

DRILL PIPE DATA SHEET
DRILL PIPE: 3- 1/2 " EU by 13.30 lb/ft by S-135 by Range 2 (31.5 ft)
TOOL JOINT: 4- 7/8 " OD by 2- 9/16" ID by NC38 (120 ksi SMYS)

DRILL PIPE BODY DIMENSIONAL DATA		
	NEW	API PREMIUM
OD (in)	3.500	3.353
ID, Ref (in)	2.764	2.764
Wall Thickness (in)	0.368	0.294
Cross Sectional Area (in ²)	3.621	2.829
Polar Section Modulus, J/C (in ³)	5.144	3.982
Section Modulus, I/C (in ³)	2.572	1.991

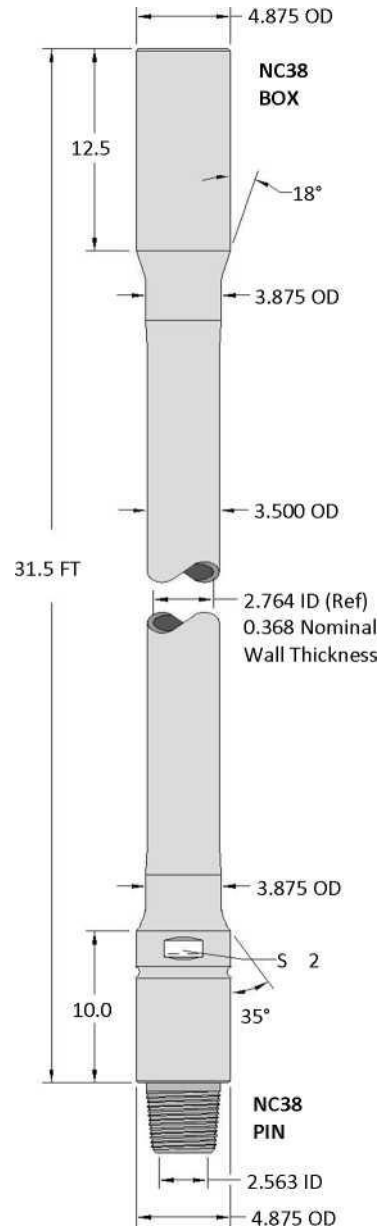
Premium class values are based on a minimum wall thickness equal to 80% of New drill pipe nominal wall thickness, reference API RP7G.

DRILL PIPE BODY PERFORMANCE PROPERTIES		
	NEW	API PREMIUM
Tensile Yield (lb)	488,825	381,870
Torsional Yield (ft-lb)	33,392	25,850
Collapse Pressure (psi)	25,404	21,626
Internal Yield Pressure (psi)	24,840	22,711
Material Yield Strength (psi)	135,000	

Drill pipe body performance properties are based on API RP7G. Class New drill pipe body data is for reference only and is not intended for drill string design purposes.

TOOL JOINT DATA		
Connection Size	NC38	
OD, New (in)	4.875	
ID, New (in)	2.563	
Box Tong Length, New (in)	12.5	
Pin Tong Length, New (in)	10.0	
Connection Bevel Diameter, New (in)	4.578	
Material Yield Strength (psi)	120,000	
	NEW	USED
OD (in)	4.875	4.781
Recommended Make-Up Torque (ft-lb)	12,057	12,056
Torsional Yield (ft-lb)	20,095	20,094
Torsional Yield Ratio, TJ/DP	0.60	0.78
Approximate Tension to Yield Pin or Separate Shoulders at Recommended Make-Up Torque (lb)	541,000	507,000
Tool Joint Tensile Yield (lb)	634,700	
Balanced OD (in)	4.781	

Connection torsional values based on 0.08 coefficient of friction (1.0 Friction Factor). Recommended Make-Up Torque is based on 60% of connection torsional yield, ref. API RP7G. New and Used drill pipe torsional yield ratio (tool joint/pipe body) is less than 0.80.



ASSEMBLY DATA (New)							
Weight (Approx.)		Capacity (Approx.)		Displacement Open Ends (Approx.)		Drift Diameter	Assembly Length Shld'r to Shld'r (Approx.)
(lb/Joint)	(lb/ft)	(US gallon/ft)	(BBL/ft)	(US gallon/ft)	(BBL/ft)	(in)	(ft)
465	14.75	0.3075	0.0073	0.2253	0.0054	2.438	31.5

Assembly data based on New API drill pipe nominal dimensions and no internal plastic coating. Conversion Factor: 1 BBL = 42 US Gallons

Notes:

- All data is calculated based on standard methods. No safety factor applied.
- Premium Class drill pipe data is based on a minimum wall thickness equal to 80% of New drill pipe nominal wall thickness, reference API RP7G.
- Drawing is for illustration purposes only, not to scale, and based on New drill pipe nominal dimensions, units of inches unless otherwise indicated.

(1)

Connection Torsional Properties NC38 x 2.563" ID (120 ksi SMYS)		
Tool Joint OD (in)	Recommended Make-Up Torque (ft-lb)	Torsional Yield (ft-lb)
4.875	12,057	20,095
4.813	12,057	20,095
4.781	12,056	20,094
4.750	11,504	19,174
4.688	10,416	17,360
4.656	9,879	16,465

(2)

Combined Torque and Tension to Yield Drill-Pipe Body API Premium Class (80% RBW) 3 1/2" EU x 13.30 lb/ft x S-135	
Operational Torque (ft-lb)	Drill-Pipe Body Max Tension (lb)
0	381,870
1,000	381,500
2,000	380,700
3,000	379,200
4,000	377,200
5,000	374,600
6,000	371,400
7,000	367,600
8,000	363,100

(3)

Estimated Elevator Hoist Capacity (lb)		
Tool Joint OD (in)	3.969" Dia. Assumed Elev. Bore	4.000" Dia. Assumed Elev. Bore
4.875	692,400	670,900
4.781	614,200	592,600
4.656	512,200	490,700

Notes:

- Connection make-up torque and torsional yield are based on 0.08 coefficient of friction (1.0 Friction Factor). Recommended make-up torque is based on 60% of connection torsional yield, reference API RP7G. New tool joint OD and ID are not API 5DP standard dimensions. User should establish a minimum used tool joint OD that will provide connection performance properties that are suitable for the drilling application.
- Premium class drill pipe based on 80% remaining pipe body wall and other requirements specified in API RP7G. Combined torque and tension based on API RP7G, no safety factor applied.
- Estimated elevator hoist capacity is for reference only and based on tool joint projected taper area, 110,000 psi SMYS and no safety factor. User is advised to contact their elevator manufacturer for recommended elevator hoist capacity versus tool joint OD.

