

SPEARHEAD

Hi-Torque Fast-Running Xtended-Reach Workover Connection

GRADE: P-110

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])	2.375	60.33
Weight, Nominal (lbm/ft [kg/m])	5.95	8.85
Wall Thickness, Nominal (in [mm])	0.254	6.45
Inside Diameter, Nominal (in [mm])	1.867	47.42
API Drift Diameter (in [mm])	1.773	45.04
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])	1.692	1091.61
Pipe Load Capacities		
Tensile Yield (lbf [N])	186,100	827,814
Internal Yield Pressure (psi [kPa])	20,590	141,963
Collapse Pressure (psi [kPa])	21,010	144,859
Torsional Yield (lbf-ft [N.m])	8,600	11,660
Hydrostatic Test Pressure (psi [kPa])	10,000	68,948
Bending rate (º/100 ft [º/30 m])	212	209
Connection Dimensions		
Connection OD (in [mm])	3.000	76.20
Special Clearance** OD (in [mm])	2.782	70.66
Connection ID (in [mm])	1.805	45.85
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])	300	410
High Shoulder Torque (lbf-ft[N.m])	1,500	2,030
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])	8,600	11,660
Yield Torque (lbf-ft [N.m])	9,100	12,340

^{*} 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.

SIZE: 2.375 inch [60.33 mm] WEIGHT: 5.95 lbm/ft [8.85 kg/m]

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)	115	
Internal Yield Pressure (psi)	38,340	
External Yield pressure (psi)	35,090	
Leak Resistance Pressure (psi)	radial m2m seal	
Compression Efficiency (% of pipe body)	115	
Torque Efficiency (% of pipe body)	106	
Bending Strength Ratio (BSR)	1.50	



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