

## Classifications

high-alloyed

EN ISO 14343-A:

AWS A5.9:

G 23 12 L Si

ER309LSi

## Characteristics and field of use

Avesta 309L-Si is a high-alloy 23 Cr 13 Ni wire primarily intended for surfacing of low-alloy steels and dissimilar welds between mild steel and stainless steels, offering a ductile and crack resistant weldment. The chemical composition, when surfacing, is equivalent to that of 1.4301/ASTM 304 from the first run. One or two layers of 309L are usually combined with a final layer of 308L, 316L or 347.

## Corrosion resistance

Superior to type 308L. When used for overlay welding on mild steel a corrosion resistance equivalent to that of 1.4301/ASTM 304 is obtained already in the first layer.

## Base materials

For welding steels such as					
Outokumpu	EN	ASTM	BS	NF	SS
Avesta 309L-Si is primarily used when surfacing unalloyed or low-alloy steels and when joining non-molybdenum-alloyed stainless and carbon steels.					

## Typical composition of solid wire (Wt-%)


C	Si	Mn	Cr	Ni
0.02	0.8	1.8	23.2	13.8

Ferrite 9 FN; WRC-92

## Mechanical properties of all-weld metal

Heat Treatment	Yield strength 0.2%	Tensile strength	Elongation ( $L_0=5d_0$ )	Impact values in J CVN	
	MPa	MPa	%	+20°C:	-40°C:
untreated	400	600	32	110	100

## Operating data

	Polarity = +	Shielding gas: Ar + 2 % O <sub>2</sub> or 2–3 % CO <sub>2</sub> . Gas flow rate 12 – 16 l/min.
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## Dimensions (mm)

0.8	1.0	1.2	1.6
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