



Product Data Sheet

G 'Gas-shielded metal-arc welding'

OK Autrod 316LSi

Signed by MALI	Approved by Per-Åke Pettersson/Christos Skodras	Reg no EN004118	Cancelling EN003836	Reg date 2007-09-19	Page 1 (2)
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REASON FOR ISSUE

EN 12072 replaced by EN ISO 14343.

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 (EN439)

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

CLASSIFICATIONS Wire Electrode

EN ISO 14343 G 19 12 3 LSi
SFA/AWS A5.9 ER316LSi
Werkstoffnummer ~1.4430

APPROVALS

CE EN 13479
CWB AWS A5.9 (Item no
 ending with A)
DB 43.039.05
DNV 316L (-120 °C)
VdTÜV 04268

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		0.3
N			0.08
Others tot			0.50



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MECHANICAL PROPERTIES OF WELD METAL

All Weld Metal

Properties	As welded		SHT 1050°C 0.5h	Tested at 350°C.		Tested at 350°C.	
	Min	Typ	Typ	As welded	SHT 1050°C 0.5h	As welded	SHT 1050°C 0.5h
Rp0.2 (MPa)	320	440	350	340	250	340	250
Rm (MPa)	510	620	590	440	430	440	430
A4-A5 (%)	25	37	42	26	31	26	31
Charpy V at 20°C (J)		120	110				
Charpy V at -60°C (J)		95	90				
Charpy V at -196°C (J)		55	50				

ECONOMICS & CURRENT DATA

Dimension (mm)	Current (A)		W	η	H		Feed		U		
	Min	Max			Nom	Nom	Min	Max	Min	Max	Min
\emptyset											
0.6											
0.8	55	160	12		1.0	4.1	4.0	17.0	12	24	
0.9	65	220	13		1.1	5.4	3.5	18.0	15	28	
1.0	80	240	15		1.5	6.0	4.0	16.0	15	28	
1.14											
1.2	100	300	18		1.6	7.5	3.0	14.0	15	29	
1.6	230	375	20		5.2	8.6	5.5	9.0	23	31	

W = Gas consumption (l / min)

η = Recovery, g weld metal / 100g wire (%)

H = Deposit rate (kg weld metal / hour arc time)

Feed = Feeding rate (m/min)

U = Arc voltage (V)