

OK Autrod 316LSi

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 316LSi has a good general corrosion resistance, in particular the alloy has very good resistance 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 higher silicon content improves the welding properties, such as wetting. 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 Si SFA/AWS A5.9 : ER316LSi Werkstoffnummer : ~1.4430
Approvals	ABS : ER316LSi CE : EN 13479 CWB : ER316LSi DB : 43.039.05 DNV-GL : VL 316 L (M13) DNV-GL : VL 316 L (M13) UKCA : EN 13479 VdTÜV : 04268 NAKS/HAKC : 0.8-1.2 mm

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

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

Typical Tensile Properties			
Condition	Yield Strength	Tensile Strength	Elongation
As Welded	400 MPa (58 ksi)	560 MPa (81 ksi)	37 %
Tested at 350°C.			
As Welded	340 MPa (49 ksi)	440 MPa (64 ksi)	26 %

Typical Charpy V-Notch Properties		
Condition	Testing Temperature	Impact Value
As Welded	20 °C (68 °F)	120 J (89 ft-lb)
As Welded	-60 °C (-76 °F)	95 J (70 ft-lb)
As Welded	-110 °C (-166 °F)	70 J (52 ft-lb)
As Welded	-196 °C (-321 °F)	45 J (33 ft-lb)

Typical Wire Composition %						
C	Mn	Si	Ni	Cr	Mo	Cu
0.01	1.8	0.9	12.2	18.4	2.60	0.12

Typical Weld Metal Analysis %								
C	Mn	Si	S	P	Ni	Cr	Mo	Cu
0.02	1.8	0.8	0.015	0.015	12	18.5	2.7	0.1

Deposition Data				
Diameter	Current	Voltage	Wire Feed Speed	Deposition Rate
0.8 mm (0.030 in.)	55-160 A	12-24 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)

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Diameter	Current	Voltage	Wire Feed Speed	Deposition Rate
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)
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

0.6 mm (0.025 in.)

1.14 mm (0.045 in.)