KDP[™] Sucker Rod

Increase uptime in challenging wells

Applications

- Reciprocating rod lift and PCP systems
- Medium- to heavy-load applications¹

Features and Benefits

- 4333MV special nickel-chromium molybdenum alloy steel for effective performance in corrosive environments
- API Grade DS special rating for improved corrosion resistance
- Optimized tensile strength provides reliable durability in wells requiring aggressive pump-applications
- Enhanced load tolerance for reaching deep, severe, and demanding wells
- Improved yield strength resists fracture propagation
- Enhanced shot-peened surface extends fatigue life

Tool Description

Weatherford KDP sucker rods are manufactured from AISI 4333MV special nickel- chromium molybdenum, API Grade DS special alloy steel, and designed for medium- to heavy-load applications within moderately inhibited corrosive wells. They are engineered as an impact-resistant sucker rod with improved mechanical properties for managing wells that require aggressive pumping under heavy loads. KDP sucker rods have the highest impact values when compared with next-best alternative rods. Engineered as an impact-resistant sucker rod with improved mechanical properties, KDP sucker rods manage challenging wells that require aggressive pumping. KDP sucker rods move through a proven shot-peen process that increases fatigue life. Each rod features fully rolled, cold-formed threads and reinforced structure that delivers a smooth, precision fit unattained by conventional rods with machine-cut threads.



Weatherford KDP sucker rods provide superior strength and long-lasting durability in heavy-load wells.



KDP[™] Sucker Rod

Specifications

	Description	in. (mm)					
ID	Nominal size	0.750 (10.05)	0 975 (22 22)	1 000 (25 40)	1 125 (29 59)		
D _R	Rod body diameter	0.750 (19.05)	0.875 (22.25)	1.000 (25.40)	1.125 (28.56)		
Ds	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)		
DB	Bead diameter	1.40 (35.72)	1.50 (38.1)	1.90 (48.42)	2.187 (55.63)		
DI	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 (101.6)					
COD	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 %	Ph %	S %	Si %	Ni %	Cr %	Mo %	Other %
4333MV	0.30 to 0.35	0.70 to 0.90	0.025 Max	0.025 Max	0.20 to 0.35	1.40 to 1.60	0.85 to 1.10	0.15 to 0.25	0.35 Max Cu/ 0.07 to 0.10 Va

Mechanical Properties

API	Yield Strength	Tensile Strength	Elongation %	Reduction %	Heat
Grade	ksi (Kpa)	ksi (MPa)	8 in. (in.)		Treatment
DS Special	100 (689)	125 to 140 (861 to 965)	14 Min	50 Min	Normalized and Tempered

Maximum Allowed Stress Calculation

(T/2.8 + .375 Smin) * SF

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

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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