

EXATON Product Data Sheet

G 'Gas-shielded metal-arc welding'

Exaton 22.8.3.L

Prepared by	Qualified by	Approved by	Reg no	Cancelling	Reg date	Page
Per-Ake Bjornstedt	P-O Oskarsson	Per-Ake Bjornstedt	EN009105	EN009083	2020-02-11	1 (2)

REASON FOR ISSUE

Mechanical Properties updated.

GENERAL

Exaton 22.8.3.L is used for welding of duplex stainless steels such as Sandvik SAF 2205 and SAF 2304. It can also be used for welding of duplex stainless steels to carbon steel. It is used for MIG/MAG welding.

Shielding Gas: M12, M13 (EN ISO 14175)

Alloy Type: Austenitic-ferritic (22.5 % Cr - 8 % Ni - 3 % Mo - Low C)

CLASSIFICATIONS Wire Electrode

EN ISO 14343-A G 22 9 3 N L
SFA/AWS A5.9 ER2209
Werkstoffnummer 1.4462

APPROVALS

CE EN 13479
DNV-GL Stainless steel*
VdTÜV 19479

CHEMICAL COMPOSITION

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

	Max	Nom	Min	Max	Nom
C	0.020	0.014		0.020	0.012
Si		0.45	0.2	0.7	0.5
Mn		1.5	1.3	1.9	1.5
P		0.017		0.020	0.018
S	0.015	0.001		0.0015	0.0007
Cr		23	22.6	24	23
Ni		8.5	8	9.5	8.6
Mo		3.0	3.1	3.5	3.2
W		0.01		0.2	0.01
Co					0.04
V					0.05
Nb		0.01		0.05	0.01
Cu		0.09		0.3	0.09
Ti					0.003
N		0.15	0.14	0.2	0.15
PRE		35.3	35.0		37
FN WRC-92		52			55

MECHANICAL PROPERTIES OF WELD METAL

All Weld Metal

Properties	As welded	
	Min	Typ
Rp0.2 (MPa)	450	550
Rm (MPa)	690	770
A5 (%)	20	30
Charpy V at 20°C (J)		110
Charpy V at -20°C (J)		105
Charpy V at -40°C (J)		100
Charpy V at -46°C (J)		95
Charpy V at -50°C (J)		90

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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 22.8.3.L is resistant to intergranular corrosion and pitting. It also has good resistance to stress corrosion cracking, especially in environments containing H₂S.

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: Exaton 22.8.3.L gives an austenitic-ferritic (duplex) microstructure with approximately 50 FN, calculated from the WRC-92 diagram.