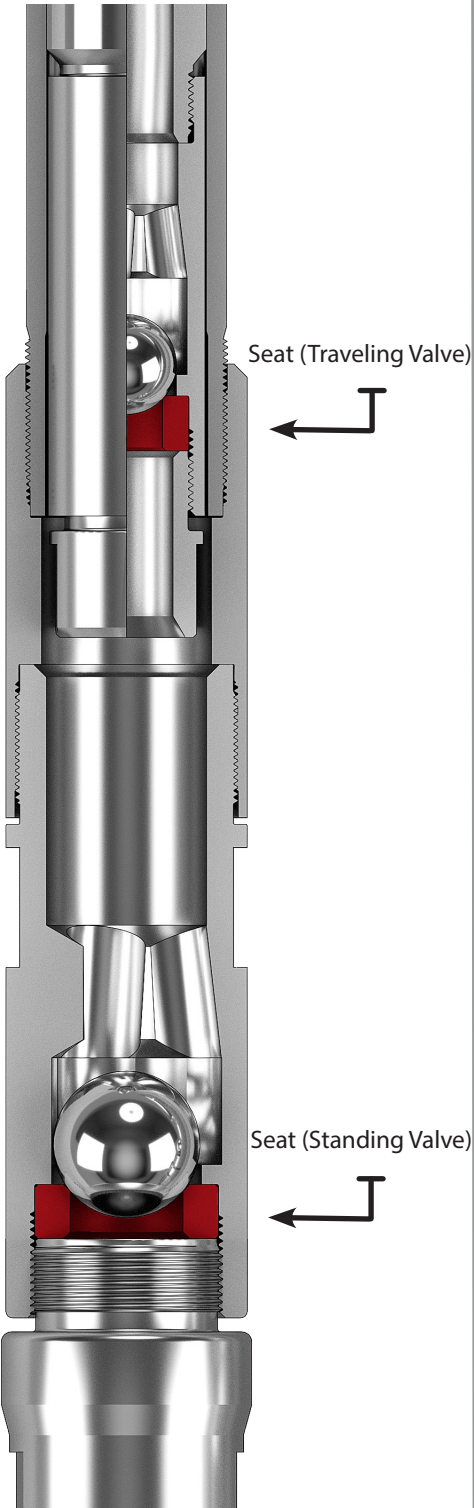


Seats

Sucker rod pump valves



Seats and Balls work together as the primary fluid seal in rod pump valves. Sucker rod pumps may have multiple valves, but every valve will consist of one Ball and one corresponding Seat.

Due to the varying and unique conditions present in each well, the correct combination of Ball and Seat is a key success factor when working under high hydraulic pressure. Selecting the right material and design for Balls and Seats is a crucial process to guarantee its long service life cycle. Don-Nan offers a broad range of material options to satisfy individual customer's needs: Stainless Steel, Alloy, Titanium Carbide, Tungsten Carbide, Nickel Carbide, and Silicon Nitride (Balls only).



Seat

Materials Available For Balls And Seats

Stainless Steel- Oil quenched and tempered are made from a series 400C stainless steel.

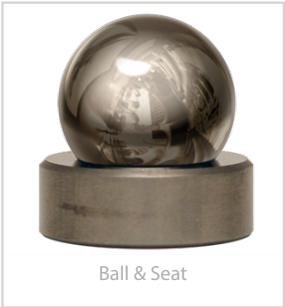
Alloy- Non-ferrous, non-magnetic cobalt-chromium tungsten alloy in which very hard, microscopic carbides are uniformly distributed in a tough, shock resistant matrix.

Titanium Carbide- A powdered metal material, not a cast material as found in alloy, this ball is homogenous throughout, the outside skin is the same as its core, one of the reasons it earns a Rockwell hardness rating of 90.

Tungsten Carbide- Excellent abrasion and corrosion resistant properties, carbide balls and seats are recommended for the most abrasive fluids.

Nickel Carbide- This material suited for more impact when compared to other Nickel grades.

Silicon Nitride (Durable)- Si3N4 is light, hard and has low thermal expansion coefficient. It has high mechanical strength, fracture toughness, and it is resistant to deformation.



Ball & Seat

Balls & Seats	Corrosion	Strength
Stainless Steel	●●○○○	●○○○○
Cobalt Alloy	●●●○○	●●●○○
Titanium Carbide	●●●●○	●●●●○
Tungsten Carbide	●●●●○	●●●●●
Nickel Carbide	●●●●●	●●●●○
Silicon Nitride (Balls only)	●●●●●	●●●●●