

OK Autrod 309L

A continuous, solid, corrosion resisting 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 309L has a good general corrosion resistance. When used for joining dissimilar materials the corrosion resistance is of secondary importance.

Specifications

Classifications	EN ISO 14343-A : G 23 12 L SFA/AWS A5.9 : ER309L
Approvals	CE : EN 13479 NAKS/HAKC : 1.0-1.2 mm UKCA : EN 13479

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

Alloy Type	Austenitic (with approx. 9 % 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)	32 %

Typical Charpy V-Notch Properties

Condition	Testing Temperature	Impact Value
As Welded	20 °C (68 °F)	160 J (118 ft-lb)
As Welded	-60 °C (-76 °F)	130 J (96 ft-lb)
As Welded	-110 °C (-166 °F)	90 J (67 ft-lb)

Typical Wire Composition %

C	Mn	Si	Ni	Cr	Mo	Cu	N	FN WRC-92
0.02	1.8	0.4	13.4	23.2	0.10	0.1	0.05	10

Typical Weld Metal Analysis %

C	Mn	Si	S	P	Ni	Cr	Mo	Cu
0.03	1.5	0.4	0.005	0.010	12.5	23.5	0.1	0.1

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)
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)