

Sucker rods & Polished rods

SUCKER RODS & PONY RODS

Sucker rods were designed to transmit the vertical movement from the pump jack to the down-hole reciprocating pump. In that configuration the rods undergo a sole axial cyclic loading.

The same rods are used in conjunction with the PCP to transmit the rotational movement from the surface drive system to the rotor of the down-hole pump.

In this new configuration the forces exerted on the rods are different.

They consist of:

- an axial load which, instead of being cyclic, is constant,
- a torque which transmits the rotational movement and is also constant.

These forces combine to induce a stress in the rods. This stress must be kept under a maximum allowable value to prevent rod failures.

The maximum stress is reached at the top of the rod string. It is this maximum value which matters.

Rod size	Maximum recommended torque (ft-lbs)	
	Grade D. Alloy (78)	Grade D. Alloy (75)
3/4"	460	470 *
7/8"	735	750 *
1"	1 100	1 100 *
1" with 7/8" pins	1 100	1 100 *
1 1/8"	1 570 *	1 590 *
1 1/4" with 1" pins	2 000 *	2 100

*Available on special request



Courtesy of Alberta Oil Tools

Lengths available are in 2', 4', 6', 8', 10', 25'.

It is recommended to use a 120 % safety factor to maximize rod fatigue life. Correct sucker rod make up is critical to the operation of a progressing Cavity Pump installation.

PCM recommends to use 78 API grade D drive rods, which are designed for heavy loads in mild to medium corrosive fluids that are effectively inhibited against corrosion. Type 78 rods are alloyed with Chromium and Molybdenium.

75 API grade D can be used for heavy loads in severely corrosive fluids that are effectively inhibited against corrosion. Type 75 rods are alloyed with Nickel, Chromium and Molybdenium.



POLISHED RODS

Rod size	Maxi allowable Torque		
	Threads pin x pin	Piston (C 1045)	4140 Alloy
1 1/4"	1" 3/16	1 800	1 800 *
1 1/2"	1" 3/8	2 800	2 800 *

*Available on special request

Lengths available are in 1 1/4": 11', 22', 26', 36'
 in 1 1/2": 11', 22', 26', 36'

COUPLINGS

PCM provides a various range of API threaded couplings to connect rotor, pony rods, sucker rods, centralizer spindle, polished rods, drivehead shafts...

size	3/4"	7/8"	1"	1 1/8"
3/4"	FS	FS	FS	non available
7/8"		FS , SH	FS , SH	FS
1"			FS , SH	FS , SH
1 1/8"				FS , SH

FS = Full Size
 SH = Slim Hole