

EXATON Product Data Sheet

W 'Tungsten inert gas 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	EN008918	EN008761	2020-01-21	1 (2)

REASON FOR ISSUE

Product name changed from Sandvik to Exaton.

GENERAL

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

Shielding Gas: I1, I2, I3 (EN ISO 14175) **Alloy Type:** Austenitic-ferritic (22.5 % Cr - 8 % Ni - 3 % Mo - Low C)

CLASSIFICATIONS Wire Electrode

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

APPROVALS

BV ER2209
CE EN 13479
DNV-GL *
VdTÜV 19480

APPROVAL COMMENT

* For TIG welding of ferritic-austenitic stainless steel (Duplex) UNS S31803 (1.4462).

CHEMICAL COMPOSITION

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

	Max	Nom	Min	Max	Nom
C	0.020	0.01		0.020	0.012
Si		0.5	0.2	0.7	0.5
Mn		1.5	1.3	1.9	1.5
P		0.02		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		3.1	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		0.1		0.3	0.09
Ti					0.003
N		0.16	0.14	0.2	0.15
PRE		35.8	35.0		37
FN WRC-92		54			55

MECHANICAL PROPERTIES OF WELD METAL

All Weld Metal

Properties	As welded	
	Min	Typ
Rp0.2 (MPa)	450	580
Rm (MPa)	690	710
A5 (%)	20	28
Charpy V at 20°C (J)		200
Charpy V at -20°C (J)		180
Charpy V at -46°C (J)		155
Charpy V at -50°C (J)		145

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OTHER DATA

CORROSION RESISTANCE: 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:

The parameters for TIG welding depend largely upon the base metal thickness and the welding application.

Electrode negative and a shielding gas of argon or helium should be used to prevent oxidation of the weld metal.

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