

Sucker Rods and Couplings

Enhanced quality with Schlumberger manufacturing standards

Sucker and pony rods for rod pumps

Schlumberger sucker rods are available in 25-ft and 30-ft lengths. Pony rods are available in lengths of 2, 4, 6, 8, and 10 ft.

Rods are manufactured, heat-treated, and tested at the same facility according to our stringent quality assurance procedures and exceed the requirements for API Spec 11B certification for applicable grades.



API-certified sucker rod.

Sucker and Pony Rod Specifications

Grade	K	DA	DS	HA	HS
Steel type	4621M	4142M	4320M	4138M	4330M
Chemical composition, %					
Aluminum (Al)	0.035 max.	0.035 max.	0.035 max.	0.035 max.	0.035 max.
Carbon (C)	0.18–0.25	0.40–0.45	0.18–0.23	0.36–0.45	0.28–0.35
Chromium (Cr)	0.25 max.	0.90–1.10	0.70–0.90	0.52–0.88	0.80–1.10
Copper (Cu)	0.35 max.	0.35 max.	0.35 max.	0.35 max.	0.35 max.
Manganese (Mn)	0.60–0.80	0.80–1.00	0.80–1.00	0.90–1.50	0.70–1.00
Molybdenum (Mo)	0.15–0.25	0.15–0.25	0.20–0.30	0.25–0.35	0.20–0.30
Nickel (Ni)	1.65–2.00	0.45 max.	1.15–1.50	0.30 max.	1.65–2.00
Niobium (Nb)	—	—	—	0.02–0.045	—
Phosphorus (P)	0.035 max.	0.035 max.	0.025 max.	0.035 max.	0.025 max.
Silicon (Si)	0.15–0.35	0.15–0.35	0.15–0.35	0.20–0.35	0.15–0.35
Sulfur (S)	0.015 max.	0.015 max.	0.015 max.	0.015 max.	0.015 max.
Vanadium (V)	0.02–0.07	0.06–0.08	0.06–0.08	0.04–0.09	0.04–0.10
Mechanical properties					
Min. yield strength, psi [MPa]	60,000 [414]	85,000 [586]	85,000 [586]	115,000 [793]	115,000 [793]
Tensile strength, psi [MPa]	90,000–115,000 [621–793]	115,000–140,000 [793–965]	115,000–140,000 [793–965]	140,000–155,000 [965–1,069]	140,000–155,000 [965–1,069]
Min. elongation, 8 in, %	13	10	10	10	10
Min. reduction of area, %	50	45	45	45	45
Heat treatment	Normalized and tempered	Normalized and tempered	Normalized and tempered	Normalized and tempered	Normalized and tempered
Color code					
End cap color code	Blue	Yellow	Orange	Green	Purple

Sucker Rods and Couplings

Couplings for rod pumps and PCPs

Schlumberger provides subcouplings, polished rod couplings (to connect a sucker rod and a polished rod), sucker rod couplings (to connect two sucker rods), and couplings for progressing cavity pumps (PCPs). Various grades are available to cover a range of applications.



Sucker rod coupling.

Grade T	General noncorrosive wells
Grade SM	Corrosive or abrasive wells
Grade UHS	High-torque applications, such as PCPs
Grade UHSSM	High-torque applications, such as PCPs, for corrosive or abrasive wells

Coupling Specifications

Grade	T	T	SM	SM	UHS	UHS	UHSSM	UHSSM
Material	5140M	8630M	5140M	8630M	8630M	4140	8630M	4140
Chemical composition, %								
Carbon (C)	0.36–0.44	0.28–0.33	0.36–0.44	0.28–0.33	0.28–0.33	0.38–0.43	0.28–0.33	0.38–0.43
Chromium (Cr)	0.80–1.10	0.40–0.60	0.80–1.10	0.40–0.60	0.40–0.60	0.90–1.10	0.40–0.60	0.90–1.10
Copper (Cu)	0.30 max.	–	0.30 max.	–	–	–	–	–
Manganese (Mn)	0.50–0.80	0.70–0.90	0.50–0.80	0.70–0.90	0.70–0.90	0.75–1.00	0.70–0.90	0.75–1.00
Molybdenum (Mo)	0.15 max.	0.15–0.25	0.15 max.	0.15–0.25	0.15–0.25	0.15–0.25	0.15–0.25	0.15–0.25
Nickel (Ni)	0.30 max.	0.40–0.70	0.30 max.	0.40–0.70	0.40–0.70	–	0.40–0.70	–
Phosphorus (P)	–	0.02 max.	–	0.02 max.	0.02 max.	0.02 max.	0.02 max.	0.02 max.
Silicon (Si)	0.17–0.37	0.15–0.35	0.17–0.37	0.15–0.35	0.15–0.35	0.15–0.35	0.15–0.35	0.15–0.35
Sulfur (S)	0.025 max.	0.020 max.	0.025 max.	0.020 max.	0.020 max.	0.020 max.	0.020 max.	0.020 max.

Mechanical properties

Min. tensile strength, psi [MPa]	95,000 [655]	95,000 [655]	95,000 [655]	95,000 [655]	130,000 [896]	130,000 [896]	130,000 [896]	130,000 [896]
Hardness, HRA	56–62	56–62	56–62	56–62	64–68 [†]	64–68 [†]	64–68 [†]	64–68 [†]
Surface hardness of spray-metal (SM) couplings	–	–	595 HV ₂₀₀ min.	595 HV ₂₀₀ min.	–	–	595 HV ₂₀₀ min.	595 HV ₂₀₀ min.

[†] Or per customer requirements.

Coupling Sizes[†]

Nominal size, in	5/8	3/4	7/8	1	1 1/8
Slimhole-coupling OD, in [mm]	1.250 [31.8]	1.500 [38.10]	1.625 [41.3]	2.000 [50.80]	2.250 [57.15]
Full-size-coupling OD, in [mm]	1.500 [38.10]	1.625 [41.28]	1.812 [46.0]	2.187 [55.6]	2.375 [60.33]

[†] The values in mm are as stated in API Spec 11B. The 2.250-in OD is not included in this Specification.

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