

OK Autrod 318Si

A continuous solid corrosion resisting stabilized chromium-nickel-molybdenum wire for welding of Cr-Ni-Mo and Cr-Ni stabilized or non-stabilized steels. OK Autrod 318Si has a good general corrosion resistance. The alloy is stabilized with niobium to improve the resistance against intergranular corrosion of the weld metal. The higher silicon content improves the welding properties, such as wetting. Due to stabilization of niobium this alloy is recommended for service temperatures up to 400 °C.

Specifications

Classifications	EN ISO 14343-A : G 19 12 3 Nb Si SFA/AWS A5.9 : ER318 (mod) Werkstoffnummer : ~1.4576
Approvals	CE : EN 13479 DB : 43.039.14 NAKS/HAKC : 1.2MM VdTÜV : 09735

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

Alloy Type	Austenitic (with approx. 7 % ferrite) 19% Cr - 12% Ni - 3 % Mo - Nb
Shielding Gas	M12, M13 (EN ISO 14175)

Typical Tensile Properties

Condition	Yield Strength	Tensile Strength	Elongation
As Welded	460 MPa (67 ksi)	615 MPa (89 ksi)	35 %
Tested at 400°C.			
As Welded	400 MPa (58 ksi)	540 MPa (78 ksi)	35 %

Typical Charpy V-Notch Properties

Condition	Testing Temperature	Impact Value
As Welded	20 °C (68 °F)	100 J (74 ft-lb)
As Welded	-60 °C (-76 °F)	70 J (52 ft-lb)

Typical Wire Composition %

C	Mn	Si	Ni	Cr	Mo	Cu	Nb
0.05	1.7	0.8	11.9	18.8	2.60	0.10	0.50

Typical Weld Metal Analysis %

C	Mn	Si	S	P	Ni	Cr	Mo	Cu	Nb
0.04	1.3	0.8	0.010	0.015	12	19	2.8	0.1	0.7

Deposition Data

Diameter	Current	Voltage	Wire Feed Speed	Deposition Rate
0.8 mm (0.030 in.)	55-160 A	15-24 V	4.0-17.0 m/min (157-669 in./min)	1.0-4.1 kg/h (2.2-9.0 lbs/h)
1.0 mm (0.040 in.)	80-240 A	15-28 V	4.0-16.0 m/min (157-630 in./min)	1.5-6.0 kg/h (3.3-13. lbs/h)
1.2 mm (0.047 in.)	100-300 A	15-29 V	3.0-14.0 m/min (118-551 in./min)	1.6-7.5 kg/h (3.5-16. lbs/h)