



## HYDRA 4.5in. x 15.1 lb/ft P-110 Flush Joint



### Pipe Body

Nominal OD	4.500	inches
Nominal Weight	15.10	lb/ft
Wall Thickness	0.337	inches
Plain End Weight	15.00	lb/ft
Standard Drift	3.701	inches
Nominal ID	3.826	inches
Grade	P-110	
Min Yield	110,000	lb/in <sup>2</sup>
Min Tensile	125,000	lb/in <sup>2</sup>
Critical Section Area	4.407	in <sup>2</sup>
Pipe Body Yield Strength	485	kips
Min Internal Yield Pressure	14,420	psi
Collapse Pressure	14,340	psi

### Connection

Connection OD	4.500	inches
Make Up Loss	4.488	inches
Critical Section Area	2.644	in <sup>2</sup>
Internal Pressure Rating	11,530	psi
External Pressure Rating	14,340	psi
Tension Efficiency	60%	
Connection Strength	291	kips
Compression Efficiency	291	kips
Uniaxial Bend Rating	71	° / 100 ft
Reference Depth	12,933	Ft.
Optimal Make Up Torque	5,675	ft-lbs 
Min	4,725	ft-lbs 
Max	6,600	ft-lbs

v1.0

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The performance properties in these data tables are calculated per API 5C3. Calculations are based on nominal wall thickness. Loads do not reflect a design safety factor for walls thinner than nominal or other defects. Reference Depth = Connection Strength/ (PE Wt./Ft)\*(1.5). Reference Depth includes a 1.5 design factor. However, it does not consider bending, temperature, buoyancy or other load considerations.



## Torque Data Sheet - HYDRA

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Min Make Up Torque	4,725	ft-lbs	Nom Shoulder Torque	1,100	ft-lbs
Max Make Up Torque	6,600	ft-lbs	Max Operating	10,500	ft-lbs
Optimum Torque	5,675	ft-lbs	Yield	12,900	ft-lbs

