

# HWDP Data & Performance Sheet

## 5" Plain Hevi-Wate DP NC50 (4-1/2 IF)

### TUBE BODY DATA

Tube OD	5.000	in.
Wall Thickness	1.000	in.
Tube ID	3.000	in.
Pipe Grade	55,000	psi.
Tensile Yield Strength	691,200	lbs.
Torsional Yield Strength	56,500	ft-lbs.
Tube Burst	19,300	psi.
Tube Collapse	17,600	psi.
Elevator Capacity	1,440,200	lbs.
Slip-Crush Capacity (16.5" gripper contact length)	483,700	lbs.

### CONNECTION DATA

Connection	NC50 (4-1/2 IF)
Tool Joint OD	6.625 in.
Tool Joint ID	3.000 in.
Tool Joint SMYS	120,000 psi.

### CONNECTION PERFORMANCE

Make Up Torque (Max.) <sup>1</sup>	34,500	ft-lbs. (1.0 FF)
	39,675	ft-lbs. (1.15 FF)
Connection Tensile Yield (@ Max. M/U TQ)	1,175,400	lbs.
Connection Torsional Yield	57,500	ft-lbs.

### ENGINEERING DATA

Approximate Length	30	ft.		
Drift Diameter	2.875	in.		
Adj. Weight	50.38	lbs. / ft.		
Displacement	0.8195	gal. / ft.	0.0195	bbls. / ft.
Capacity	0.3595	gal. / ft.	0.0086	bbls. / ft.

### Notes:

- <sup>1</sup>Max MUT 1.0 FF is 60% of connection torsional strength. Stick and slip is very damaging to connections and can induce higher-than-planned torque. As required, adjust MUT according to applied thread compound friction factor, not exceeding 1.15. Higher MUT should only be applied where rotary torque exceeds 80% 1.0 FF or when downhole torque and/or backoff is a concern.
- Dimensions, wall thickness, and lengths shown above are nominal. Figures may exclude the effects of wear, stress relief, boreback, ID chamfers, and/or spiral features.

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. Heavy-weight 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.