

Classification

AWS A5.9	EN ISO 14343-A
ER309L	W 23 12 L

Characteristics and typical fields of application

Avesta GT 309L is a high-alloy 23 Cr 13 Ni wire primarily intended for surfacing low-alloy steels and for 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 final layer of 308L, 316L or 347.

Base Materials

Primarily used when surfacing unalloyed or low-alloy steels and when joining non-molybdenum-alloyed stainless and carbon steels.

Typical analysis of solid wire (Wt.-%)

C	Si	Mn	Cr	Ni
0.02	0.50	1.70	23.2	13.2

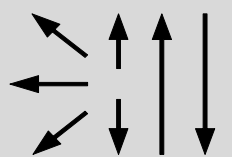
Ferrite Number \approx 10-15 FN WRC 92

Mechanical properties of the weld metal

Heat Treatment	Yield strength	Tensile strength	Elongation	Impact work	
	R_e N/mm ²	R_m N/mm ²	($L_0=4d_0$)	ISO-V K_V (J)	
	MPa	MPa	%	+20°C	-60°C
As Welded	550 (\geq 320)	650 (\geq 520)	35 (\geq 35)	120 (\geq 47)	120 (\geq 32)

Shielding gas Argon

Operating Data

	Polarity DC (-)	Interpass temperature : 150°C Heat Input: Max. 2.0 KJ/mm Shielding gas EN ISO 14175 : I 1
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Approval

ABS, DNV-GL, CE

Size, Packing and Recommended welding parameters

Size (mm)	Kg / Tube	Kg / Box	Voltage (V)	Amperage (A)
1.60 x 1000	5.00	20.00	10 - 12	80 - 110
2.00 x 1000	5.00	20.00	14 - 16	100 - 130
2.40 x 1000	5.00	20.00	16 - 18	130 - 160
3.20 x 1000	5.00	20.00	17 - 20	160 - 200