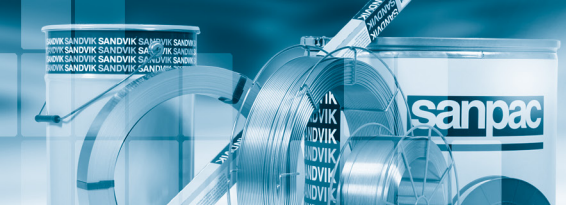

SANDVIK

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Sandvik 19.LNbTi

(Welding wire)

Sandvik 19.LNbTi welding wire has excellent resistance to oxidation in air and in sulphur-containing combustion gases. Its strength at high temperatures is enhanced by the addition of Ti and Nb.

It is suitable for joining similar parent metals in, for example the high temperature part of exhaust systems for the automotive industry. It is also suitable for overlay welding, where oxidation resistance is required.

STANDARDS

- AWS Non Spec modification of ER 439; duel stabilized with Ti and Nb

CHEMICAL COMPOSITION - FILLER METAL

CHEMICAL COMPOSITION, WT%

C max	Si	Mn	P max	S max	Cr	Nb	Ti
0.025	0.8	0.5	0.030	0.015	19	0.4	0.5

MICROSTRUCTURE - ALL-WELD METAL

Ferritic

CORROSION RESITANCE - ALL-WELD METAL

Corrosion resistance of the weld deposit is comparable to 17 % Cr-steels with an extra low carbon content.

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.

DISCLAIMER:
Recommendations are for guidance only, and the suitability of a material for a specific application can be confirmed only when we know the actual service conditions. Continuous development may necessitate changes in technical data without notice. This datasheet is only valid for Sandvik materials.