400700	38800	1401200
41400	1394900	41200	1395400
43900	1388500	43600	1389300
46300	1381900	46000	1382700

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Connection Wear Table		
Connection: XT™ 57 7.25" x 3.625" (120 KSI SMYS)		
Tool Joint OD (in)	T4 MUT(ft-lbs)	Min MUT(ft-lbs)
7.25	66600	66400
7.188	66600	64300
7.125	66600	62200
7.063	66600	60200
7.0	66600	58200
6.938	66600	56200
6.875	66600	54200
6.813	66600	52300
6.75	66600	50400
6.688	66600	48500
6.625	66600	46600
6.563	66600	44800

Elevator Capacity		
Elevator Bore Diameter: 6.125" Elevator SMYS: 110,100 psi Box Taper Angle: 18 deg		
Connection: XT™ 57 5.875" 0.750" wall IEU S135		
Tool Joint OD (in.)	Elevator Hoist Capacity (lbs)	
	No Wear	1/32" Wear Factor
7.4375	1539300	1506100
7.358	1437600	1404400
7.279	1337600	1304400
7.199	1237400	1204200
7.12	1139600	1106400
7.04	1041600	1008500
6.961	946000	912800
6.881	850200	817100
6.802	756800	723600
6.722	663200	630000
6.643	571900	538700
6.563	480600	447400

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Slip Crush Capacity Table at 90% Inspection Class					
		Slip Length			
		13.75 in.	16 in.	16.5 in.	22 in.
K Factor	2.1	1132900.0 lbs	1173800.0 lbs	1181600.0 lbs	1245200.0 lbs
	2.6	1067500.0 lbs	1114900.0 lbs	1123900.0 lbs	1199500.0 lbs
	4.0	909600.0 lbs	968600.0 lbs	980200.0 lbs	1080200.0 lbs
	4.2	890000.0 lbs	950000.0 lbs	961800.0 lbs	1064300.0 lbs

Improved Elevator Capacity Table						
Elevator Bore Diameter: 6.125" Elevator SMYS: 110,100 psi Box Taper Angle: 18 deg Connection: XT™ 57 5.875" 0.750" wall IEU S135						
Tool Joint OD (in.)	Elevator Hoist Capacity (lbs)					
	No Wear	Custom 0.03125 in.	1/16 in.	1/8 in.	3/16 in.	1/4 in.
6.563	480600	447400	414000	346800	278900	210300
6.643	571900	538700	505400	438200	370300	301700
6.722	663200	630000	596700	529500	461600	393000
6.802	756800	723600	690200	623000	555100	486500
6.881	850200	817100	783700	716500	648600	580000
6.961	946000	912800	879500	812200	744300	675800
7.04	1041600	1008500	975100	907900	840000	771400
7.12	1139600	1106400	1073100	1005800	937900	869400
7.199	1237400	1204200	1170900	1103700	1035800	967200
7.279	1337600	1304400	1271000	1203800	1135900	1067300
7.358	1437600	1404400	1371000	1303800	1235900	1167300
7.4375	1539300	1506100	1472700	1405500	1337600	1269000

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