

OK Autrod NiCrMo-3

A continuous solid corrosion and heat-resisting Ni-Cr-Mo wire for welding of high alloyed heat-resisting and corrosion resisting materials, 9%Ni-steels and similar steels with high notch toughness at low temperatures. Also for joining of dissimilar metals of the types mentioned. The weld metal has very good mechanical properties at high and low temperatures. Good resistance to pitting and stress corrosion. This alloy is extensively required for weld cladding of valve components and pipe inner diameters in oil and gas applications.

Specifications

Classifications	SFA/AWS A5.14 : ERNiCrMo-3 EN ISO 18274 : S Ni 6625
Approvals	DNV-GL : 1.2 mm NAKS/HAKC : 1.0-1.2 mm VdTÜV : 12413

Approvals are based on factory location. Please contact ESAB for more information.

Alloy Type	Alloyed nickel (Ni + 22 % Cr + 9 % Mo - 3.5 % Nb)
Shielding Gas	I1, I3, M12 (EN ISO 14175)

Typical Tensile Properties

Condition	Yield Strength	Tensile Strength	Elongation
As Welded	500 MPa (73 ksi)	780 MPa (113 ksi)	45 %
As Welded+	380 MPa (55 ksi)	580 MPa (84 ksi)	48 %
Stress Relieved 15 hour(s) 550 °C (1022 °F)	490 MPa (71 ksi)	796 MPa (115 ksi)	40 %
0.5 hour(s) 1175 °C (2147 °F)	375 MPa (54 ksi)	765 MPa (111 ksi)	46 %
0.5 hour(s) 1175 °C (2147 °F)	270 MPa (39 ksi)	590 MPa (86 ksi)	46 %

Typical Charpy V-Notch Properties

Testing Temperature	Impact Value
20 °C (68 °F)	130 J (96 ft-lb)
-105 °C (-157 °F)	120 J (88.5 ft-lb)
-196 °C (-321 °F)	110 J (81 ft-lb)
20 °C (68 °F)	140 J (103 ft-lb)
-196 °C (-321 °F)	120 J (88.5 ft-lb)
20 °C (68 °F)	185 J (136 ft-lb)
-105 °C (-157 °F)	170 J (125 ft-lb)
-196 °C (-321 °F)	150 J (111 ft-lb)

Typical Wire Composition %

C	Mn	Si	Ni	Cr	Mo	Fe	Nb+Ta
0.02	0.04	0.06	Bal	22.7	8.6	0.3	3.5

Deposition Data

Diameter	Current	Voltage	Wire Feed Speed	Deposition Rate
0.9 mm (0.035 in.)	80-190 A	20-27 V	5.0-16.0 m/min (197-630 in./min)	2.0-4.2 kg/h (4.4-9.3 lbs/h)
1.0 mm (0.040 in.)	100-200 A	21-27 V	6.0-13.0 m/min (236-512 in./min)	2.5-5.5 kg/h (5.5-12. lbs/h)
1.14 mm (0.045 in.)	130-240 A	22-28 V	6.0-12.0 m/min (236-472 in./min)	3.0-5.7 kg/h (6.6-12. lbs/h)

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Deposition Data

Diameter	Current	Voltage	Wire Feed Speed	Deposition Rate
1.2 mm (0.047 in.)	160-280 A	24-30 V	6.0-10.0 m/min (236-394 in./min)	3.6-6.0 kg/h (7.9-13. lbs/h)
1.6 mm (1/16 in.)	200-350 A	25-32 V	4.0-8.0 m/min (157-315 in./min)	4.3-8.6 kg/h (9.5-19. lbs/h)