ARTIFICIAL LIFT SOLUTIONS TECH SPECS

T66/XD[™] Sucker Rod

High-strength endurance for enhanced stress tolerance in challenging wells

Applications

- Reciprocating rod lift systems
- PCP lift systems
- Deep, highly loaded wells in mildly corrosive environments¹

Features and Benefits

- Normalized and tempered hardness for added strength in challenging applications
- Shot-peen treated for enhanced fatigue life
- Special-chemistry blend adds resistance to sulfide-stress cracking

Tool Description

The Weatherford T66/XD sucker rods are manufactured with 4138M chromium-molybdenum, HA grade alloy steel is specifically designed for highly loaded applications within deep, inhibited, mildly corrosive wells. They are a proven intermediate solution between API DA grades and any ultrahigh-strength rods. T66/XD sucker rods are composed of a special-chemistry blend for added resistance to sulfide-stress cracking. T66/XD sucker rods can handle the toughest downhole stresses and are proven to decelerate fatigue propagation by up to 10 times. This makes the T66/XD sucker rod a top choice for reliable pumping conditions in high-stress applications. T66/XD rods feature fully rolled, cold-formed threads for a precise and smooth, reinforced thread structure. Each T66/XD sucker rod is also liberally coated with atmospheric inhibitors and carefully palletized in bundles for safe transport and handling.



Weatherford T66/XD sucker rods provide enhanced fatigue resistance for superior performance in deep, challenging wells.



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Specifications

	Description					
ID	Nominal size	0.750 (19.05)	0.875 (22.23)	1.000 (25.40)	1.125 (28.58)	
D_R	Rod body diameter	0.730 (13.03)				
Ds	Pin shoulder OD	1.500 (38.10)	1.625 (41.28)	2.000 (50.80)	2.250 (57.15)	
D _T	Nominal thread diameter	1.063 (26.99)	1.187 (30.16)	1.375 (34.93)	1.562 (39.69)	
Li	Pin length	1.43 (36.51)	1.62 (41.28)	1.87 (47.63)	2.125 (53.98)	
Ws	Wrench square width	1.00 (25.40)		1.313 (33.34)	1.500 (38.10)	
L _{WS}	Wrench square length	1.25 (31.75)			1.63 (41.28)	
D _B	Bead diameter	1.40 (35.72)	1.50 (38.1)	1.90 (48.42)	2.187 (55.63)	
Dı	Stress relief diameter	0.915 (23.24)	1.04 (26.42)	1.22 (31.17)	1.414 (35.92)	
L _R	Sucker rod length	25 and 30 ft (7.62 and 9.144 m)				
L _P	Pony rod length	2, 4, 6, 8, 10 ft (.6, 1.2 ,1.8, 2.4, 3 m)				
L _C	Coupling OD, SH	4.00 ft (101.6 m)				
C _{OD}	Coupling OD, SH	1.50 (38.10)	1.625 (41.30)	2.00 (80.80)	2.25 (53.0)	
C _{OD}	Coupling OD, FH	1.625 (41.30)	1.812 (46.00)	2.187 (55.60)	2.375 (60.30)	
~ 25-ft rod weight w/o coupling		38.5 lbs (17.5 kg)	52.0 lbs (23.6 kg)	69.9 lbs (31.7 kg)	88.7 lbs (40.2 kg)	
~ 25-ft rod weight w/FH coupling		40.0 lbs (18.1 kg)	53.8 lbs (24.4 kg)	72.5 lbs (32.9 kg)	91.8 lbs (41.6 kg)	
	~ 25-ft rod weight w/SH coupling	39.8 lbs (18.1 kg)	53.5 lbs (24.3 kg)	71.9 lbs (32.6 kg)	91.17 lbs (41.35 kg)	

Chemical Composition

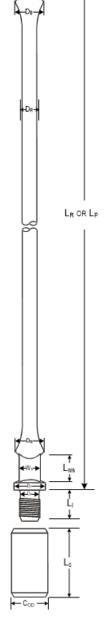
Material	C %	Mn %	Si %	Ph %	S %	Cr %	Ni %	Mo %	Other %
4138M	0.38 to 0.42	1.00 to 1.30	0.20 to 0.35	0.035 Max	0.040 Max	0.55 to 0.85	0.30 Max	0.24 to 0.32	0.35 Mx Cu 0.08 to 0.11 Va

Mechanical Properties²

API	Yield Strength	Tensile Strength	Elongation %	Reduction %	Heat
Grade	ksi (MPa)	ksi (MPa)	(8-in.) in.		Treatment
HA Alloy	105 (724)	140 to 155 (965 to 1,069)	10 Min	40 Min	Normalized and Tempered

Maximum Allowed Stress Calculation

 $(T/2.8 + 0.375 S_{MIN}) * SF$





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 $^{^{\}rm 1}$ Provided satisfactory corrosion-inhibiting practices are followed.

²Weatherford recommends applying a service factor to the specified-torque limit based on operating conditions. Please refer to Weatherford engineering bulletin TB-135 for further guidance on torque limits.