QX30™ Sucker Rod

Extreme toughness and fatigue resistance in rod lift and PCP systems

Applications

- Reciprocating rod lift systems
- PCP systems
- Deep, highly loaded wells in mildly corrosive applications[1]

Features and Benefits

- Extreme toughness for severe and demanding applications
- Finer grain structure provides enhanced fatigue resistance

Tool Description

The Weatherford QX30 sucker rods are manufacturing with 30CroMoA chrome-moly, API grade HA alloy steel and designed for highly loaded applications within inhibited, moderately to severely corrosive wells. They are part of the Weatherford high-strength series rods and undergo a quench and tempered process that is shown that is shown to improve fatigue-crack resistance compared to conventional treatments. QX30 sucker rods provide a Charpy impact value that is 7X greater than normalized and tempered HS-grade rods. Thes rods feature fully rolled, cold-formed threads designed to provide a precise, smooth, reinforced thread structure unattained by normal machine-cut threads.

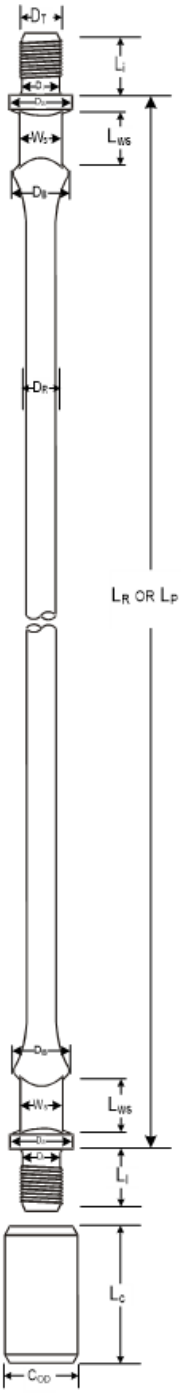
Weatherford QX30 sucker rods are quenched and tempered rod yields a tougher, more uniform tempered martensite microstructure which results in better fatigue life.

Weatherford®

QX30™ Sucker Rod

Specifications

	Description	in. (mm)			
ID	Nominal size	0.750 (19.05)	0.875 (22.23)	1.000 (25.40)	1.125 (28.58)
D_R	Rod body diameter				
D_S	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)
L_I	Pin length	1.43 (36.51)	1.62 (41.28)	1.87 (47.63)	2.125 (53.98)
W_S	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)
D_I	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 %	Cu %	Cr %	Ni %	Mo %
30CroMoA	0.26 to 0.33	0.40 to 0.70	0.17 to 0.37	0.025 Max	0.20 Max	0.20 Max	0.80 to 1.10	0.30 Max	0.15 to 0.25

Mechanical Properties

API Grade	Yield Strength ksi (MPa)	Tensile Strength ksi (MPa)	Elongation % (8-in.) in.	Reduction %	Heat Treatment
HA Alloy	120 (827)	140 to 155 (965 to 1,069)	10 Min	40 Min	Quenched and Tempered

Maximum Allowed Stress Calculation

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

[1] Provided satisfactory corrosion-inhibiting practices are followed.
[2] Weatherford 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.

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