

# Drill Pipe Data & Performance Sheet

## 5" 19.50# S-135 R2 NC50 (4-1/2 IF)

### TUBE BODY DATA

Tube OD	5.000	in.
Wall Thickness	0.362	in.
Tube ID	4.276	in.
Tensile Yield Strength	560,800	lbs. (API Premium 80% Inspection Class)
Torsional Yield Strength	58,100	ft-lbs. (API Premium 80% Inspection Class)
Upset Type   Upset OD (max)	IEU	5.125 in.
Elevator Capacity	1,440,220	lbs.
Tube Burst	15,638	psi. (API Premium 80% Inspection Class)
Tube Collapse	10,029	psi. (API Premium 80% Inspection Class)
Slip-Crush Capacity (16.5" gripper contact length)	498,400	lbs.

### CONNECTION DATA

Connection	NC50 (4-1/2 IF)
Tool Joint OD	6.625 in.
Tool Joint ID	3.250 in.
Tool Joint SMYS	120,000 psi.

### CONNECTION PERFORMANCE

Make Up Torque (Max.) <sup>1</sup>	30,700 ft-lbs. (1.0 FF)	35,305 ft-lbs. (1.15 FF)
Connection Tensile Yield (@ Max. M/U TQ)	1,117,100	lbs.
Connection Torsional Yield	51,000	ft-lbs.

### ENGINEERING DATA

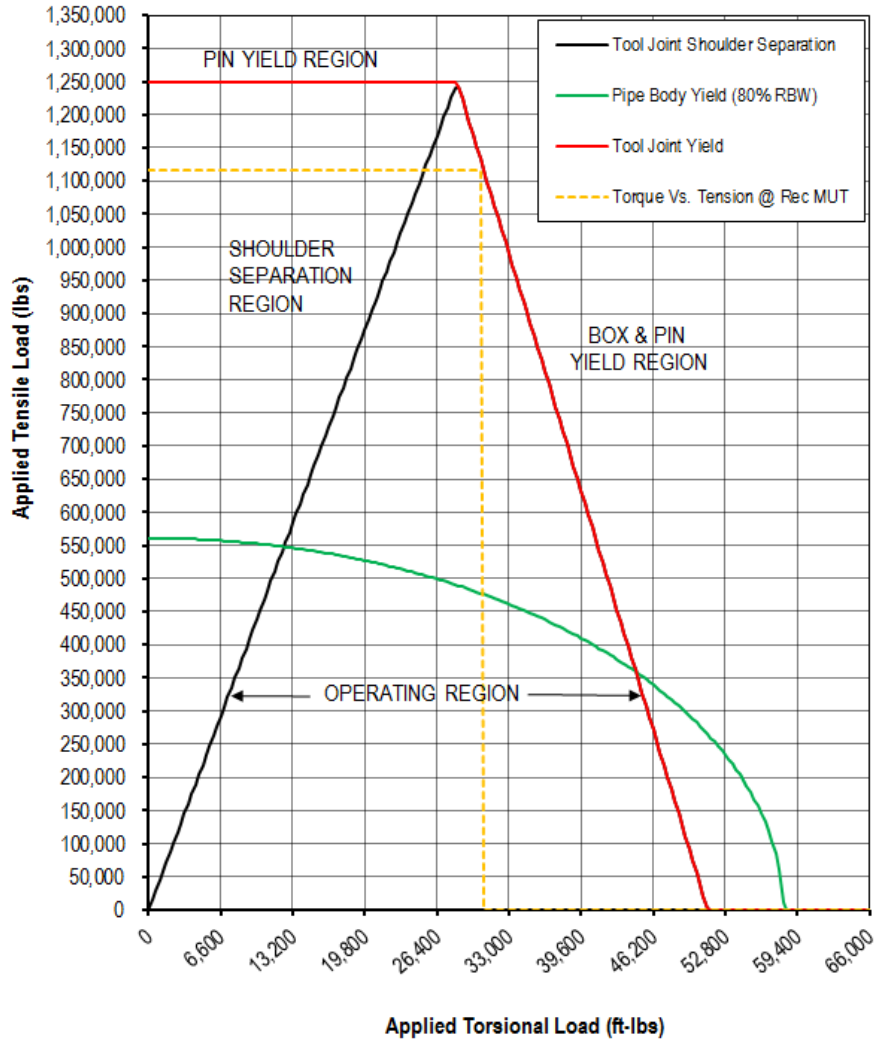
Approximate Length	31	ft.		
Drift Diameter	3.125	in.		
Adj. Weight	23.11	lbs. / ft.		
Displacement	0.3531	gal. / ft.	0.0084	bbls. / ft.
Capacity	0.7157	gal. / ft.	0.0170	bbls. / ft.

### Notes:

<sup>1</sup>Max MUT 1.0 FF is 60% of connection torsional strength. As required, adjust MUT according to applied thread compound friction factor, not exceeding 1.15. Rec MUT for most applications is that shown for 1.0 FF, regardless of dope used. Higher MUT should only be applied where rotary torque exceeds 80% of MUT 1.0 FF or when downhole torque and/or backoff is a concern.

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. Patterson Services, Inc. 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. Weight, displacement, and capacity are approximate and can vary by ± 10% (or more) depending on OD, specified wall, wall tolerance, and internal coating options. 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.

**Torque Tension Curve: 5" 19.50# IEU S-135 Premium Class Drill Pipe with 6.625 X 3.250 NC50 (4-1/2 IF) API Tool Joint. Curve Based on Calculation Method in API RP7G. Safety Factor =1.0**



**5" 19.50# IEU S-135 Drill Pipe Tube Body Collapse Pressure Under Axial Stress - API 5C3**

