

OK Autrod 309LSi

A continuous solid corrosion resistant chromium-nickel wire for welding of similar steels, wrought and cast steels of 23% Cr-12% Ni types. The alloy is also used for welding of buffer layers on CMn steels and welding of dissimilar joints. When using the wire for buffer layers and dissimilar joints it is necessary to control the dilution of the weld. OK Autrod 309LSi has a good general corrosion resistance. The higher silicon content improves the welding properties, such as wetting.

Specifications

Classifications	EN ISO 14343-A : G 23 12 L Si SFA/AWS A5.9 : ER309LSi
Approvals	CE : EN 13479 CWB : ER309LSi DB : 43.039.16 UKCA : EN 13479 VdTÜV : 10020

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

Alloy Type	Austenitic (with approx. 8 % ferrite) 24 % Cr - 13 % Ni - Low C
Shielding Gas	M12, M13 (EN ISO 14175)

Typical Tensile Properties

Condition	Yield Strength	Tensile Strength	Elongation
As Welded	440 MPa (64 ksi)	600 MPa (87 ksi)	35 %

Typical Charpy V-Notch Properties

Condition	Testing Temperature	Impact Value
As Welded	20 °C (68 °F)	120 J (89 ft-lb)
As Welded	-50 °C (-58 °F)	110 J (81 ft-lb)

Typical Wire Composition %

C	Mn	Si	S	P	Ni	Cr	Mo	Cu	N
0.016	1.9	0.7	0.004	0.019	13.7	23.3	0.1	0.1	0.09

Typical Wire Composition %

FN WRC-92

9

Typical Weld Metal Analysis %

C	Mn	Si	S	P	Ni	Cr	Mo	Cu	N
0.02	1.8	0.7	0.003	0.015	13.5	23	0.1	0.1	0.07

Typical Weld Metal Analysis %

Nb	FN WRC-92
0.01	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)
0.9 mm (0.035 in.)	65-220 A	15-28 V	3.5-18.0 m/min (138-709 in./min)	1.1-5.4 kg/h (2.4-11. 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)

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Deposition Data

Diameter	Current	Voltage	Wire Feed Speed	Deposition Rate
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)
1.6 mm (1/16 in.)	230-375 A	23-31 V	5.5-9.0 m/min (217-354 in./min)	5.2-8.6 kg/h (11.5-19. lbs/h)

Recommended Welding Parameters

Wire Diameter

1.14 mm (0.045 in.)