

## Classifications

high-alloyed

EN ISO 14343-A:

AWS A5.9:

W 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 welding between mild steels and stainless steels, offering a ductile and crack resistant weldment. The chemical composition, when surfacing, is equivalent to that of 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 is primarily used when surfacing unalloyed or low-alloy steels and when joining non-molybdenum-alloyed stainless and carbon steels.

## Typical composition of welding rod (Wt-%)

C	Si	Mn	Cr	Ni
0.015	0.80	1.8	23.5	13.5

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:
untreated	470	610	28	140

## Operating data



Polarity = -

Shielding gas (EN ISO 14175):  
I1

Ar (99.95%) or Ar with an addition of 20 – 30% helium (He) or 1 – 5% hydrogen (H<sub>2</sub>). The addition of helium (He) will increase the energy of the arc. Gas flow rate 4 – 8 l/min.

## Dimensions (mm)

1.2	1.6	2.0	2.4	3.2
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