



SANDVIK 22.8.3.LSi

WELDING WIRE

DATASHEET

Sandvik 22.8.3.LSi is a duplex stainless filler metal for welding of duplex stainless steels, such as Sandvik SAF 2205 and Sandvik SAF 2304.

STANDARDS

- ISO 14343: 22 9 3 N L
- AWS A5.9/ASME SFA-5.9: ER2209

Product Approvals

- CE
- TÜV

CHEMICAL COMPOSITION (NOMINAL) %

Chemical composition (nominal) %

C	Si	Mn	P	S	Cr	Ni	Mo	N
≤0.020	0.8	1.6	≤0.025	≤0.015	23	9	3.2	0.16

APPLICATIONS

Sandvik 22.8.3.LSi is designed for gas shielded arc welding and particularly MIG welding of duplex stainless steels, such as Sandvik SAF 2205 and Sandvik SAF 2304. Its corrosion resistance is equal to ASTM 904L in most applications. It combines high strength with excellent ductility. Sandvik 22.8.3.LSi can also be used for joining Sandvik SAF 2205 or Sandvik SAF 2304 to carbon steel or low-alloy steels.

FORMS OF SUPPLY

Sandvik 22.8.3.LSi is supplied as wire and straight rods.

WELD METAL CHARACTERISTICS

Sandvik 22.8.3.LSi gives an austenitic-ferritic (duplex) microstructure with approximately 50FN according to the WRC-92 diagram.

MECHANICAL PROPERTIES

MIG TIG – typical for non-heat treated weld metal

Temperature	°C (°F)	20 (68)	-40 (-40)
Yield strength, RPO.2	MPa (ksi)	600 (87)	-
Tensile strength, Rm	MPa (ksi)	750 (109)	-
Elongation, A	%	25	-
Impact strength, Charpy V	J (ft lbs)	130 (96)	110 (81)

Temperature	°C (°F)	20 (68)	-40 (-40)
Hardness, Vickers	HV	240	-

CORROSION RESISTANCE

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

FABRICATION

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	Wire feed	Current	Voltage	Gas
mm	m/min	A	V	l/min
Short-arc welding				
0.8	4-8	40-120	16-20	12
1.0	4-8	60-140	16-22	12
Spray-arc welding				
1.0	6-12	140-220	24-29	18
1.2	5-9	180-260	25-30	18
1.6	3-5	230-350	25-30	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.

We require your consent

We use cookies to personalise content and ads, to provide social media features and to analyse our traffic. We also share information about your use of our site with our social media, advertising and analytics partners. Please set your preferences in Cookie

[Cookie Settings](#)

Accept Cookies

Settings and visit our [Cookie Policy](#) for more information on how and why cookies are used on this site.

