

EXATON Product Data Sheet

W 'Tungsten inert gas arc welding'

Prepared by	Qualified by	Approved by	Reg no	Cancelling	Reg date	Page
Per-Ake Bjornstedt	P-O Oskarsson	Per-Ake Bjornstedt	EN008928	EN008786	2020-01-21	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 TIG-welding.

CLASSIFICATIONS Wire Electrode

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

APPROVALS

CE EN 13479
DNV-GL duplex stainless steels
VdTÜV 06592

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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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:

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

Electrode negative and a shielding gas of argon + 2-3 % N₂ should be used.

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
