EXATON Product Data Sheet

G 'Gas-shielded metal-arc welding'

Exaton 19.12.3.LSi

Prepared by	Qualified by	Approved by	Reg no	Cancelling	Reg date	Page
Per-Ake Bjornstedt	P-O Oskarsson	Per-Ake Bjornstedt	EN008874	EN008453	2020-01-20	1 (2)

REASON FOR ISSUE

Product name and Classification amended.

GENERAL

19.12.3.LSi is used for welding of austenitic stainless alloys of 18% Cr - 8% Ni and 18% Cr - 10% Ni - 3% Mo-types, stabilized or non-stabilized, e.g. ASTM 316, 316L and 316Ti as well as 304, 304L, 321 and 347, for service temperatures up to 400°C (750°F). It is also used for welding of stainless Cr-steels with max 19% Cr. It is used for MIG/MAG welding.

Shielding Gas: M12, M13 (EN ISO 14175)

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

CLASSIFICATIONS Wire Electrode		APPROVALS	
EN ISO 14343-A	G 19 12 3 L Si	CE	EN 13479
SFA/AWS A5.9	ER316LSi	DB	43.118.07
Werkstoffnummer	1.4430	VdTÜV	02367

CHEMICAL COMPOSITION

	Wire/Strip (%)
	Nom
C	<0.025
Si	0.9
Mn	1.8
P	<0.025
S	<0.015
Cr	18.5
Ni	12
Mo	2.6
N	<0.06

MECHANICAL PROPERTIES OF WELD METAL

	All Weld Metal
	As welded
Properties	**Typ**
Rp0.2 (MPa)	400
Rm (MPa)	610
A5 (%)	37
Z (%)	68
Charpy V at 20°C (J)	130
Charpy V at -196°C (J)	50

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ECONOMICS & CURRENT DATA

Dimension (mm)	Current (A)		W	η	H		Feed		U	
Ø	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: 19.12.3LSi has good resistance to general corrosion and due to its low carbon content, good resistance to intercrystalline corrosion. It also has good resistance to pitting corrosion due to the balanced molybdenum content. Example: Pitting corrosion test. Three days in 1% FeCl3 at 20°C (68°F), no corrosion observed.

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.

MICROSTRUCTURE - ALL-WELD METAL: Austenitic matrix with a ferrite content of about 9FN according to DeLong.