

## **SPEARHEAD** Hi-Torque Fast-Running Xtended-Reach Workover Connection

Material Properties	Imperial	Metric
Yield Stress, Minimum (psi [kPa])	110,000	758,423
Yield Stress, Maximum (psi [kPa])	140,000	965,266
Tensile Stress, Minimum (psi [kPa])	125,000	861,845
Hardness, Maximum (HRC [HBW])	N/A	N/A
Pipe Dimensions & Weight		
Outside Diameter, Nominal (in [mm])	2.875	73.03
Weight, Nominal (Ibm/ft [kg/m])	8.70	12.95
Wall Thickness, Nominal (in [mm])	0.308	7.82
Inside Diameter, Nominal (in [mm])	2.259	57.38
API Drift Diameter (in [mm])	2.165	55.00
Upset-End Diameter, Minimum (in [mm])	N/A	N/A
Upset-End Length, Maximum (in [mm])	N/A	N/A
Cross Sectional Area, Nominal (sq.in. [sq.mm])	2.484	1602.58
Pipe Load Capacities		
Tensile Yield (lbf [N])	273,200	1,215,254
Internal Yield Pressure (psi [kPa])	20,620	142,170
Collapse Pressure (psi [kPa])	21,040	145,066
Torsional Yield (lbf-ft [N.m])	15,270	20,700
Hydrostatic Test Pressure (psi [kPa])	10,000	68,948
Bending rate (°/100 ft [°/30 m])	175	173
Connection Dimensions		
Connection OD (in [mm])	3.525	89.54
Special Clearance** OD (in [mm])	3.312	84.12
Connection ID (in [mm])	2.200	55.88
Tool-Joint Length (in [mm])	9.000	228.60
Make-up Loss (in [mm])	2.991	75.97
Threads per Inch (pitch [mm]	6.000	4.23
Connection Torque Capacities		
Low Shoulder Torque (lbf-ft[ N.m])	370	500
High Shoulder Torque (lbf-ft[ N.m])	1,850	2,510
Minimum Make-up Torque (lbf-ft[ N.m])	2,000	2,710
Optimum Make-up Torque (lbf-ft [N.m])	4,250	5,760
Maximum Make-up Torque (lbf-ft [N.m])	6,500	8,810
Rotating Torque* (lbf-ft [N.m])	15,200	20,610
Yield Torque (lbf-ft [N.m]) * AS RESTRICTED BY WORKOVER RIG EQUIPMENT (POWER SWIVEL	16,900	22,910

SIZE: 2.875 inch [73.03 mm] WEIGHT: 8.7 lbm/ft [12.95 kg/m] GRADE: P-110 \_\_\_\_\_

Double-Shoulder = Ultra High Torque, Deep-Stabbing = Self-Aligning, Double-Start = Fast-Makeup, Hook-Thread = No-Jumpouts, Single or Double Hardbanded = Xtra-Long Wear-Life, equipped with 3/4 inch wide hardband on box or both ends

Connection Load Capacities	
Tensile Efficiency (% of pipe body)	121
Internal Yield Pressure (psi)	36,180
External Yield pressure (psi)	33,580
Leak Resistance Pressure (psi)	radial m2m seal
Compression Efficiency (% of pipe body)	121
Torque Efficiency (% of pipe body)	111
Bending Strength Ratio (BSR)	1.19



\* AS RESTRICTED BY WORKOVER RIG EQUIPMENT (POWER SWIVEL, TOP DRIVE OR ROTARY TABLE) \*\* Listed Rotating / Yield Torques and Connection Load Capacities have to be recalculated for Special Clearance OD.

Material is EMI/SEA inspected to 5% notch, over OD/ID, long/trans and wall thickness orientations, per API/ASTM requirements.

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