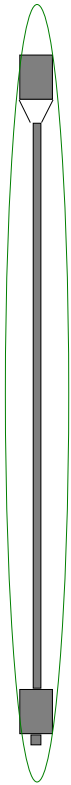


<h2>DRILL PIPE</h2>					SIZE:	3.500" 13.30 ppf 0.368" wall EU		
					GRADE:	S-135		
					RANGE:	II		
					CONNECTIONS:	NC38		
<u>PIPE BODY:</u>					<u>TUBULAR ASSEMBLY</u>			
	Nominal 100% RBW	Nominal 95% RBW	Ultra Class 90% RBW	Premium 80% RBW				
OD (in)	3,500	3,463	3,426	3,353	Adjusted Weigh (in):	15,3	Fluid Displacement (gal/ft):	0,23
Wall Thickness (in)	0,368	0,35	0,331	0,294	Approximate Length (ft):	31,6	Fluid Displacement (bbls/ft):	0,0056
Nominal ID:	2.764	2.764	2.764	2.764	Box TJ Length (in):	12,5	Fluid Capacity w/IPC (gal/ft):	0,3
Tensile Strength (lbs)	488.824	461.655	434.773	381.870	Pin TJ Length (in):	10	Fluid Capacity w/IPC (bbls):	0,007
Torsional Strength (in)	333.392	31.461	29.560	25.850	Upset Type :	EU	Fluid Capacity w/IPC (gal/ft):	0,3
Burst Capacity (psi)	24.840	26.969	25.550	22.711	Max Upset OD (in):	3.875	Fluid Capacity w/IPC (bbls/ft):	0,0071
Collapse Capacity (psi)	25.404	24.504	23.576	21.626	Drift Size (in):	2.438		
Notes: Body properties are calculated based on uniform OD and wall thickness. Burst capacity for Nominal (100% RBW) based on 87.5% RBW per API.					Note: These are OEM values that may vary with actual values due to mill tolerances, IPC tolerances, OEM rounding, and other factors. Pipe is purchased at a guaranteed 95% RBW. IPC is applied to a nominal thickness of 0.009". Pipe will have an ID of 2.705", which is smaller than pipe purchased at 87.5%.			
<u>CONNECTIONS: API NC38</u>					<u>ELEVATOR SHOULDER</u>			
TOOL JOINT OD (in):	4,875					Smooth Edge Height (in):	0,09375	
TOOL JOINT ID (in):	2,563					Smooth Edge OD (in):	5.062	
MYS (ksi):	120					SE Elevator Shoulder Capacity (lbs):	854.100	
			Maximum MUT (ft/lbs):	12.110		Nominal TJ OD (in):	4,875	
			Tension at Shoulder Separation @Max MUT (lbs)	Tensile Limited		Nominal TJ OD Elevator Shoulder Capacity (lbs):	693.000	
			Tension at Connection Yield @Max MUT (lbs)	539.000		Assume Elevator Bore (in)	3.969	
			Minimum MUT (ft/lbs):	10.000				
			Tension at Shoulder Separation @MinMUT (lbs)	594.300				
			Tension at Connection Yield @Min MUT (lbs)	634.700				
			Tool Joint Torsional Strength (ft/lbs):	20.100				
			Tool Joint Tensile Strength (ft/lbs):	634.700				
Note: MUT values are based on a friction factor of 1.0. There is no published pressure rating for this connection					Note: Elevator capacity based on assumed elevator bore, no wear factor, and contact stress of 110, 100 psi. An increased elevator shoulder OD increases elevator capacity without affecting make-up torque.			
The technical information contained herein, including the product performance sheet and other attached documents, has been extracted from information available from the manufacturer and is for reference only and not a recommendation. The user is fully responsible for the accuracy and suitability of use of the technical information. Workstrings International cannot assume responsibility for the results obtained through the use of this material. No expressed or implied warranty is intended. 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 operation 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 operational 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 IADC drilling manual, it is recommended that drilling torque should not exceed 80% of MUT.								

Operational Limits of Drill Pipe

Connection	NC38	Tool Joint OD (in)	4.875	Tool Joint ID (in)	2.563	Tool Joint Specified Minimum Yield Strength (psi)	120,000
Pipe Body	80 % Inspection Class	Pipe Body OD (in)	3.5	Wall Thickness (in)	0.368	Pipe Body Grade	S-135



**Combined Loading for Drill Pipe at
Maximum Make-up Torque = 12,100 (ft-lbs)**

Operational Torque (ft-lbs)	Assembly Max Tension (lbs)	Pipe Body Max Tension (lbs)	Connection Max Tension (lbs)
0	381,900	381,900	539,000
600	381,800	381,800	539,000
1,300	381,400	381,400	539,000
1,900	380,800	380,800	539,000
2,500	380,100	380,100	539,000
3,200	378,900	378,900	539,000
3,800	377,700	377,700	539,000
4,500	376,000	376,000	539,000
5,100	374,400	374,400	539,000
5,700	372,500	372,500	539,000
6,400	370,000	370,000	539,000
7,000	367,600	367,600	539,000
7,600	365,000	365,000	539,000
8,300	361,700	361,700	539,000
8,900	358,500	358,500	539,000
9,600	354,600	354,600	539,000
10,200	350,900	350,900	539,000
10,800	346,900	346,900	539,000
11,500	342,000	342,000	539,000
12,100	337,500	337,500	539,000

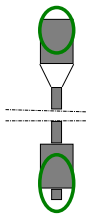
Operational drilling torque is limited by the Make-up Torque.

**Combined Loading for Drill Pipe at
Minimum Make-up Torque = 10,000 (ft-lbs)**

Operational Torque (ft-lbs)	Assembly Max Tension (lbs)	Pipe Body Max Tension (lbs)	Connection Max Tension (lbs)
0	381,900	381,900	594,300
500	381,800	381,800	594,300
1,100	381,500	381,500	594,300
1,600	381,100	381,100	594,300
2,100	380,600	380,600	594,300
2,600	379,900	379,900	594,300
3,200	378,900	378,900	594,300
3,700	377,900	377,900	594,300
4,200	376,800	376,800	594,300
4,700	375,500	375,500	594,300
5,300	373,800	373,800	594,300
5,800	372,100	372,100	594,300
6,300	370,400	370,400	594,300
6,800	368,400	368,400	594,300
7,400	365,900	365,900	594,300
7,900	363,600	363,600	594,300
8,400	361,100	361,100	594,300
8,900	358,500	358,500	594,300
9,500	355,100	355,100	594,300
10,000	352,100	352,100	594,300

Operational drilling torque is limited by the Make-up Torque.

Connection Make-up Torque Range



	Make-up Torque (ft-lbs)	Connection Max Tension (lbs)
Min MUT	10,000	594,300
	10,200	606,200
	10,500	624,100
	10,700	633,400
	10,900	619,900
	11,200	599,700
	11,400	586,200
	11,600	572,700
	11,900	552,500
	Max MUT	12,100

Note: Recommended MUT should always be used when possible. If not possible, MUT should be as close to Recommended MUT as possible.

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06-17-2015