

# HWDP Data & Performance Sheet

## 3-1/2" Plain Hevi-Wate DP NC38 (3-1/2 IF)

### TUBE BODY DATA

Tube OD	3.500	in.
Wall Thickness	0.625	in.
Tube ID	2.250	in.
Pipe Grade	55,000	psi.
Tensile Yield Strength	310,500	lbs.
Torsional Yield Strength	18,500	ft-lbs.
Tube Burst	17,200	psi.
Tube Collapse	16,100	psi.
Elevator Capacity	693,000	lbs.
Slip-Crush Capacity (16.5" gripper contact length)	242,200	lbs.

### CONNECTION DATA

Connection	NC38 (3-1/2 IF)	
Tool Joint OD	4.875	in.
Tool Joint ID	2.250	in.
Tool Joint SMYS	120,000	psi.

### CONNECTION PERFORMANCE

Make Up Torque (Max.) <sup>1</sup>	13,700	ft-lbs. (1.0 FF)
	15,755	ft-lbs. (1.15 FF)
Connection Tensile Yield (@ Max. M/U TQ)	648,700	lbs.
Connection Torsional Yield	22,900	ft-lbs.

### ENGINEERING DATA

Approximate Length	30	ft.		
Drift Diameter	2.125	in.		
Adj. Weight	23.48	lbs. / ft.		
Displacement	0.3933	gal. / ft.	0.0094	bbls. / ft.
Capacity	0.2045	gal. / ft.	0.0049	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.