SANDVIK 24.13.LSI
WELDING WIRE

DATASHEET

Sandvik 24.13.LSi is a filler material suitable for joining stainless chromium-nickel steels of the ASTM 309 type, chromium steels and dissimilar metals.

Product Standards

- EN ISO 14343 A – 23 12 L Si
- ASME/AWS SFA5.9 ER309LSi

CHEMICAL COMPOSITION

Chemical composition (aim), wt %

C	Si	Mn	P	S	Cr	Ni	Mo	N
<0.025	0.9	1.8	<0.025	<0.015	23.5	13.5	<0.4	0.10

APPLICATIONS

Sandvik 24.13.LSi is suitable for joining stainless chromium-nickel steels of the ASTM 309 type, chromium steels and dissimilar metals e.g. austemitic stainless steel to carbon or low-alloyed steel. It is used for MIG/MAG-, TIG- and plasma-arc welding.

FORMS OF SUPPLY

Sandvik 24.13.LSi is supplied as wire and straight rods.

WELD METAL CHARACTERISTICS

Sandvik 24.13.LSi gives a microstrucrure with an austenitic matrix and a ferrite content of about 10FN according to the DeLong diagram.

MECHANICAL PROPERTIES

Temperature	°C (°F)	20 (68)
Yield strength, RP0.2	MPa (ksi)	400 (58)
Tensile strength, Rm	MPa (ksi)	600 (87)
Elongation, A	%	35
Reduction in area, Z	%	55
Impact strength, Charpy V	J (ft lbs)	140 (103)
Hardness, Vickers	HV	160

CORROSION RESISTANCE

Sandvik 24.13.LSi is normally used for joints between non alloyed or low alloyed steels and stainless steels where resistance to corrosion is of secondary importance.

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FABRICATION

Recommended welding data

MIG welding

Electrode positive is used to give good penetration in all types of welded joint. The following table shows common conditions for MIG welding.

Wire diameter, mm	Wire feed, m/min	Current, A	Voltage, V	Gas, l/min
Short-arc welding				
1.0	4-8	60-140	15-21	12
Spray-arc welding				
1.0	6-12	140-220	23-28	18
1.2	5-9	180-260	24-29	18
Pulsed-arc welding[1)]				
1.2	3-10	150-250	23-31	18

[1)]Pulse parameters:	Peak current	300 - 400 A
	Background current	50 - 150 A
	Frequency	80 - 120 Hz

Sandvik 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.

TIG welding

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.