

317L/SNR

For welding steels such as Outokumpu	EN	ASTM	BS	NF	SS
4438	1.4438	317L	317S12	Z3 CND 19-15-04	2367
4439	1.4439	317LMN	–	Z3 CND 18-14-05 Az	–

Standard designations

EN ISO 14343 G 19 13 4 L
AWS A5.9 ER317L

Characteristics and welding directions

AVESTA 317L/SNR is designed for welding type 18 Cr 14 Ni 3 Mo austenitic stainless steels and similar. The enhanced content of chromium, nickel and molybdenum compared to 316L gives improved corrosion properties in acid chloride containing environments.

Welding data

	Diameter mm	Current A	Voltage V
Short arc	1.00	110 – 140	19 – 22
Spray arc	1.00	160 – 220	25 – 29
	1.20	200 – 260	26 – 30
Pulsed arc	1.20	$I_{peak} = 350 - 450$ A $I_{bkg} = 50 - 150$ A Freq = 80 – 120 Hz	

Shielding gas

Ar + 2% O₂ or 2 – 3% CO₂.
Gas flow rate 12 – 16 l/min.

Chemical composition, wire (typical values, %)

C	Si	Mn	Cr	Ni	Mo
0.02	0.40	1.7	19.0	13.5	3.5
Ferrite	9 FN 9 FN	DeLong WRC-92			

Mechanical properties

	Typical values (IIW)	Min. values EN ISO 14343
Yield strength R _{p0,2}	420 N/mm ²	350 N/mm ²
Tensile strength R _m	630 N/mm ²	550 N/mm ²
Elongation A ₅	31 %	25 %
Impact strength KV +20°C	85 J	
Hardness	200 Brinell	

Interpass temperature: Max. 100°C.

Heat input: Max. 1.5 kJ/mm.

Heat treatment: Generally none (in special cases quench annealing at 1050°C).

Structure: Austenite with 5 – 10% ferrite.

Scaling temperature: Approx. 850°C (air).

Corrosion resistance: Better resistance to general, pitting and intercrystalline corrosion in chloride containing environments than ASTM 316L. Intended for severe service conditions, i.e. in dilute hot acids.

Approvals

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