

MMA Electrodes Stainless and Heat resistant steels

SUPRANOX 309L is a semi-basic MMA electrode depositing a low C – 22/24%Cr – 12/14%Ni weld metal with approx. 12% delta-ferrite promoting high resistance to hot cracking. This electrode has three main applications:

- Buffer layers and claddings on unalloyed and low-alloy steels which are already corrosion resistant in the first layer.
- Dissimilar joints (austenitic steels to ferritic steels) with operating temperatures UP to 300°C. In case of higher temperatures, use SUPRANEL 600.
- Welding of stainless steels of similar composition.

This electrode offers excellent operability and is particularly suitable for downhand butt and fillet welding applications, the 2.5mm and 3.2mm diameter electrodes can be used for positional welding.

Exhibits a stable spray arc transfer resulting in excellent weld bead shape and appearance with a slight concave profile in horizontal vertical fillet welds. There is very little spatter and in combination with the self-releasing slag, post welding cleaning time is maintained to a minimum. Easy arc striking and restriking. Suitable for use with either AC [minimum OCV 50V] or DC positive. Efficiency 100%.

Classification

EN ISO	3581-A: E 23 12 L R 12
AWS	A5.4: E 309L-17

Approvals

Approvals	Grade
ABS	E309L-16
BV	UP
DB	●
DNV	309L

Approvals

Approvals	Grade
GL	4332
LRS	SS/CMn
TÜV	●



Chemical analysis (Typical values in %)

C	Mn	Si	P	S	Cr	Ni	Ferrite
≤ 0.040	0.9	0.9	≤ 0.025	≤ 0.025	23.5	12.2	5-20

All-weld metal Mechanical Properties

Heat Treatment	Yield Strength (MPa)	Tensile Strength (MPa)	Elongation A5 (%)	Impact Energy ISO - V (J)
				20 °C
As Welded	≥ 400	≥ 520	≥ 30	≥ 60

Materials

Joining of unalloyed or low-alloy steels/cast steels to stainless or heat resisting steels. Buffer layer on steel components where final layers are to be deposited using other stainless steel electrodes.

ASTM A249, A312, A409, A814 Grades TP309, TP309S

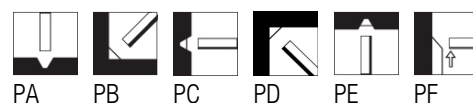
AISI 309-309S

Storage

Keep dry and avoid condensation.
Re-drying not generally required.
If necessary 250°-300°C for 1 hour, 5 times max.

Current condition and welding position

AC; DC+



Packaging data

Diam. (mm)	Length (mm)	Current (A)	Approx. weight (kg/1000)	CBOX		VPMD	
				PC	Code	PC	Code
2.5	300	55-80	19.3	190	●	90	●
3.2	350	70-110	36.2	120	●	55	●
4.0	350	120-140	54.1	80	●	40	●
5.0	350	145-180	86.6	50	●	20	●