

OK Autrod 316L

A continuous solid corrosion resisting chromium-nickel-molybdenum wire for welding of austenitic stainless alloys of 18% Cr - 8% Ni and 18% Cr - 10% Ni - 3% Mo-types. OK Autrod 316L has a good general corrosion resistance, particularly against corrosion in acid and chlorinated environments. The alloy has a low carbon content which makes it particularly recommended where there is a risk of intergranular corrosion. The alloy is widely used in the chemical and food processing industries as well as in ship building and various types of architectural structures.

Specifications

Classifications	EN ISO 14343-A : G 19 12 3 L SFA/AWS A5.9 : ER316L Werkstoffnummer : ~1.4430
Approvals	CE : EN 13479 UKCA : EN 13479

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

Alloy Type	Austenitic (with appr. 8 % ferrite) 19 % Cr - 12 % Ni - 3 % Mo - Low C
Shielding Gas	M12, M13 (EN ISO 14175)

Typical Tensile Properties

Condition	Yield Strength	Tensile Strength	Elongation
ISO Tested at 350°C			
As Welded	325 MPa (47 ksi)	445 MPa (65 ksi)	75 %
AWS			
As Welded	430 MPa (62 ksi)	600 MPa (87 ksi)	40 %
AWS Tested at 350°C			
As Welded	330 MPa (48 ksi)	455 MPa (66 ksi)	32 %
ISO			
As Welded	435 MPa (63 ksi)	590 MPa (86 ksi)	31 %

Typical Charpy V-Notch Properties

Testing Temperature	Impact Value
20 °C (68 °F)	110 J (81 ft-lb)
20 °C (68 °F)	120 J (88.5 ft-lb)
-60 °C (-76 °F)	90 J (66 ft-lb)
-60 °C (-76 °F)	95 J (70 ft-lb)
-196 °C (-321 °F)	50 J (67 ft-lb)
-196 °C (-321 °F)	55 J (40.5 ft-lb)

Typical Weld Metal Analysis %

C	Mn	Si	S	P	Ni	Cr	Mo	Cu	N
0.02	1.8	0.4	0.015	0.015	12	18.5	2.7	0.1	0.05

Typical Weld Metal Analysis %

FN WRC-92
7

Typical Wire Composition %

C	Mn	Si	S	P	Ni	Cr	Mo	Cu	N
0.01	1.7	0.4	0.010	0.015	12.0	18.2	2.6	0.10	0.04

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Typical Wire Composition %

FN WRC-92

7

Deposition Data

Diameter	Current	Voltage	Wire Feed Speed	Deposition Rate
0.9 mm (0.035 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)
1.14 mm (0.045 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)
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)