# QX30<sup>™</sup> 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<sup>1</sup>

### 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 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.



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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 <sub>R</sub>	Rod body diameter	0.750 (19.05)	0.873 (22.23)	1.000 (23.40)	1.123 (20.30)		
D <sub>S</sub>	Pin shoulder OD	1.500 (38.10)	1.625 (41.28)	2.000 (50.80)	2.250 (57.15)		
DT	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)		
Lws	Wrench square length		1.25 (31.75)		1.63 (41.28)		
D <sub>B</sub>	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 <sub>R</sub>	Sucker rod length	25 and 30 ft (7.62 and 9.144 m)					
Ŀ	Pony rod length		2, 4, 6, 8, 10 ft (0.6, 1.2 ,1.8, 2.4, 3 m)				
Lc	Coupling OD, SH	4.00 ft (101.6 m)					
C <sub>OD</sub>	Coupling OD, SH	1.50 (38.10)	1.625 (41.30)	2.00 (80.80)	2.25 (53.0)		
C <sub>OD</sub>	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 39.8 lt w/SH coupling (18.1 k		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	Yield Strength	Tensile Strength	Elongation %	Reduction %	Heat
Grade	ksi (MPa)	ksi (MPa)	(8-in.) in.		Treatment
HA Alloy	120 (827)	140 to 155 (965 to 1,069)	10 Min	40 Min	Quenched and Tempered

## Specified Torque Limit<sup>2</sup>

Rod Size in. (mm)	0.750 (19.05)	0.875 (22.23)	1.000 (25.40) <sup>3</sup>	1.125 (28.58)
ft-lbs (Nm)	575 (780)	915 (1,241)	1,365 (1,851)	1,945 (2,637)

# Maximum Allowed Stress Calculation

#### (T/2.8 + 0.375 Smin) \* SF

<sup>1</sup> Provided satisfactory corrosion-inhibiting practices are followed.

<sup>2</sup> Provide Satisfactory Controlling induces are nonweu.
<sup>2</sup> Weatherford recommends Hi-T couplings and applying a service factor to the specified-torque limit based on operating conditions.
<sup>3</sup> Please refer to Weatherford engineering bulletin TB-135 for further guidance on torque limits.
<sup>3</sup> 1.00 QX30 rods also provided with Modified pin, torque rating: 1365 ft-lb/1851 N-M.

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