

For welding steel such as:

Outokumpu	EN	ASTM	SS*	BS*	NF*
4438	1.4438	317L	2367	317S12	Z3 CND 19-15-04

* Obsolete national standards, replaced by EN 10088.

Characteristics

AVESTA 317L/SNR AC/DC is a high-alloy electrode with a rutile-acid type coating intended for welding 18 Cr 14 Ni 3 Mo austenitic stainless steels and similar. The enhanced content of Cr, Ni and Mo compared to 316L provides even better corrosion resistance, particularly in acid chloride containing environments.

AVESTA 317L/SNR is a very good all-round electrode which can be used for position welding.

Welding directions

AVESTA 317L/SNR should be welded using a short arc with its coating sliding along the workpiece. Both positive pole DC and AC can be used, but positive pole DC is preferable.

The best surface appearance is achieved by using a short arc and comparatively high amperage. However, since steels of this type are somewhat more susceptible to hot cracking than the ASTM 316L types it is advisable to avoid too high amperages. It is also important to allow the material to cool to below 100°C before the next run is welded.

Weld deposit data

Metal recovery approx. 110%.

Packaging data

Diam. mm	Length mm	Weight/capsule, kg	Approx. No. of electrodes/capsule	Weight/carton, kg
2.0	250	1.36	139	8.16
2.5	300	3.63	207	10.89
3.25	350	4.10	115	12.30
4.0	350	4.54	87	13.62
5.0	350	4.54	57	13.62

Standard designations

AWS A5.4 E317L-17

Typical analysis % (All weld metal)

C	Si	Mn	Cr	Ni	Mo
0.02	0.7	0.9	19.0	13.0	3.7

Ferrite 10 FN DeLong

Mechanical properties

	Typical values (IIW)	Min. values AWS A5.4
Yield strength, R _{p0.2}	485 N/mm ²	– N/mm ²
Tensile strength, R _m	615 N/mm ²	520 N/mm ²
Elongation, A ₅	31 %	30 %
Impact strength, KV +20°C	40 J	
Hardness approx.	210 Brinell	

Welding data

DC+ or AC	Diam., mm	Current, A
	2.0	35– 60
	2.5	50– 80
	3.25	80–120
	4.0	100–160
	5.0	160–220

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: Higher resistance than ASTM 316L in acid chloride containing solutions.

Approvals: CWB, DNV

Welding positions

