



Drill Pipe Specification & Performance Data Sheet

3-1/2", 15.50#, 0.449", S135, EU, R2

NC38 (3-1/2"IF) - 4.875" x 2.563"

QT Item #: 427, 7978

Tube / Pipe Body Specification			Tubular Assembly			Tube / Pipe Body Performance		
OD:	3.500	in	Adjusted Weight:	17.67	lbs/ft	Inspection Class:	Premium Class 80%	
ID:	2.602	in	Length (approximate):	30 - 32	ft	Remaining Body Wall:	0.359	in
Wall Thickness:	0.449	in	Box TJ Length (nominal):	14.5	in	Tensile Strength:	451,120	lbs
Weight (nominal):	15.50	lbs/ft	Pin TJ Length (nominal):	12	in	Torsional Strength:	29,060	ft-lbs
Grade:	S135		Fluid Displacement:	0.0064	bbbls/ft	Burst Capacity:	27,710	psi
Range:	R2		Fluid Capacity w/ IPC:	0.0062	bbbls/ft	Collapse Capacity:	26,050	psi
Upset Type:	EU		<i>An oilfield barrel equals 42 US gallons.</i>					
Maximum Upset OD:	3.875	in						

Notes:
 -Dimensions, wall thickness, and tool joint lengths shown above are nominal if not otherwise stated.
 -Values shown may vary with actual values due to OEM tolerances, rounding, and other factors.
 -Capacity, Displacement, & Adjusted Weight are best estimates from the OEM and are based on pipe purchased at 95% RBW with longer than standard tool joints. Nominal thickness of IPC is .009" when applied.

Notes:
 -Tube / Pipe body properties are calculated based on uniform OD and wall thickness.

Connection / Tool Joint Specification			Connection Performance		
Connection:	NC38 (3-1/2"IF)		Thread Compound Friction Factor (FF):	1.0 FF	1.15 FF
OD:	4.875	in	Maximum Make-Up Torque: (Recommended)	12,000	13,800 ft-lbs
ID:	2.563	in	Tension at Maximum Make-Up Torque:	544,300	544,300 lbs
SMYS:	120	ksi	Minimum Make-Up Torque:	10,000	11,500 ft-lbs
Drift Size:	2.438	in	Tension at Minimum Make-Up Torque:	594,500	594,500 lbs
Elevator Taper:	18°		Torsional Strength:	20,100	23,115 ft-lbs

Notes:
 -Above dimensions are nominal.
 -There is no published pressure rating for this connection.

The Maximum Make-Up Torque based on the appropriate thread compound friction factor (FF) is recommended. MUTs lower than maximum should only be applied when MUT is limited by rig equipment or connection tensile capacity. MUT values lower than Minimum MUT should never be used.

Adjust MUT values per the applied thread compound's FF greater than 1.0, without exceeding 1.15. Above values tabulated at 1.0 and 1.15 FF.

Elevator Shoulder Capacity

-Refer to the attached OEM page(s) for capacities with wear prior to using.

For combined loading of drill pipe, connection wear table, & elevator capacity figures, please see the attached page(s) provided by NOV-Grant Prideco™.

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Drill Pipe Performance Sheet (1.0 FF)

1/15/2021

Combined Loading for Drill Pipe			
Connection: NC38 4.875" x 2.563" (120 KSI SMYS) Friction Factor: 1.0			
Pipe: 3.5" OD 0.449" Wall Thickness S135 80% Inspection Class			
At Max MUT (12000 ft-lbs)		At Min MUT (10000 ft-lbs)	
Operational Torque(ft-lbs)	Assembly Max Tension(lbs)	Operational Torque(ft-lbs)	Assembly Max Tension(lbs)
0	451100	0	451100
600	451000	500	451000
1300	450700	1100	450800
1900	450200	1600	450400
2500	449400	2100	449900
3200	448400	2600	449300
3800	447200	3200	448400
4400	445900	3700	447400
5100	444100	4200	446400
5700	442400	4800	444900
6300	440400	5300	443600
7000	437800	5800	442000
7600	435400	6300	440400
8200	432800	6900	438200
8900	429400	7400	436200
9500	426300	7900	434100
10100	423000	8500	431400
10800	418800	9000	428900
11400	415000	9500	426300
12000	410900	10000	423600

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Connection Wear Table		
Connection: NC38 4.875" x 2.563" (120 KSI SMYS) Friction Factor: 1.0		
Tool Joint OD (in)	Max MUT(ft-lbs)	Min MUT(ft-lbs)
4.875	12000	10000
4.808	12000	10000
4.74	11400	9500
4.673	10300	8600
4.605	9100	7600
4.538	8000	6700
4.47	6900	5800
4.403	5800	4900
4.335	4800	4000
4.268	3800	3100
4.2	2700	2300
4.1325	1800	1500

Elevator Capacity		
Elevator Bore Diameter: 3.96875" Elevator SMYS: 110,100 psi Box Taper Angle: 18 deg		
Connection: NC38 3.5" 0.449" wall EU S135		
Tool Joint OD (in.)	Elevator Hoist Capacity (lbs)	
	No Wear	1/32" Wear Factor
4.875	693000	671500
4.808	636900	615400
4.74	580800	559300
4.673	526300	504700
4.605	471700	450200
4.538	418700	397200
4.47	365800	344200
4.403	314400	292800
4.335	263000	241500
4.268	213100	191600
4.2	163300	141800
4.1325	114700	93200

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Drill Pipe Performance Sheet (1.15 FF)

1/22/2021

Combined Loading for Drill Pipe			
Connection: NC38 4.875" x 2.563" (120 KSI SMYS) Friction Factor: 1.15			
Pipe: 3.5" OD 0.449" Wall Thickness S135 80% Inspection Class			
At Max MUT (13800 ft-lbs)		At Min MUT (11500 ft-lbs)	
Operational Torque(ft-lbs)	Assembly Max Tension(lbs)	Operational Torque(ft-lbs)	Assembly Max Tension(lbs)
0	451100	0	451100
700	451000	600	451000
1500	450500	1200	450700
2200	449800	1800	450200
2900	448900	2400	449600
3600	447600	3000	448700
4400	445900	3600	447600
5100	444100	4300	446200
5800	442000	4900	444700
6600	439300	5500	443000
7300	436700	6100	441100
8000	433700	6700	439000
8700	430400	7300	436700
9500	426300	7900	434100
10200	422400	8500	431400
10900	418200	9100	428400
11700	412900	9700	425200
12400	408000	10300	421800
13100	402700	10900	418200
13800	397000	11500	414300

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Connection Wear Table		
Connection: NC38 4.875" x 2.563" (120 KSI SMYS) Friction Factor: 1.15		
Tool Joint OD (in)	Max MUT(ft-lbs)	Min MUT(ft-lbs)
4.875	13800	11500
4.808	13800	11500
4.74	13200	11000
4.673	11800	9800
4.605	10500	8700
4.538	9200	7700
4.47	7900	6600
4.403	6700	5600
4.335	5500	4600
4.268	4300	3600
4.2	3200	2600
4.1325	2000	1700

Elevator Capacity		
Elevator Bore Diameter: 3.96875" Elevator SMYS: 110,100 psi Box Taper Angle: 18 deg		
Connection: NC38 3.5" 0.449" wall EU S135		
Tool Joint OD (in.)	Elevator Hoist Capacity (lbs)	
	No Wear	1/32" Wear Factor
4.875	693000	671500
4.808	636900	615400
4.74	580800	559300
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