

309L-16

For welding steels such as					
Outokumpu	EN	ASTM	BS	NF	SS
Over alloyed electrode for surfacing unalloyed steel, joining welding non-molybdenum alloyed stainless steel to unalloyed steel and for welding clad material.					

Standard designations

EN 1600	E 23 12L R
AWS A5.4	E309L-16

Characteristics

AVESTA 309L-16 is a highly alloyed low carbon electrode designed for the dissimilar welding of stainless to mild or low-alloy steels. It is also well suited for buffer layers when overlay welding on mild steel, giving an 18 Cr 8 Ni deposit already in the first layer. It can also be used for welding some high temperature steels such as ASTM 309S.

Welding data

DC+ or AC	Diam., mm	Current, A
	2.5	60 – 80
	3.25	80 – 100
	4.0	110 – 140

Typical analysis % (All weld metal)

C	Si	Mn	Cr	Ni
0.02	0.6	0.7	23.0	13.0

Ferrite 15 FN DeLong

Mechanical Properties

	Typical values (IIW)	Min. values EN 1600
Yield strength $R_{p0.2}$	450 N/mm ²	320 N/mm ²
Tensile strength R_m	550 N/mm ²	510 N/mm ²
Elongation A_5	35 %	30 %
Impact strength KV +20°C	50 J	
Hardness, approx.	210 Brinell	

Interpass temperature: Max. 150°C.

Heat input: Max. 2.0 kJ/mm.

Heat treatment: Generally none. For constructions that include low-alloy steels in mixed joints, stress-relieving may be advisable. Always consult the supplier of the parent metal or seek other expert advice to ensure that the correct heat treatment process is carried out.

Structure: Austenite with 10 – 15 % ferrite.

Scaling temperature: Approx. 1000°C (air).

Corrosion resistance: Superior to 308L. When surfacing mild steel a corrosion resistance equivalent to that of ASTM 304 is obtained already in the first layer.

Approvals

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Welding positions

