



Product Data Sheet

G 'Gas-shielded metal-arc welding'

OK Autrod 316LSi

Prepared by	Qualified by	Approved by	Reg no	Cancelling	Reg date	Page
Per-Ake Bjornstedt	Tero Borg	Per-Ake Bjornstedt	EN010004	EN009477	2022-06-01	1 (2)

REASON FOR ISSUE

ABS approval added.

GENERAL

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 particularly 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.

Shielding Gas: M12, M13 (EN ISO 14175)

Alloy Type: Austenitic (with approx. 8 % ferrite) 19% Cr - 12% Ni - 3% Mo - Low C - High Si

CLASSIFICATIONS Wire Electrode

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)
VdTÜV 04268

APPROVALS (SPECIFIC)

NAKS/HAKC 0.8-1.2 mm

APPROVAL COMMENT

Valid for lot numbers starting with PV

CHEMICAL COMPOSITION

All Weld Metal (%) Wire/Strip (%)

	Nom	Min	Max
C	0.02		0.030
Si	0.8	0.65	1.00
Mn	1.8	1.5	2.3
P	0.015		0.030
S	0.015	0.005	0.020
Cr	18.5	18.0	20.0
Ni	12	11.0	13.0
Mo	2.7	2.5	3.0
Cu	0.1		0.5
N			0.110
FN WRC-92		4	12
Others tot			0.50



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MECHANICAL PROPERTIES OF WELD METAL

All Weld Metal

Condition	Rp0.2 [MPa/ksi]		Rm [MPa/ksi]			A5 [%]	
	Min	Typ	Min	Max	Typ	Min	Typ
As welded	320/46	400/58	510/74		560/81	25	37
As welded Tested at 350°C.		340/49			440/64		

Comments:

Condition	Temp [°C/°F]	Charpy V [J/ft-lb]	
		Min	Typ
As welded	20/68 -60/-76 -110/-166 -196/-321		120/89 95/70 70/52 45/33

Comments:

ECONOMICS & CURRENT DATA

Dimension Ø	Current (A)		W	η	H			Feed			U			
	Min	Max			Nom	Nom	Min	Max	Nom	Min	Max	Nom	Min	Max
0.6 mm (0.025 in.)				96.5										
0.8 mm (0.030 in.)	55	160	12	96.5	1.0 kg/h (2.2 lb/h)	4.1 kg/h (9 lb/h)		4.0 m/min (157 in/min)	17.0 m/min (669 in/min)		12	24		
0.9 mm (0.035 in.)	65	220	13	96.5	1.1 kg/h (2.4 lb/h)	5.4 kg/h (11.9 lb/h)		3.5 m/min (138 in/min)	18.0 m/min (709 in/min)		15	28		
1.0 mm (0.040 in.)	80	240	15	96.5	1.5 kg/h (3.3 lb/h)	6.0 kg/h (13.2 lb/h)		4.0 m/min (157 in/min)	16.0 m/min (630 in/min)		15	28		
1.14 mm (0.045 in.)				96.5										
1.2 mm (0.047 in.)	100	300	18	96.5	1.6 kg/h (3.5 lb/h)	7.5 kg/h (16.5 lb/h)		3.0 m/min (118 in/min)	14.0 m/min (551 in/min)		15	29		
1.6 mm (1/16 in.)	230	375	20	96.5	5.2 kg/h (11.5 lb/h)	8.6 kg/h (19 lb/h)		5.5 m/min (217 in/min)	9.0 m/min (354 in/min)		23	31		

- W** = Gas consumption (l/min)
η = Filler metal efficiency (g weld metal x 100 / g wire)(%)
H = Deposition rate (kg weld metal/hour arc time)
Feed = Wire feed speed (m/min)
U = Arc voltage (V)