

EXATON Product Data Sheet

G 'Gas-shielded metal-arc welding'

Exaton 25.10.4.L

Prepared by	Qualified by	Approved by	Reg no	Cancelling	Reg date	Page
Per-Ake Bjornstedt	P-O Oskarsson	Per-Ake Bjornstedt	EN008889	EN008787	2020-01-20	1 (2)

REASON FOR ISSUE

Product name changed from Sandvik to Exaton.

GENERAL

25.10.4.L is used for welding of Exaton SAF 2507 and other super-duplex steels. The grade is characterized by excellent resistance to stress corrosion in chloride-bearing environments and excellent resistance to pitting and crevice corrosion.

25.10.4.L can also be used for welding Exaton SAF 2205 and corresponding duplex steels when the highest possible corrosion resistance is required. It is used for MIG/MAG welding.

CLASSIFICATIONS Wire Electrode

EN ISO 14343-A G 25 9 4 N L
SFA/AWS A5.9 ER2594
Werkstoffnummer 1.4410*

APPROVALS

CE EN 13479
DNV-GL Duplex steel*

APPROVAL COMMENT

* For MIG welding of ferritic-austenitic stainless steels

CHEMICAL COMPOSITION

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

	Max	Nom	Min	Max	Nom
C	0.020	0.01		0.020	0.012
Si		0.4	0.2	0.5	0.3
Mn		0.4	0.3	0.7	0.4
P		0.02		0.020	0.015
S	0.015	0.001		0.015	0.0005
Cr		25	24	26	25
Ni		9.5	9	10.5	9.5
Mo		3.9	3.5	4.5	4
W		0.01		0.1	0.01
Co					0.04
V					0.05
Nb		0.01		0.05	0.01
Cu		0.1		0.3	0.07
Ti					0.003
N		0.24	0.2	0.3	0.25
PRE		41.7	41.5		42
FN WRC-92		52			50

MECHANICAL PROPERTIES OF WELD METAL

All Weld Metal

Properties	As welded	
	Min	Typ
Rp0.2 (MPa)	550	650
Rm (MPa)	760	850
A5 (%)	18	25
Charpy V at 20°C (J)		210
Charpy V at -40°C (J)		170
Charpy V at -46°C (J)		150
Charpy V at -50°C (J)		140

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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: 25.10.4.L has a high resistance to intergranular corrosion and pitting. The grade passes the ASTM G48A test at 40°C (105°F). The filler also has good resistance to stress corrosion cracking, especially in environments containing H₂S or chlorides.

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.

RECOMMENDED THERMAL DATA:

The interpass temperature should be kept below 150°C (302°F) and the heat input between 0.2 and 1.5kJ/mm for joint welding. Preheating is normally not recommended. In case post weld heat treatment is needed from a construction point of view, contact Exaton for support.

WELD METAL CHARACTERISTICS: 25.10.4.L gives an austenitic-ferritic (duplex) microstructure with approximately 40 FN, calculated from the WRC-92 diagram