SUPRANOX 316L

OERLIKON

MMA Electrodes
Stainless and Heat resistant steels

SUPRANOX 316L is a semi-basic MMA electrode suitable for the welding of austenitic steels Cr-Ni steels or cast steels containing 16-20%Cr, 10-14%Ni and 2-3%Mo, i.e. AISI 316 and 316L, having an extra low carbon content. This electrode can also be used for welding of stainless steels of the same type whether stabilised or not for services temperatures up to +400°C.
It is particularly suitable for offshore, chemical industry, hydro power plants and general construction applications.
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. Under wet corrosive conditions suitable for operating temperatures up to 400°C, resistant to scaling up to 800°C. 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 19 12 3 L R 12
AWS	A5.4: E 316L-17
AS/NZS	1553.3: E 316L-17

Approvals	Grade
ABS	E316L-16
BV	UP
DB	●
DNV	316L
GL	4571
LRS	316L
RINA	316L
TÜV	●

CE

Chemical analysis (Typical values in %)

C	Mn	Si	P	S	Cr	Ni	Mo	Ferrite
0.035	0.9	0.8	≤ 0.025	≤ 0.025	19.0	12.0	2.6	5-10

All-weld metal Mechanical Properties

Heat Treatment	Yield Strength (MPa)	Tensile Strength (MPa)	Elongation A5 (%)	Impact Energy ISO - V (J) 20 °C
As Welded	≥ 350	≥ 510	≥ 30	≥ 50

Materials

AISI 316-316L-316LN

ASTM A312 Grades TP316, TP316L

1.4401 (X4CrNiMo17-12-2), (GX2CrNiMoN18-10); 1.4404 (X4CrNiMo17-12-2); 1.4406 (X2CrNiMoN17-11-2); 1.4408 (GX5CrNiMo19-11); 1.4429 (X2CrNiMoN17-13-3); 1.4435 (X2CrNiMo18-14-3); 1.4436 (X4CrNiMo17-13-3); 1.4571 (X6CrNiMoTi17-12-2); 1.4580 (X6CrNiMoNb17-12-2); 1.4581 (GX5CrNiMoNb19-11); 1.4583 (X10CrNiMoNb18-12)

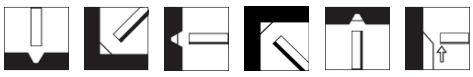
ASTM A351 Grades CF3M, CF3MA

Storage

Keep dry and avoid condensation.
Re-drying not generally required.
If necessary 250º-300ºC 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		SMPA		VPMD	
				PC	Code	PC	Code	PC	Code
1.60	300	20-40	7.1					250	●
2.0	300	30-60	11.5	310	●			150	●
2.5	300	55-80	18.4	190	●	30	●	90	●
3.2	350	70-110	35.7	120	●	20	●	55	●
4.0	350	120-140	52.3	80	●			40	●
5.0	350	145-180	84.8	50	●			20	●