

EXATON Product Data Sheet

G 'Gas-shielded metal-arc welding'

Exaton 19.9.LSi

Prepared by	Qualified by	Approved by	Reg no	Cancelling	Reg date	Page
Per-Ake Bjornstedt	P-O Oskarsson	Per-Ake Bjornstedt	EN008878	EN008813	2020-01-20	1 (2)

REASON FOR ISSUE

Product name and Classification amended.

GENERAL

19.9.LSi is a filler metal particularly suited for MIG/MAG welding. It is suitable for joining stainless steels of the 18Cr/8Ni ELC-type and 18Cr/8Ni/Nb type for service temperatures up to 350°C (660°F).

Shielding Gas: M11, M12 (EN ISO 14175)

Alloy Type: Austenitic (with approx. 8 % ferrite) 19% Cr - 9% Ni - Low C - High Si

CLASSIFICATIONS Wire Electrode

APPROVALS

EN ISO 14343-A	G 19 9 L Si	CE	EN 13479
SFA/AWS A5.9	ER308LSi	DB	43.118.01
Werkstoffnummer	1.4316	VdTÜV	00065

CHEMICAL COMPOSITION

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

	Nom	Min	Max	Nom
C	0.02		0.025	0.013
Si	0.7	0.7	1.0	0.9
Mn	1.7	1.4	2.1	1.8
P	0.020		0.025	0.021
S	0.010		0.015	0.011
Cr	19.6	19.5	21	20
Ni	10.3	9.0	11.0	10
Mo	0.02		0.5	0.2
Co			0.20	0.10
Nb	0.01		0.05	0.01
Cu	0.13		0.3	0.2
Ti				0.004
N	0.06	0.05	0.08	0.06
FN WRC-92	8			9

MECHANICAL PROPERTIES OF WELD METAL

All Weld Metal

Properties	As welded		As welded
	Min	Typ	Typ
Rp0.2 (MPa)	320	390	290
Rm (MPa)	520	600	440
A5 (%)	35	42	24
Z (%)		60	
Charpy V at 20°C (J)		135	
Charpy V at -196°C (J)		50	
Charpy V at -269°C (J)		>= 40	
Comments:			Comments: Achieved results during testing at 400°C

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ECONOMICS & CURRENT DATA

Dimension (mm)	Current (A)		W	η	H		Feed		U	
$\emptyset$	Min	Max	Nom	Nom	Min	Max	Min	Max	Min	Max
0.8	40	120	12.0				4	8	15	19
1.0	60	220	12-18				4	12	15	28
1.2	150	260	18.0				3	10	24	29
1.6	230	350	18.0				3	5	25	30

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)

OTHER DATA

CORROSION RESISTANCE: Exaton 19.9.LSi has good resistance to general corrosion and due to its low carbon content, good resistance to intergranular corrosion. Example: Huey test for MIG weld metal (5 x 48 hours in boiling 65% HNO₃). Rate of corrosion mean value, 0.13 mm/year.

RECOMMENDED WELDING DATA:

Electrode positive is used to give good penetration in all types of welded joint.

Exaton can provide recommendations for shielding gases.

Short-arc welding is used with light gauge material of less than about 3 mm, in depositing root runs, and in welding out-of-flat positions.

The higher the inductance in short-arc welding, the higher the fluidity of the molten pool.

Spray-arc welding is normally used for heavier gauge material.

WELD METAL CHARACTERISTICS: Austenitic matrix with a ferrite content of about 8FN according to WRC-92 diagram.

Hardness, Vickers: 160HV